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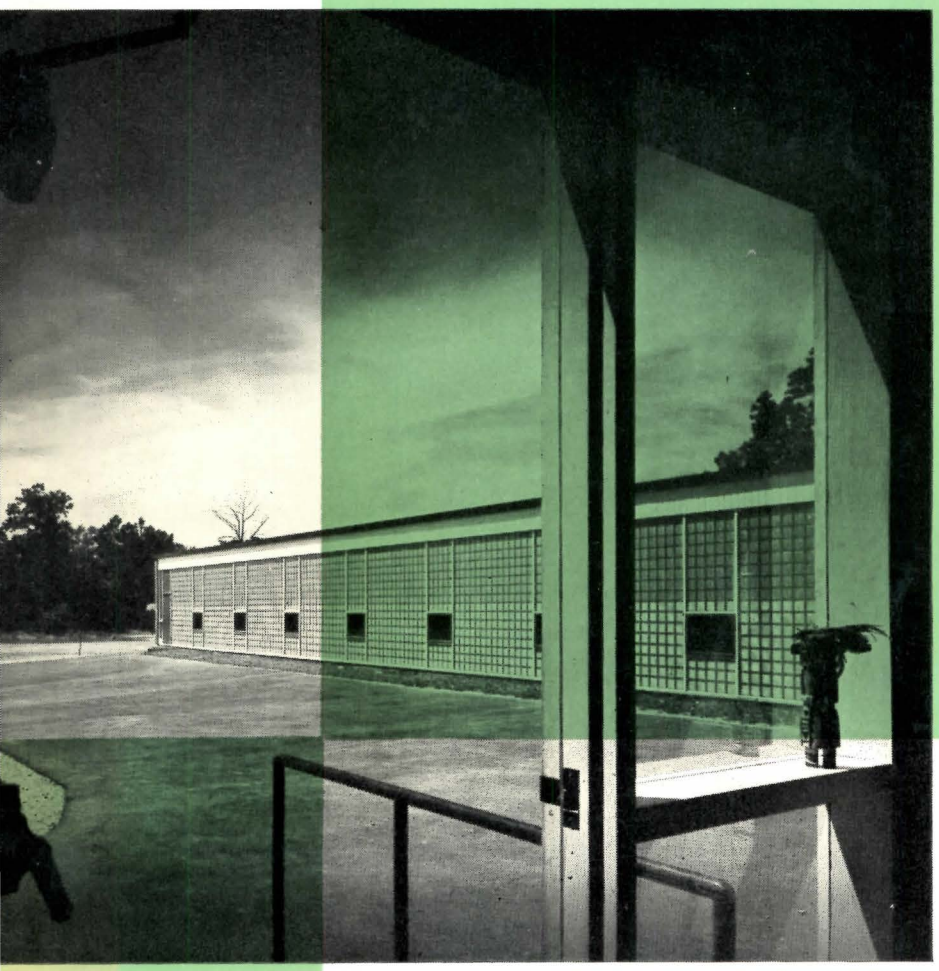

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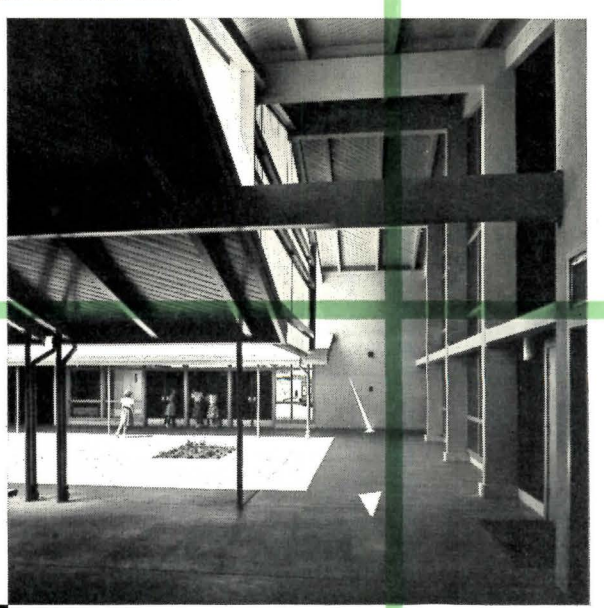

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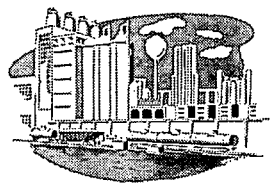
Corrosive  *fan installations can be permanent*

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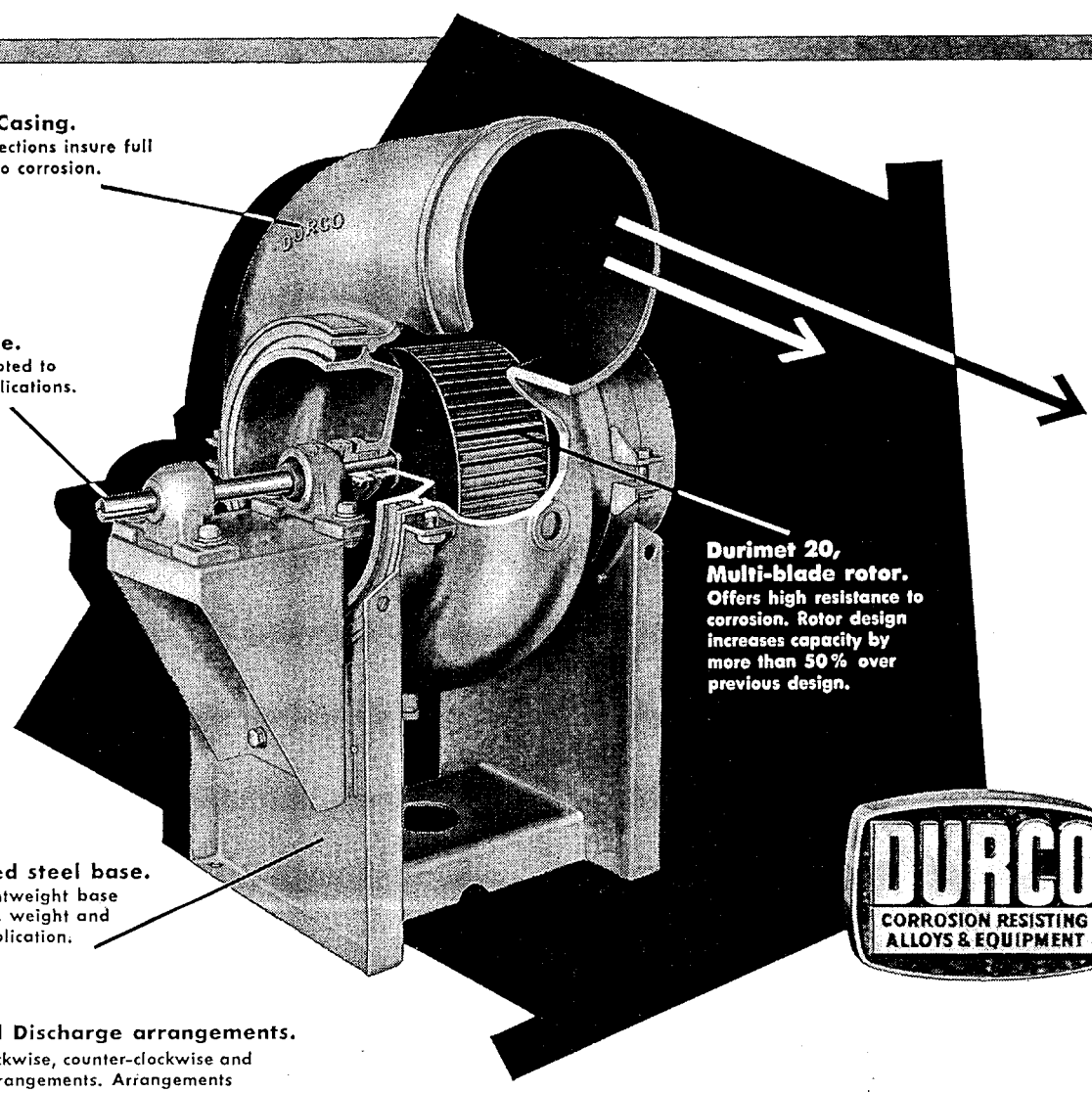

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pa newsletter

March 1955

Annual enrolment increases of nearly 1½ million pupils in elementary and secondary schools will require approximately 60,000 new classrooms per year for the next 10 years, according to figures compiled by U. S. Depts. of Commerce and Labor. This number is in addition to existing deficit of more than 300,000 classrooms and those needed to replace obsolete facilities.

Expenditures for school construction reached an all-time high in 1954. Private-educational building rose 31% over previous year, totaling $560 millions; public-school construction increased 20%, mounting to $2067 millions. However, it is estimated that spending of $7 billions per year for 10 years would be necessary to keep pace with educational demands.

White House Conference on Education will be held in Washington, November 28-December 1. At this time, each state will report on its educational problems and submit recommendations for action at local, state, and federal levels.

"Can We Cut School Plant Costs and Still Advance Educational Values?" will be main topic for series of conferences planned for 1955 by New York University's School of Education. Architects, educators, and building experts will participate in discussions on ways of reducing building costs while advancing educational programs.

Cliff May and Christian E. Choate, designers of Cliff May Homes, were granted permanent injunction against Architect William M. Bray, Bristol Development Company, and Federated Construction Company for infringement on plans. This case, pending for more than one year, represents a judgment in Copyright Law of significance to the whole architectural profession (see OFFICE PRACTICE, October 1954 P/A).

William Gillett has been elected to succeed Elliott C. Spratt as president of Producers' Council, largest organization of building material manufacturers and trade associations. Gillett is vice-president of Detroit Steel Products Company and member of Industry Advisory Committee to encourage good architecture and use of quality materials in FHA-approved homes.

Exhibition of architectural photography, to recognize outstanding work in this field and demonstrate its value to the architectural profession, will be shown in AIA Gallery, Washington, May 20-June 24. All professional photographers whose work has appeared in national publications within last five years are eligible to submit entries before May 2 to AIA, 1735 New York Ave., N. W., Washington 6, D. C.

Representatives from 32 countries will convene at International Union of Architects' Fourth Congress in Scheveningen, The Netherlands, July 11-16. Symposia, exhibitions, and tours are planned around main theme "The Architect and the Evolution of Housing," with special emphasis on developments in housing since 1945. . . . Students who wish to attend may obtain information from The Secretariat, Fourth Congress of I. U. A., 9, Burgemeester de Monchyplein, The Hague, The Netherlands, before April 1.

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newsletter

Frederick Gutheim Washington Perspective

The Federal college housing program got its start four years ago, as Title IV of the Housing Act of 1950, and has just begun to show results on the campus. About half of all current dormitory construction is aided by this program. The first project was completed at Norwich University in Northfield, Vermont, better than a year ago, but of the 158 approved applications most are still in the work. Of the original $200 millions authorization granted by Congress, a quarter still remains; and it is unthinkable that the program will not receive further authorization when that becomes necessary. It is an accepted part of the continuing machinery of housing production.

The results of this relatively low-gear program support the view of those who contend that the heavy hand of central administration reviewing officers is the principal bar to housing progress in FHA and PHA. In contrast to projects issuing from local housing authorities, the college projects exhibit variety, flexibility, originality, and a generally progressive atmosphere. Good architects have been engaged and they have generally been allowed to have their way. Despite the fact that the American college is hardly a bold architectural patron, they have built some first-rate housing in this program. Some of the credit for this clearly belongs to Jay DuVon, who has chauffered the program since its inception. The rest is probably the result of a recognition by Congress and the HHFA that there was no sense in tangling with the sponsors of this program. (The law mutters "economical in design" and stops there.) Here is a program with the maximum of freedom, and the minimum of red tape.

Of course, the colleges are spending their own money. They get the advantages of long-term Federal loans at the going rate of interest. The loan covers all costs. They can also get advances to provide working capital. But every nickel gets paid back and repayment is secured by pledging rent on the new structures, usually rent on older dormitories or housing as well. This is quite a switch from the half-grant, half-loan formula under which the PWA first began to finance campus construction. Actually, the terms offered today aren't attractive enough to most state institutions. They can do better than the going Federal rate by putting their tax-exempt bonds on the private revenue bond market. The architectural point is that you can't put too much pressure on flighty customers like these without driving them out of the office.

The main object of the college program has been to provide dormitories. But the deans have now decided that married students are going to be with them from now on. No student now thinks twice about the rights and wrongs of getting married, finding his wife a job, and settling down to the Freshman year's work. Housing for younger faculty members is also being widely accepted as an institutional responsibility. These new needs are broadening the dormitory program to embrace low-density efficiency apartments, a lot of which are indistinguishable from motels. Unlike the dormitories, most of them are located off the main campus.

Design trends I noted in a recent quick review of this program are: separation of eating and residence facilities; snack bars; self-service; integral furnishings; off-campus sites; high-rise dormitory units on constricted sites; attention to the small-scale living group (one of the best plans had eight students in four double rooms, sharing a single lounge, as its basic unit); and steady emphasis on cost reduction measures of all sorts. With an average per unit cost of $3400, the wide range from a lot of $2040 to a high of $4800 gives some measure of the flexibility of the program. The size of projects ranges from 40 to 2000 units.

The best college housing jobs I noted were at Cornell and Michigan State, with other good work at Trinity University, Illinois Tech, and the University of Michigan. This isn't all by any means, but I was impressed that good dormitories were found where schools had developed good building programs in general. Here they made better use of their architects and got more for their money. The kind of thinking that marks the best dormitory work is what you see in good hotel design—and I suppose this is to be regretted—while educational values are seldom in evidence as powerful design influences. This is a shortcoming which needs to be corrected by the colleges themselves. They, too, are to blame for the poor site plans, the lack of campus master plans, buildings jammed into constructed central campus sites, or other planning mistakes. But the chief thing is that we still don't know what a good dormitory is: where it belongs between a cottage and a barracks. Some thinking is being done. There is an Association of College and University Housing Officers, who hold an annual meeting (their Cornell conference last year resulted in a good published transcript). There was also a recent conference on Residence Hall Planning on the campus of Michigan State University. Ideas are in motion, the leaders are doing all right, but there is still a lot of substandard work and architectural opportunity in this growing field.

PROGRESSIVE ARCHITECTURE March 1955

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the elementary school

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interior design data

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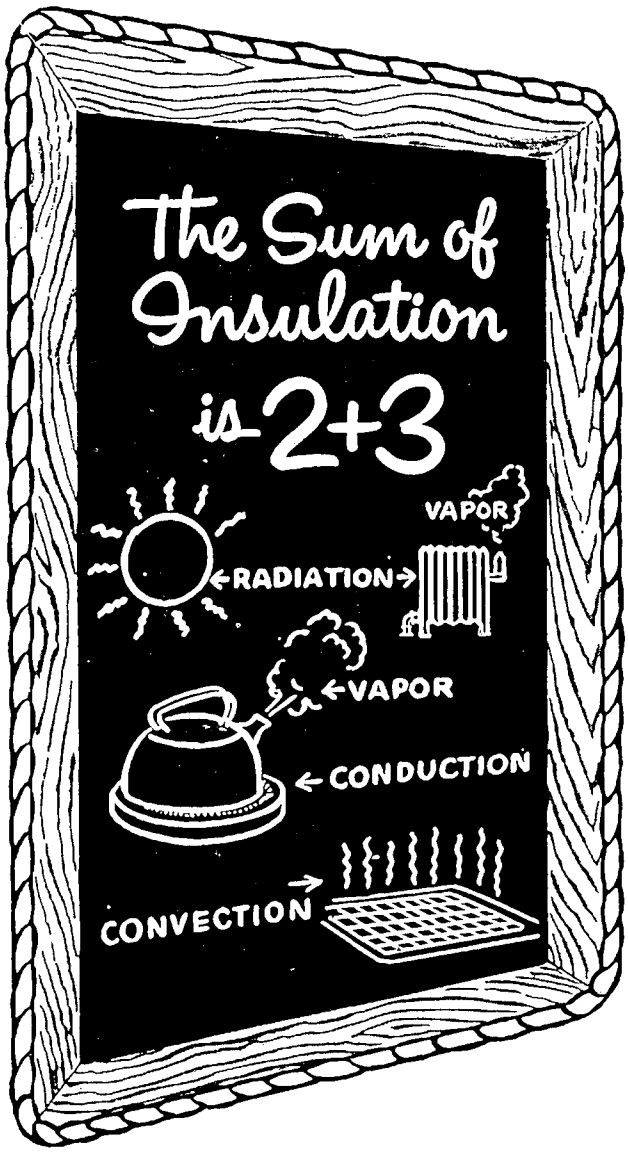

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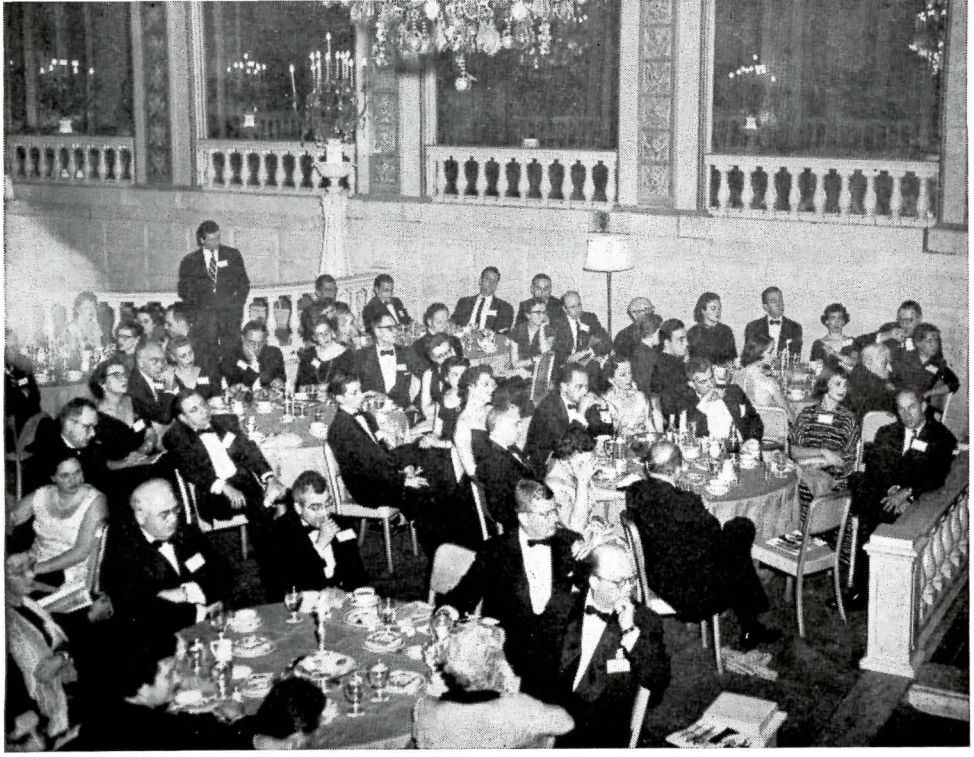
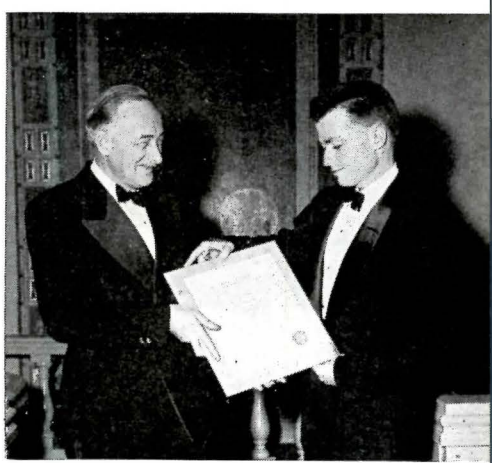


Corner of the Terrace Room in New York's Plaza Hotel (left) *where 250 people gathered to honor Award winners. Paul Rudolph, Architect, Sarasota, Florida* (below) *receives First Design Award from P/A Editor Thomas Creighton.*



Second Annual P/A Awards Dinner

The annual dinner at which the results of P/A's Design Awards Program are formally announced, was held this year in New York. On January 14 the Hotel Plaza was the scene of a gathering of distinguished leaders in the design fields, from New York itself and from many other parts of the United States.

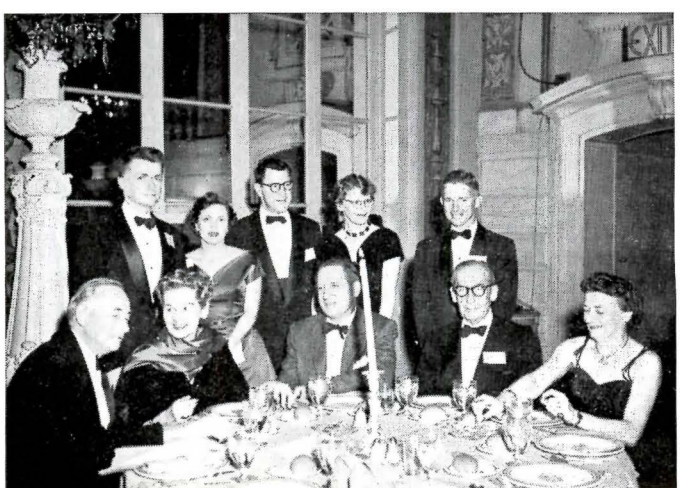
Of the 36 Awards and Citations (presented to our readers in January 1955 P/A), 29 were received in person that evening. The glitter of the Plaza's baroque Terrace Room was a pleasant foil to the serious talk of contemporary architecture that occupied the speakers; many of the architects who traveled from distant cities were accompanied by their wives, who added sparkle—and charm—to the gathering.

Those who read the January issue know that Paul Rudolph, Sarasota, Florida, was the winner of the First Design Award this year. The Editors had asked him to say more than "thank you" on the occasion, and he responded with an analytical discussion of the design trends indicated by the designs the Jury had selected. Then Walter Gropius, Chairman of the Jury, spoke briefly and very much to the point. His talk is printed in this issue, beginning on page 12.

While Paul Rudolph's specific comments would have to be read with illustrations of the buildings directly at hand,

Left to right: *Thomas Creighton, Paul Rudolph, Mrs. Walter Gropius, Mrs. Davis and Arthur Davis (New Orleans), Alfred Clauss and Jane West Clauss (Philadelphia), George Pierce (Houston), Walter Gropius, Mrs. Creighton.*

Left to right: *Robert Alexander (Los Angeles), Keith I. Hibner (Long Island), William Lescaze (New York), Charles Goodman (Washington), George Saunders (New Orleans), Philip Hubbard (Reinhold President), Robert H. Price (Tacoma), Mrs. Hubbard, William Brown (Skidmore, Owings & Merrill, N. Y.).*



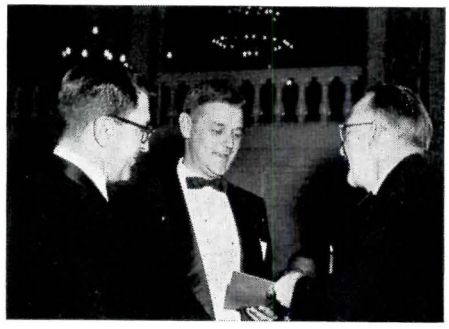


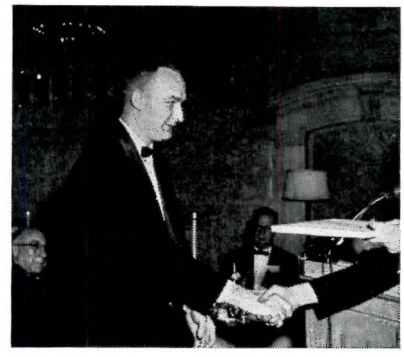
Second Annual P/A Awards Dinner



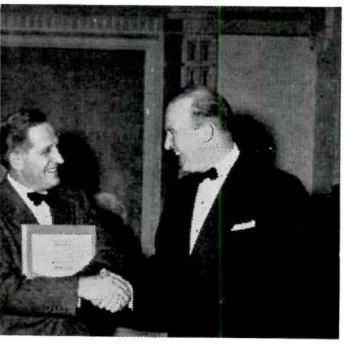
Left to right: *Louise Sloane (P/A), A. Quincy Jones (Los Angeles), Donald Honn (Tulsa), Preston Stevens (Atlanta), Mrs. Honn, Gordon Bunschaft (Skidmore, Owings & Merrill, N. Y.), Edward J. Romieniec (Oklahoma City), Mrs. Little and Robert A. Little (Cleveland).*

Arthur Davis and Nat Curtis, New Orleans.

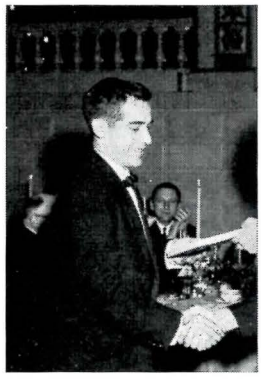




Robert C. Metcalf, Ann Arbor, Mich.



Alfred Clauss (Gilboy, Bellante & Clauss, Philadelphia) and Commissioner Wise, Philadelphia Department of Welfare.



John W. Lawrence, New Orleans.



John Macsai, Chicago.

some of the conclusions he drew are of a general nature. "If this Design Award Program is indeed symptomatic of our present-day attitudes," he said, "then one concludes that for our profession, at least, a new tradition has indeed been established." Among visible trends, some of which seemed good to him and some unfortunate, Rudolph cited the following:

"Thirty of the 34 (*projects*) utilize regularly spaced structural systems, thereby freeing the interior arrangement. The linear qualities inherent in such cage-like construction are usually emphasized and are largely the means of organizing and disciplining the designs. . . ."

"Nine of the awards utilized exposed systems of bents, but there was little structural exhibitionism. . . ."

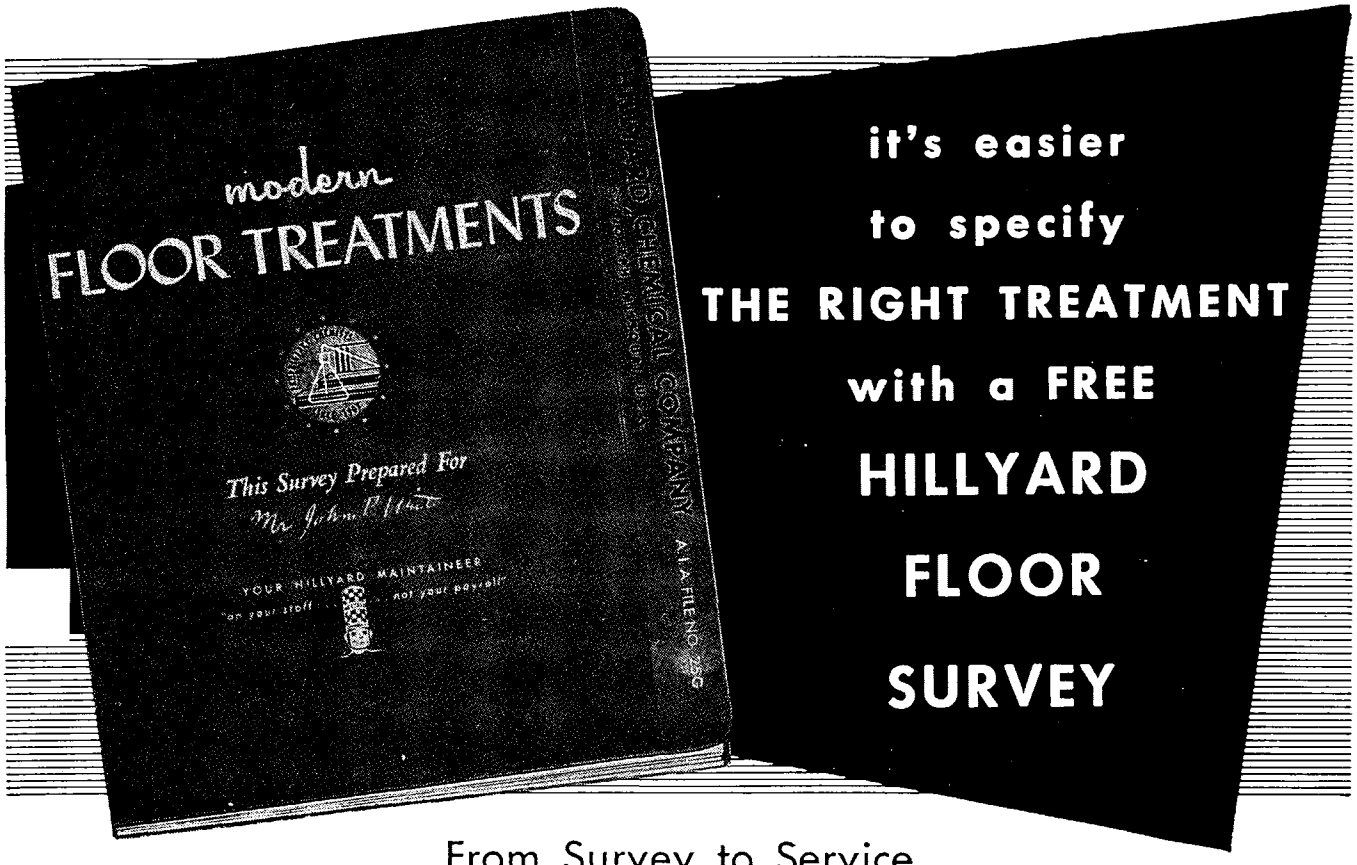
"Cantilevers played an important role . . . the whole emphasis on lightness and elegance is evident . . . and represents a complete reversal of the accepted traditional idea that a building must look strong before everything else.

"Twenty-nine of the 34 utilize flat roofs; the remainder are to be pitched. This serves as a slight cause for concern, for there are many design problems where the silhouette is of the utmost importance. One doubts that a poem was ever written to a flat-roofed building silhouetted against the setting sun. . . ."

During his talk Rudolph defended what have come to be known as clichés of design. In this regard, he said:

"One detects few regional overtones. . . . Does this mean that these designs are based primarily on clichés? Not at all. They represent a sincere search toward enriching today's architecture. . . . In one sense, any Classical building with its columns, capitols, porticos, and window architraves is a collection of clichés. . . . The clichés, in their proper roles, are not merely a means of appearing up-to-date, but a means of insuring a civilized standard of design, even in the absence of genius, by providing the architect with a range of well-tried, culturally vital forms and motifs. . . . Systematically enriching an architectural language appropriate to our time is bound to be a slow and a painstaking business."

Walter Gropius, in concluding *his* talk, said: "I am convinced that the initiative taken by PROGRESSIVE ARCHITECTURE in establishing these yearly Awards essentially contributes to a clarification of aims and to a more articulate definition of the new values of contemporary architecture and planning."



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Walter Gropius mastery of space and techniques

It is a sobering task for anybody called on to judge other people's work to have to reassess and realign the true aims of architecture as we want to see them approached. This may be a fitting occasion, therefore, to define the leading qualities we wish to see in an architect today.

The true medium of architecture—beyond all its technicalities—is space; the imaginative handling of space signifies the artistic qualities of a designer. But he would be unable to bring his imagination to bear unless he has become master of the techniques needed. When I studied last summer the philosophy of Zen Buddhism in Japan, which has so deeply influenced the finest architecture of that country, I came across a statement that seemed to characterize the relationship of technique and intuition masterfully in a few short words: "Develop an infallible technique and then place yourself at the mercy of inspiration." This strikes me as a most ingenious definition of what artistic creation is. We should adopt it as the guiding principle for architectural education.

In addition to these basic qualities of an architect, mastery in the handling of space and mastery of techniques, another one appears to be highly desirable and necessary, particularly today: A sense of co-oordination, the capability of an architect to see the visible world around him as an organic entity in which all parts are interrelated. Could anything be of greater importance for an architect, in the face of the conditions surrounding us, than to become a conscientious co-ordinator with all those qualities of character, experience and knowledge which that implies? We may call it architectural statesmanship, a capability of emphasizing the unifying elements in the design of different individuals, of including—not excluding—the genuine contributions of others with the strategic aim in mind to find the new common denominator of design.

Since my youth I have been acutely aware of the chaotic ugliness of our modern, man-made environment when compared to the unity and beauty of old, pre-industrial towns. In the course of my life, I became more and more convinced that the usual practice of architects to relieve the dominating, disjointed pattern by adding here and there a beautiful building is most inadequate and that we must find instead a new set of values, based on such constituent factors as would generate an integrated expression of the thought and feeling of our time. This presupposes that we look out for supra-personal trends which appear in the work of various contemporary designers, that we acknowledge their objective value as part of the form-language of our time, and that we refuse to be taken in by mere arbitrary, provocative stunts. Of course it takes a good eye and conscientious self-training to be able to distinguish between the unusual exterior of a design that is merely an eye-catcher and one that embodies an idea which may be pregnant with future possibilities of a common significance.

Thirty years ago I could count the isolated works of truly modern architects on the fingers of my hands; today our field of vision has enormously widened, our focus is sharpened, and a great many genuine individual contributions have been made which show already a common trend, but are still strewn haphazardly over the country, remaining in isolation and unrelated to each other. We have not yet built the 20th Century neighborhood unit or town, organically expressing the meaning and purpose of today's way of life.

It has been argued that an architect has to take society as he finds it and cater to its wants without getting unduly embroiled in the efforts for social improvement, because this would dissipate his artistic strength and interfere with his real task: the creation of beauty. But beauty is an integral part of the way of life and does not come in isolation. We deceive ourselves if we think we can keep it alive as the privilege of an esoteric few or as a diluted brew poured over the essentially unlovely features of our contemporary scene. We must, instead, give life a chance and an incentive to *manifest* itself *beautifully* by creating an organic setting for it, otherwise beauty will elude us or remain what it is now: a rare encounter, not expressive of, but contrary to, the general level attained. This means an architect *cannot* dissociate himself from the struggles and aspirations of those who try to direct the future development of our towns and cities into more promising channels, and it demands that he put this responsibility above all his other obligations. In every given task he should push out the boundaries of his limited objective and try to make it part

(Continued on page 15)

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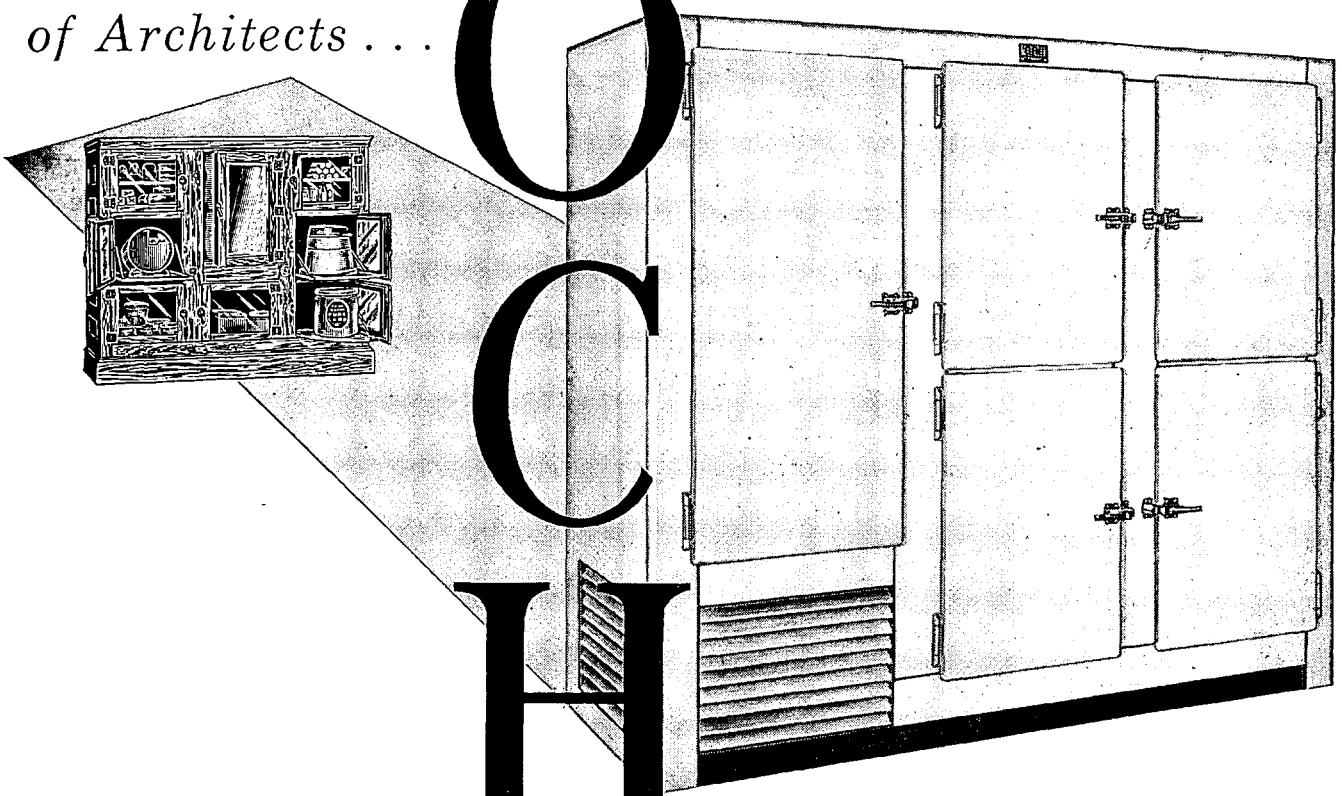

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(Continued from page 12)

and parcel of a new expressive pattern, relating and integrating all impulses that naturally arise in connection with it. True beauty cannot be attained surreptitiously, it must have a solid foundation in the very habits of the people, and we are called upon to help form these habits. Unrelated effort is ineffective and delusive, and there are no better words to express this fact than those I have found in the writings of Piet Mondrian: "The culture of particular form is approaching its end, the culture of determined relations has begun." It is fascinating to discover the many contemporary manifestations which prove that the advent of new relationships in science as well as in art is increasingly becoming the directional phenomenon of our days. Will this trend reinstate the artist in society as the most sensitive interpreter of interrelationships between the senses and the intellect? And will it convince us that the creation and love of beauty are elemental factors for the experience of happiness? A time which does not recognize this basic truth cannot become articulate in the visual sense, its image remains blurred, its manifestations fail to delight.

How far have we become articulate, how far have we been able to demonstrate visually to other peoples and other civilizations what we consider basic and indispensable to our American way of life? I have had to ask myself this question over and over again in the course of my travels through four continents during 1954, and the answer was by no means self-evident. I had ample opportunity to observe the impact of our Western civilization on countries which are just emerging from a rather feudal or colonial past into the now familiar pattern of a modern, industrialized society, and it has been far from an always gratifying experience. I made it a point to find out which countries had succeeded in retaining cultural initiative and an integrated, balanced form of living, and the rewards of my search—except for some remote and primitive societies—were few and far between. Everywhere the impact of the machine age has created so much confusion that the disadvantages of the conversion were much more in evidence than the advantages. I have become more and more convinced that our industrialized societies have as yet failed to give leadership in this direction and that they have so far not been able to humanize our life by integrating legitimate emotional demands with our new knowledge of man and our new technical discoveries. You wonder what exactly happens when an old culture like the Japanese, for instance, meets head-on with a civilization like ours that has decided to abandon most of the cultural values of a preindustrial era in favor of establishing a new basis, created by science and technique, which is able to raise the standard of material living to unprecedented heights, but has not often been able to enlist the emotional loyalty of the very peoples who developed it. One wonders whether we would be able to provide some of the answers to questions a thoughtful oriental mind might put to us when we think of the many split personalities among us whose minds dwell in the past where their emotional life is concerned, but who employ the latest technical devices in their professional life. What picture, then, do we present to the rest of the world, what is conjured up in the mind when the United States is mentioned?

I remember well an interesting answer I received from an English friend once who had visited the U.S. for the first time. When asked what impressed him most he said: "On my trip I asked any number of people how they would define the idea of democracy. From everyone I received a different answer, but the amazing thing was that they all believed in it."

This, I think, is our great asset and, at the same time, source of great confusion. The difficulty of how to demonstrate our way of life to a questioning foreigner or to ourselves when so much of it is still in the making and has by no means acquired the strong, unequivocal outline that mature civilizations have been able to give to the lives of their peoples and to their environment, has been brought home to me again and again. Also I have often found it nearly impossible to show visiting foreigners what we call "our way of life" in the traditional sense, because so much of it has become obscured in the technical upheaval of our time and in the vast agglomeration of people in our big cities. We have exported to all the world our enthusiasm for new scientific and technical invention, but we have not always been able to pass along the recipe of how to use these powerful means most wisely because we have often not found the answers ourselves. It would be of the highest importance if we could work out and finance in the States practical experiments in modern community building which could serve as model towns for our contemporary way of life and would show our modern means of production applied in the interest of a well-planned, coherent pattern for living. No such experiments exist, except as they have been produced by so-called "developers" who were content with providing mere housing as such, but who have rarely sought the guidance of creative architects and planners who would have been able to construct the framework for a living organism instead of mere additive housing, amorphously spreading over the countryside. A modest beginning was made with the Greenbelt towns under the first New Deal—but that was long ago.

Unless we can produce in our industrial society a more appealing and sociable pattern for the conduct of our daily affairs and express it by making our environment beautiful and coherent, it will be difficult to win sympathy for our achievements of the 20th Century, and countries which are only begining to come into the orbit of the machine age will do so only by force of circumstance, but not drawn by the conviction that it will make for happier living.

Think of those essential imponderables, apparent in towns and cities of bygone cultures, which still have the power to move us emotionally today though they are obsolete from the point of view of practical value. These imponderables characterize what is missing in the concept of our present communities, namely,

(Continued on page 16)

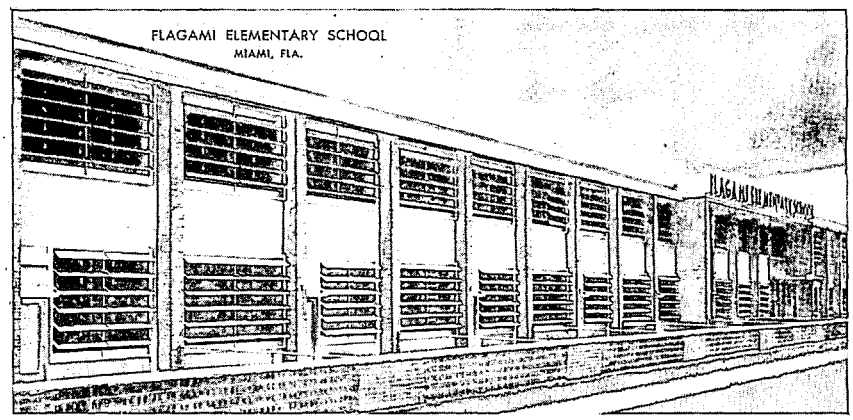
Walter Gropius: mastery of space and techniques

(Continued from page 15)

that unity of order and spirit which is forever significant, visibly expressed in space and volume.

Detrimental and destructive for the growth of this poetic quality for us is, of course, our unquestioning acceptance of the maxim "time is money," the result of our overemphasis on quantitative values followed by that insane haste we are all drawn into today. It will seem that the Western mind in its restless drive to reach new horizons of the physical world would do well to learn a lesson in intensification from the oriental mind on how to reach new horizons of the inner world. Both the West and the East seem to be badly in need of each other, for each makes up for what the other is lacking. If we could bring ourselves to share our mutual achievements, we might yet succeed in building a more durable structure for the man of the 20th Century than has seemed possible before. These are the thoughts that occupy my mind at the end of a year of globe-trotting.

The architect and planner who is to create the setting for this gigantic experiment in living must have a very comprehensive vision indeed, for every visible feature in existence, natural or man-made, counts for the visual effect of that great composition. To do such a total job, he needs the ardent passion of a lover and the humble willingness to collaborate with others, for, great as he may be, he cannot do it alone. Abandoning the morbid hunt for styles, we have already started to develop together certain attitudes and principles which reflect the new way of life of 20th Century man. We have begun to understand that designing our physical environment does not mean the application of a fixed set of esthetics, but embodies, rather, a continuous inner growth, a conviction which recreates truth continually in the service of man.



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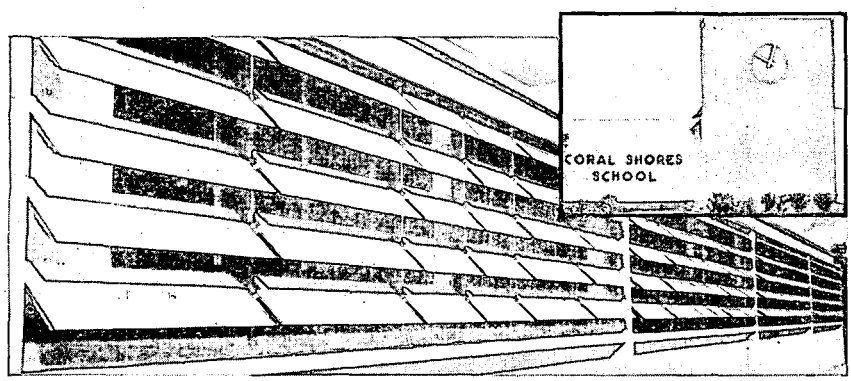

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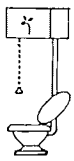

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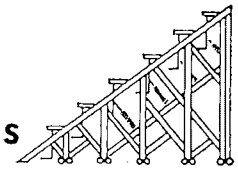

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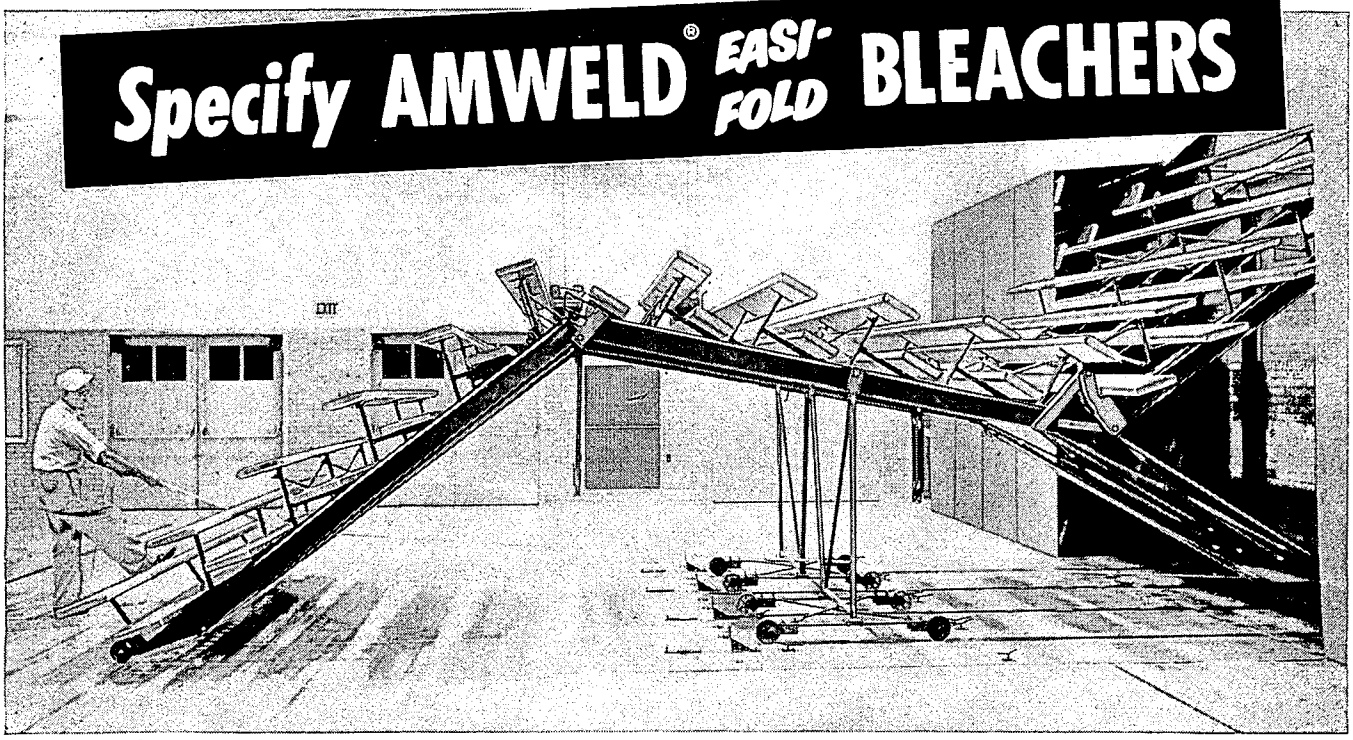

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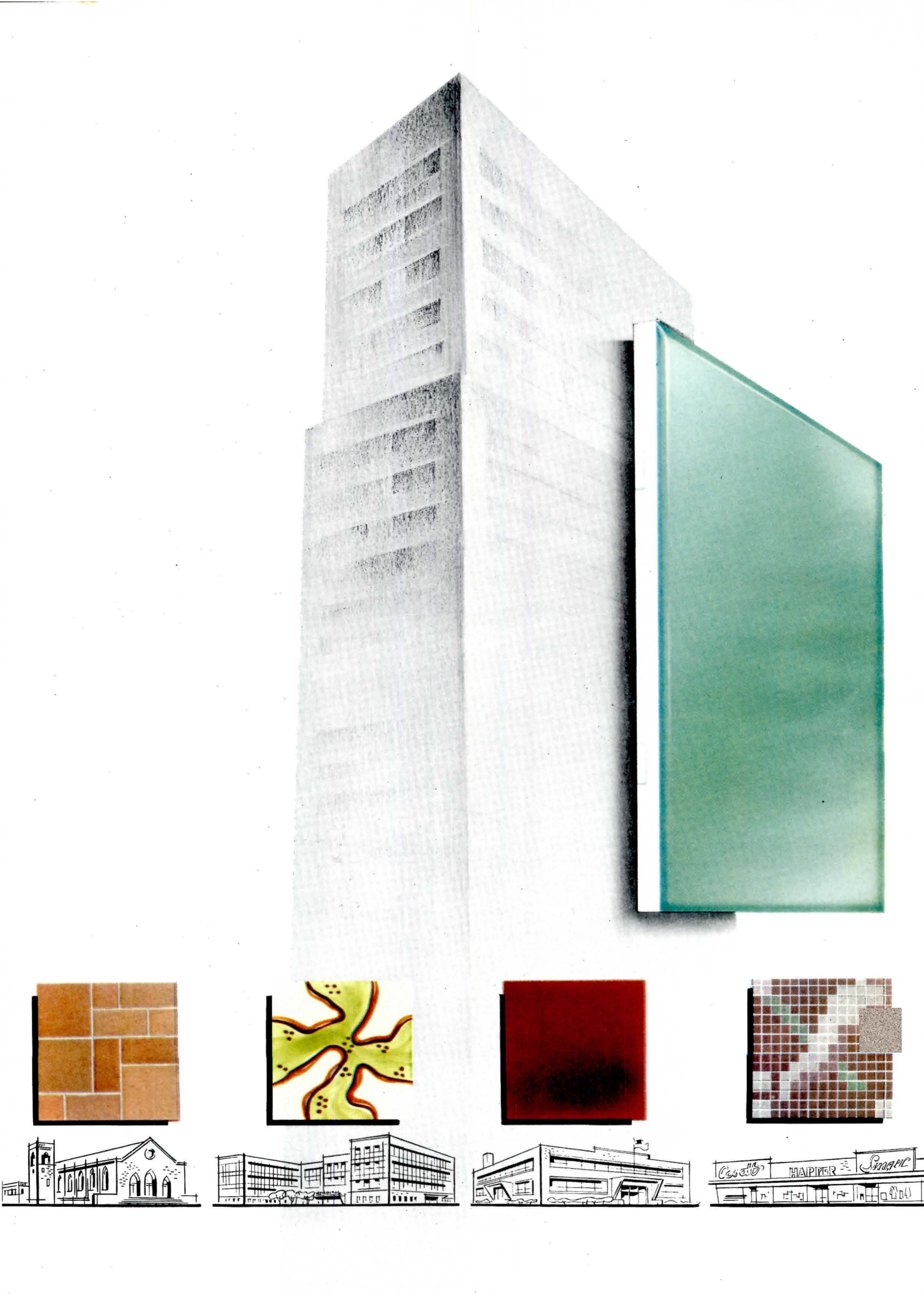
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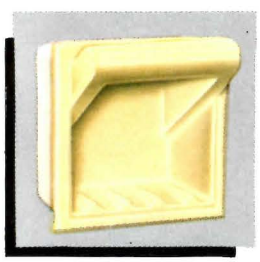

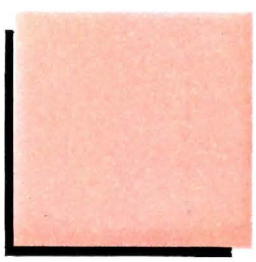





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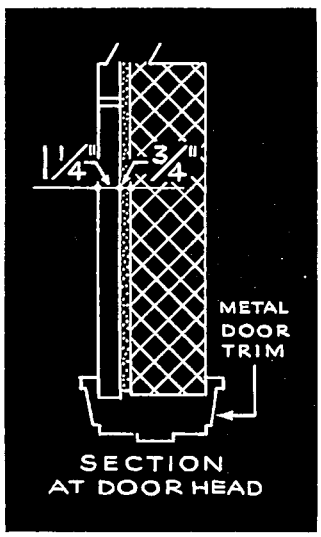

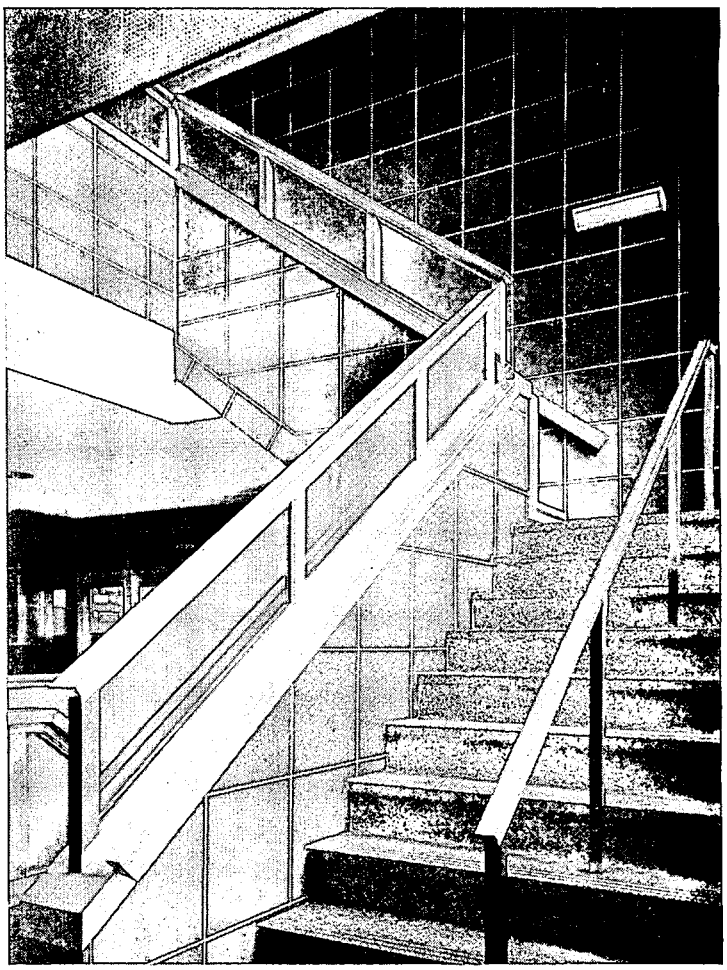

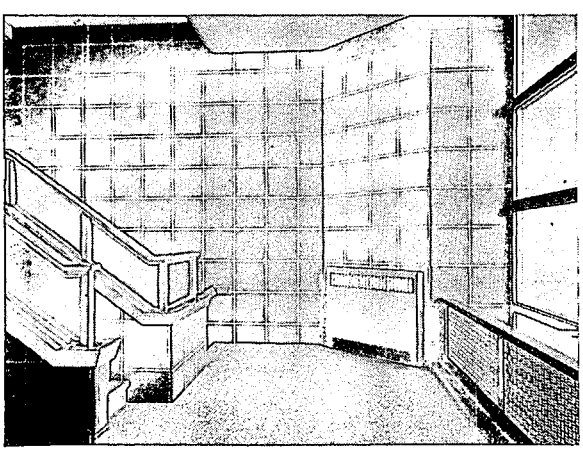

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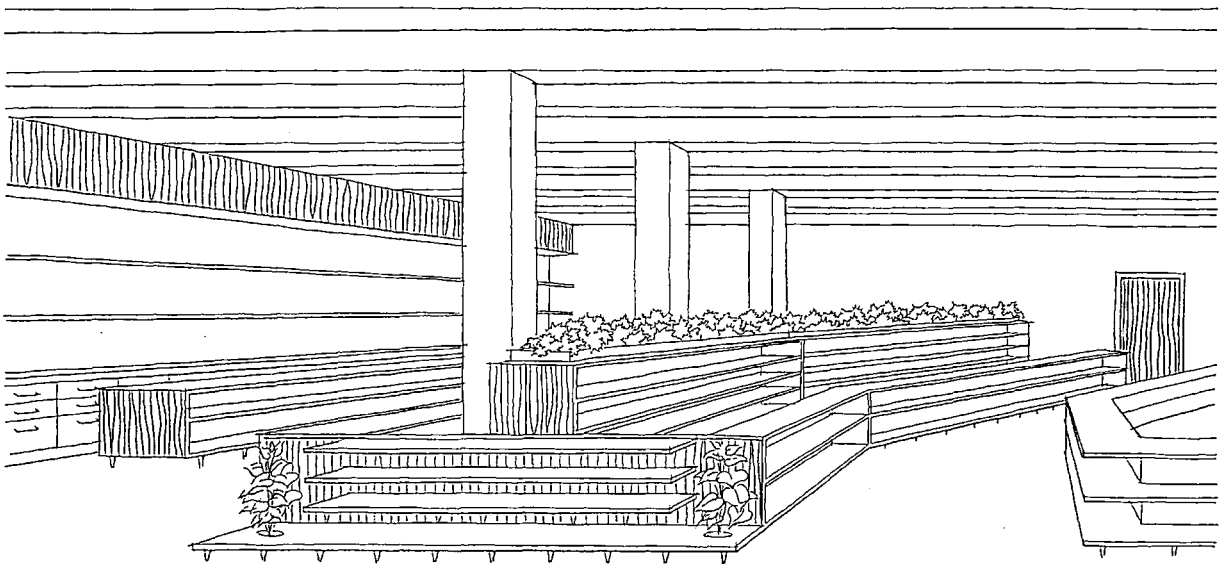

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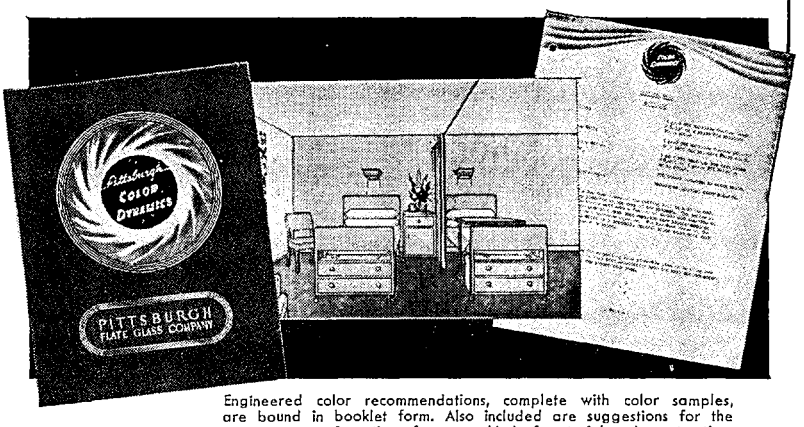

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UNIVERSITY OF ILLINOIS Department of Architecture has announced the appointment of the following new faculty members: DR. CHU-KAI WANG, as Professor of Architectural Engineering, succeeding Professor NEWLIN D. MORGAN, who retired this fall; LINWOOD J. BRICHTBILL, Associate Professor of Architectural Engineering; ANDREW VERKADE, Instructor in Architecture.



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DONALD H. NEWMAN has become an Associate of MCCOY & BLAIR, Architects, 4 Chatsworth Ave., Larchmont, N.Y.

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HARLAND BARTHOLOMEW & ASSOCIATES, City Planners—Landscape Architects—Civil Engineers, St. Louis, Mo., have opened West Coast office at 503 Market St., San Francisco, Calif.

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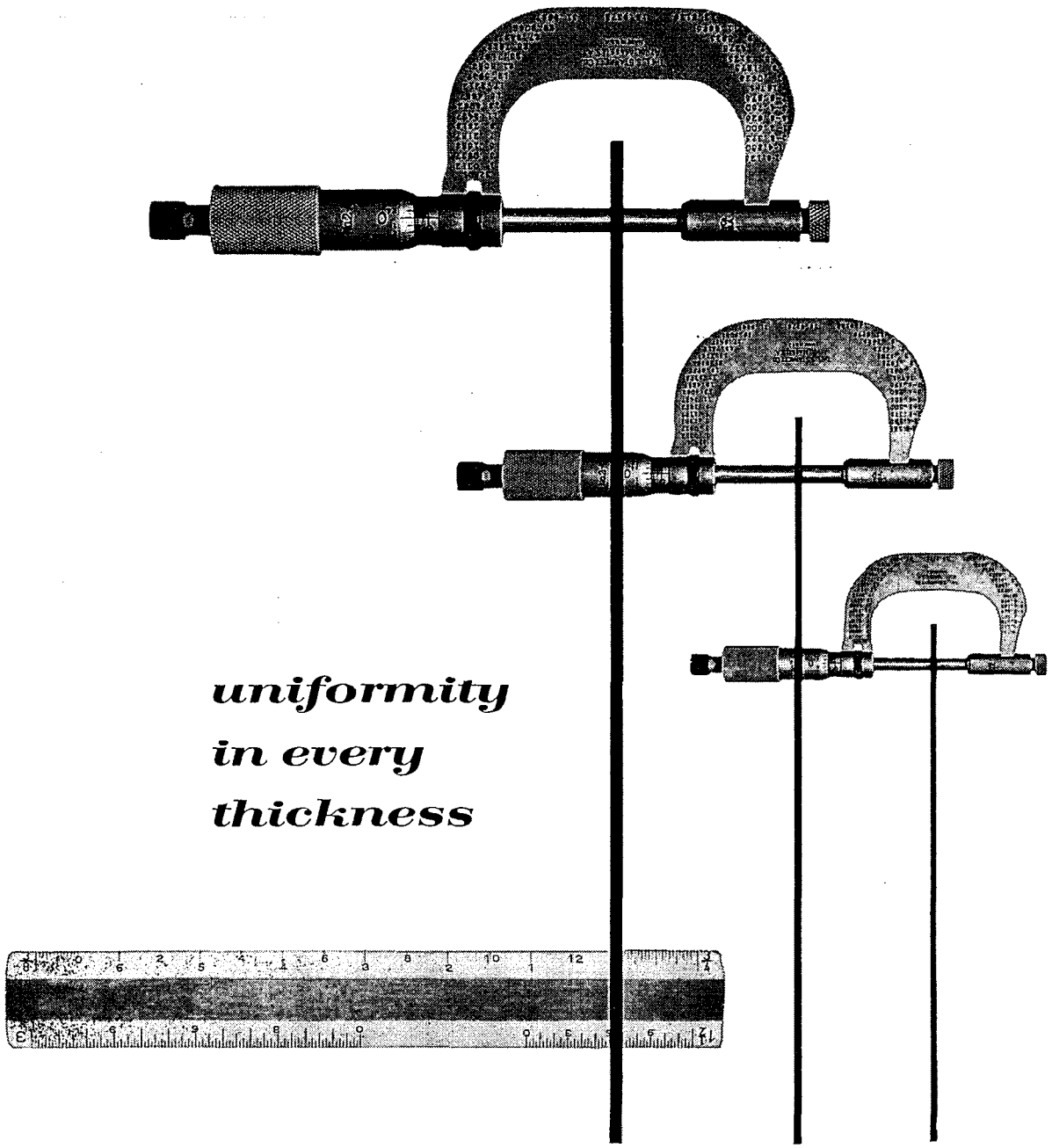

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JOHN R. VALENTINE, Architect, 602 Arendell St., Morehead City, N.C.

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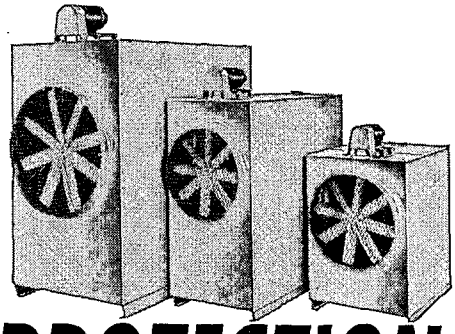
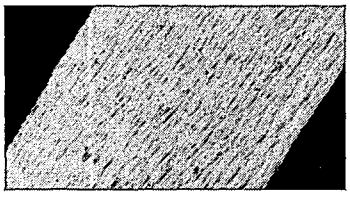


ULTIMATE PROTECTION OF WETTED DECK WOOD



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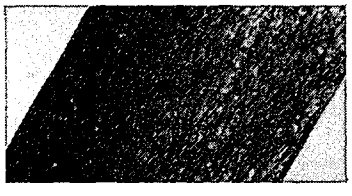

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WURSTER, BERNARDI & EMMONS, Architects, 202 Green St., Corner Sansome & Green, San Francisco, Calif.

WILSON & CHRISTIE, Architects, 403 Washington Ave., Towson 4, Md.

ALBERT G. CLAY, Architect, Niantic, Conn.

WILLIS & JENKINS, Architects, 7th floor, A.A. House, Queen Victoria St., Cape Town, South Africa.

DAVID G. HAUMERSON, Architect, P.O. Box 964, Scottsdale, Ariz.

EDWARD D. DART, Architect, The Corn Products Bldg., 201 N. Wells St., Chicago 6, Ill.

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ANDRE MERLE ASSOCIATES, Consulting Engineers, 1420 New York Ave., N.W., Washington 5, D.C.

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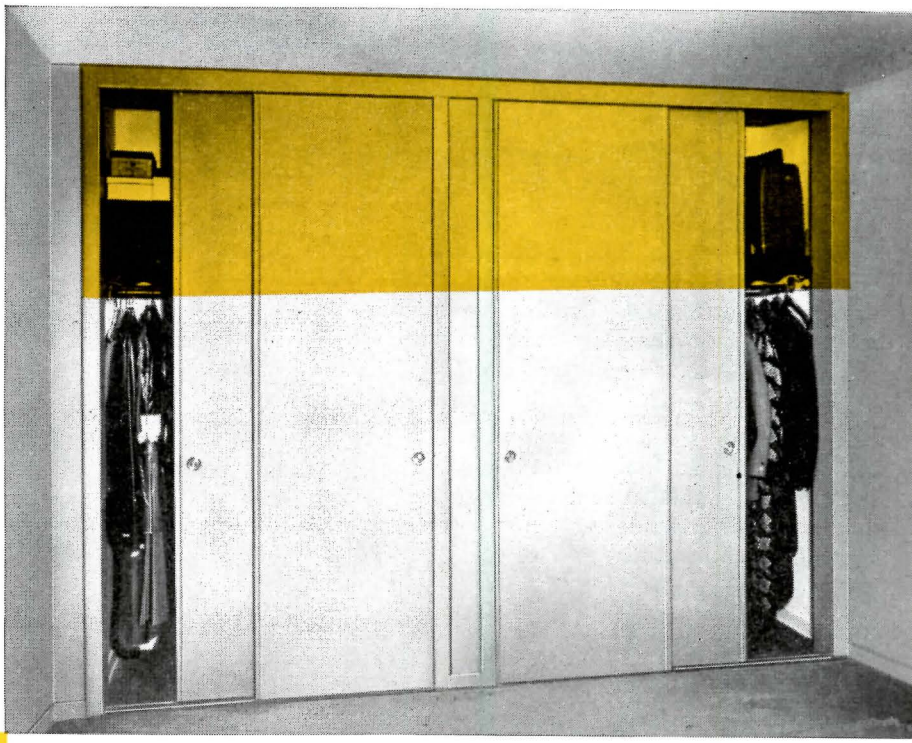

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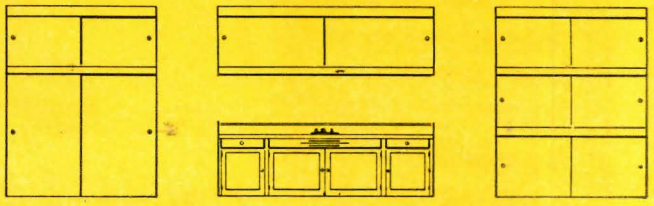

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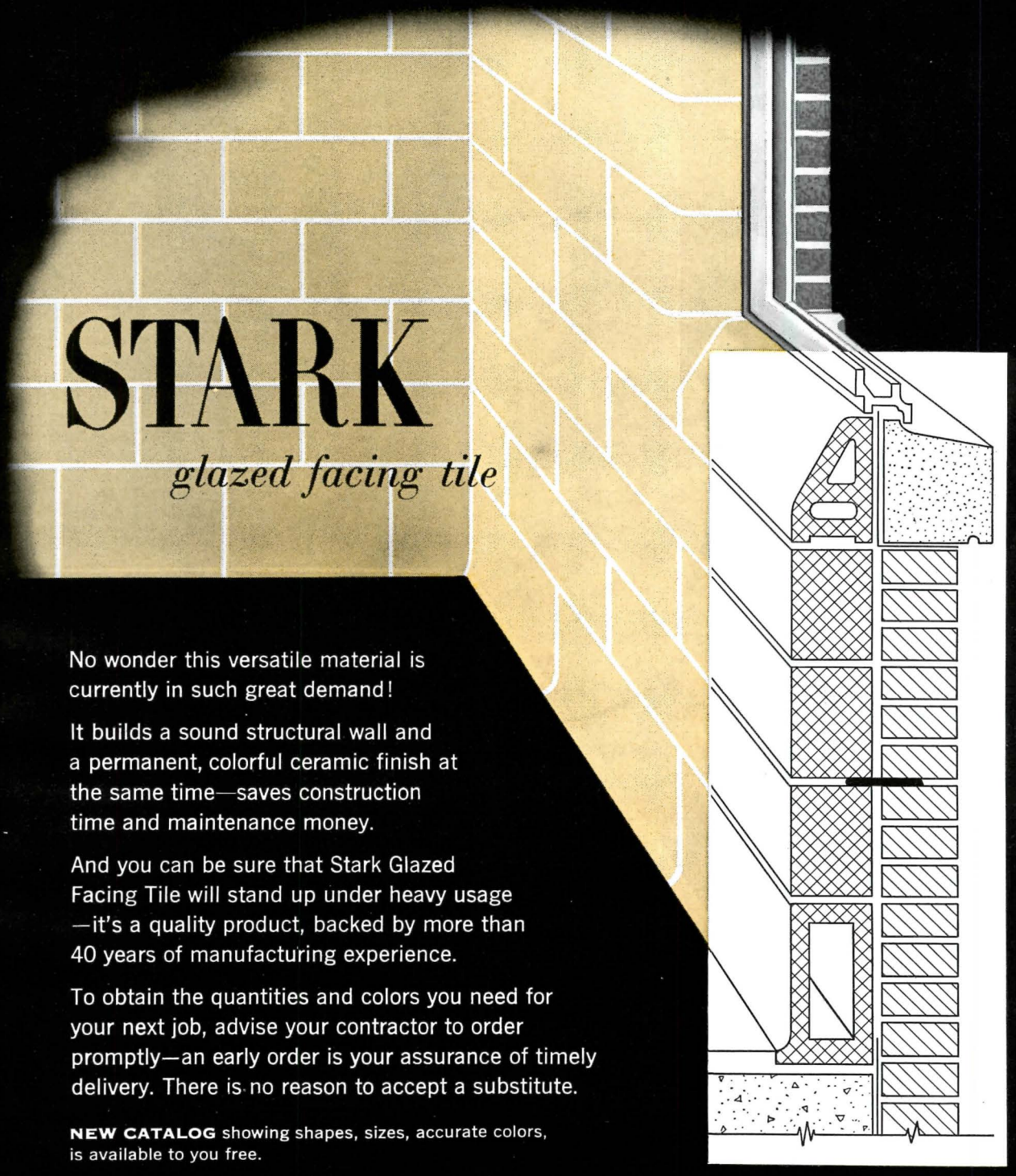

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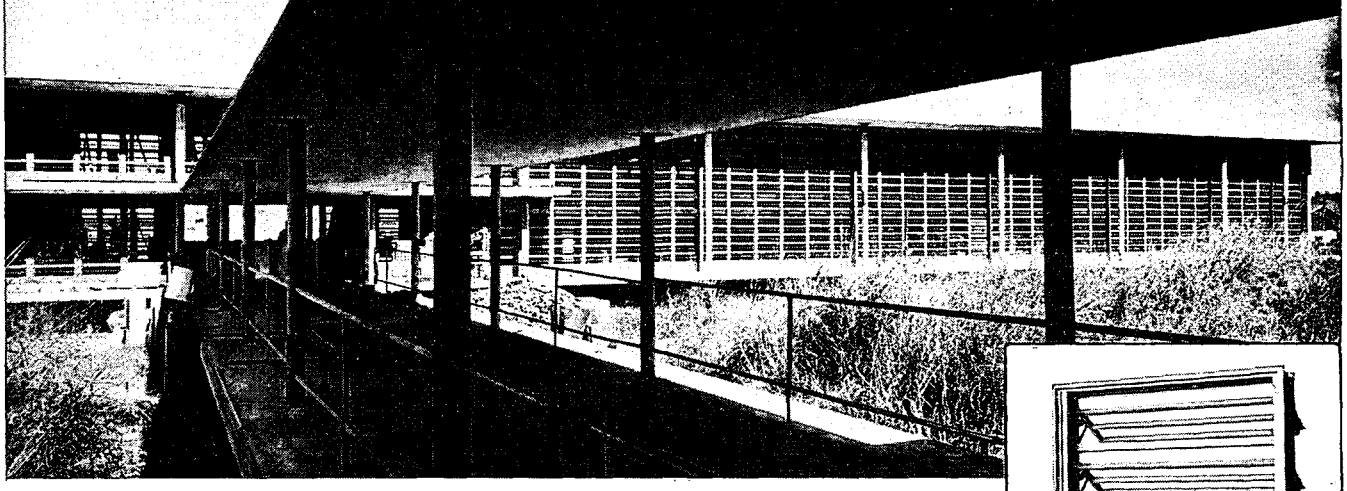

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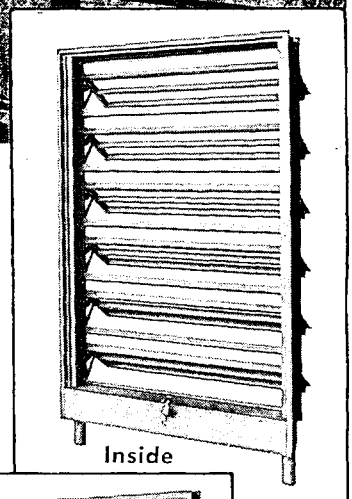

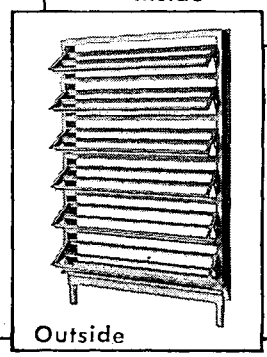

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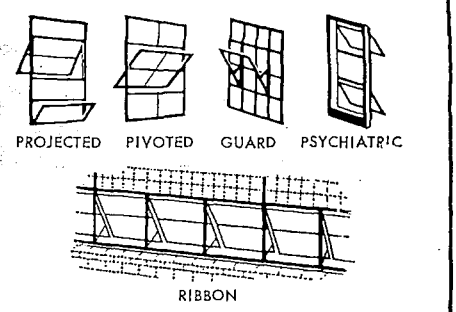

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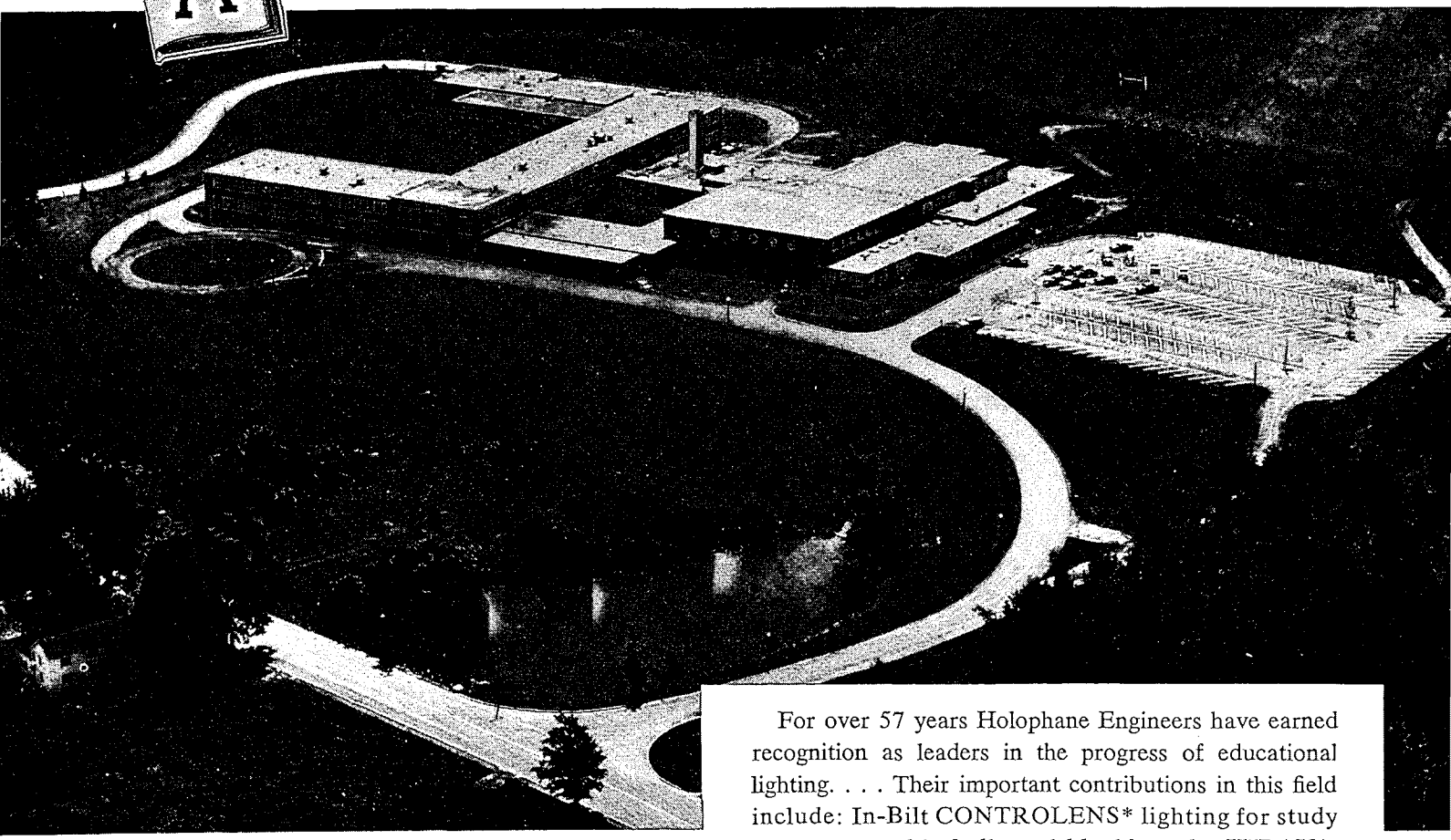

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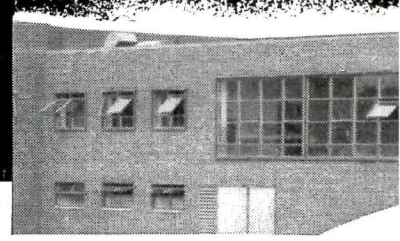

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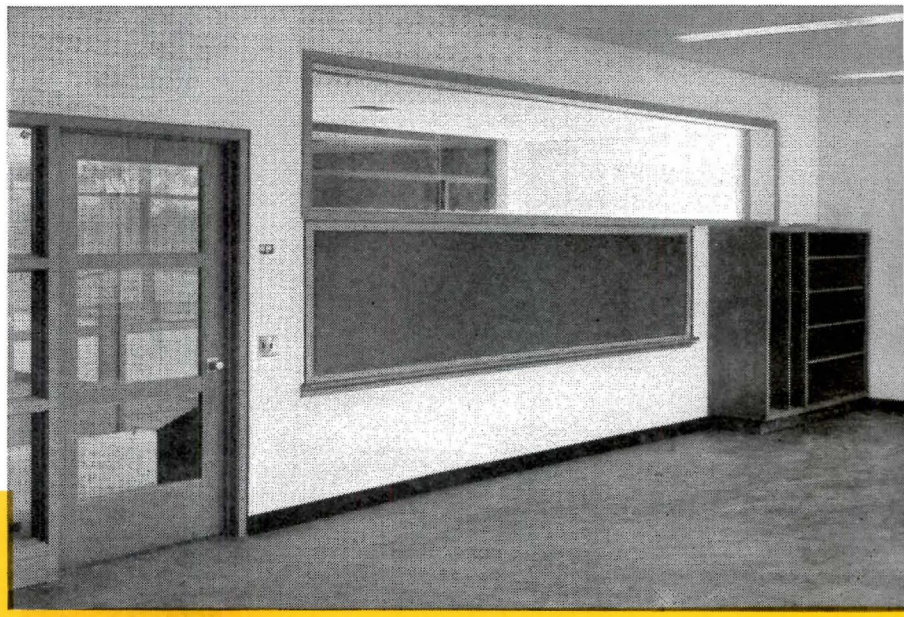

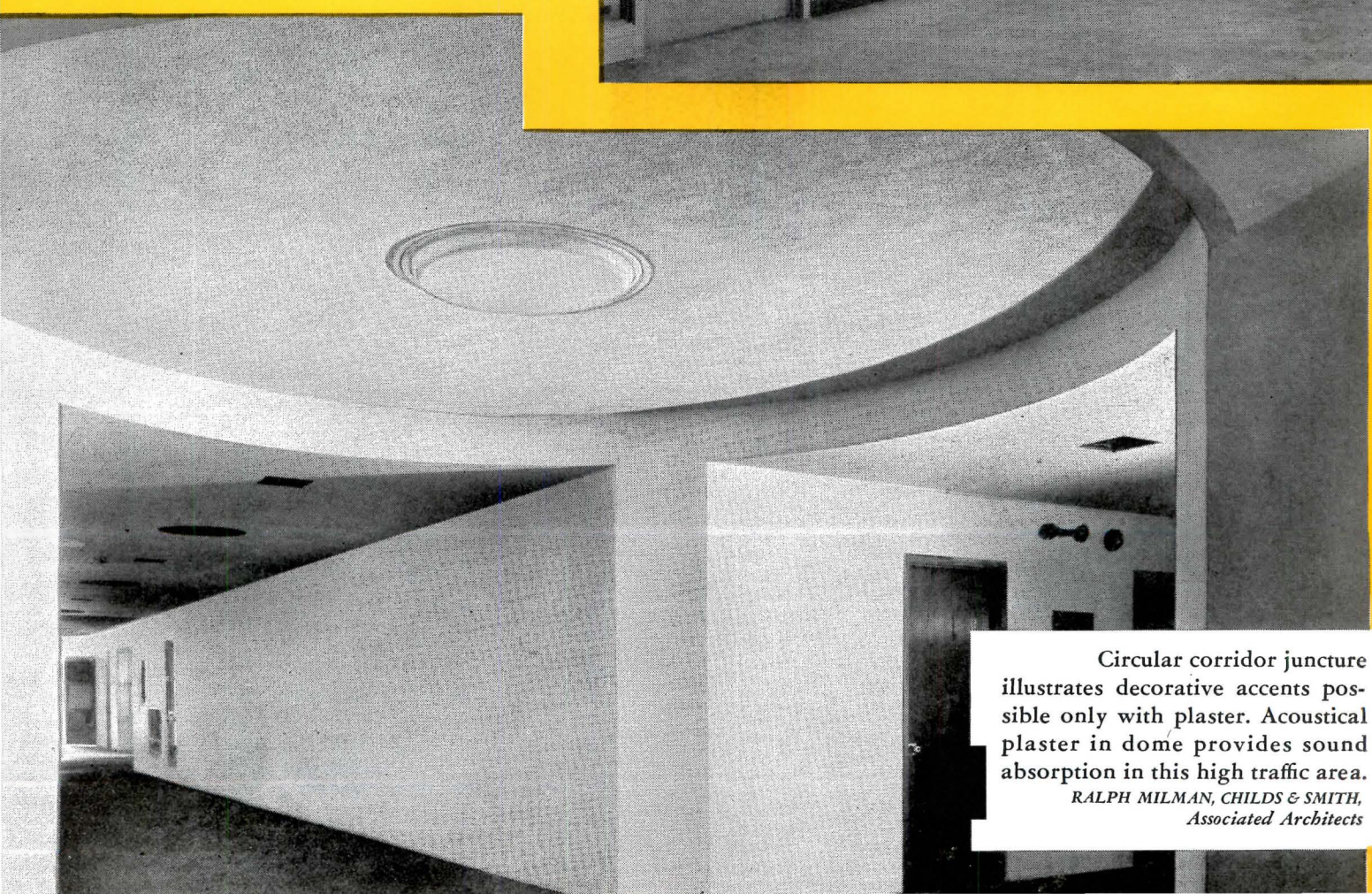

Circular corridor juncture illustrates decorative accents possible only with plaster. Acoustical plaster in dome provides sound absorption in this high traffic area.

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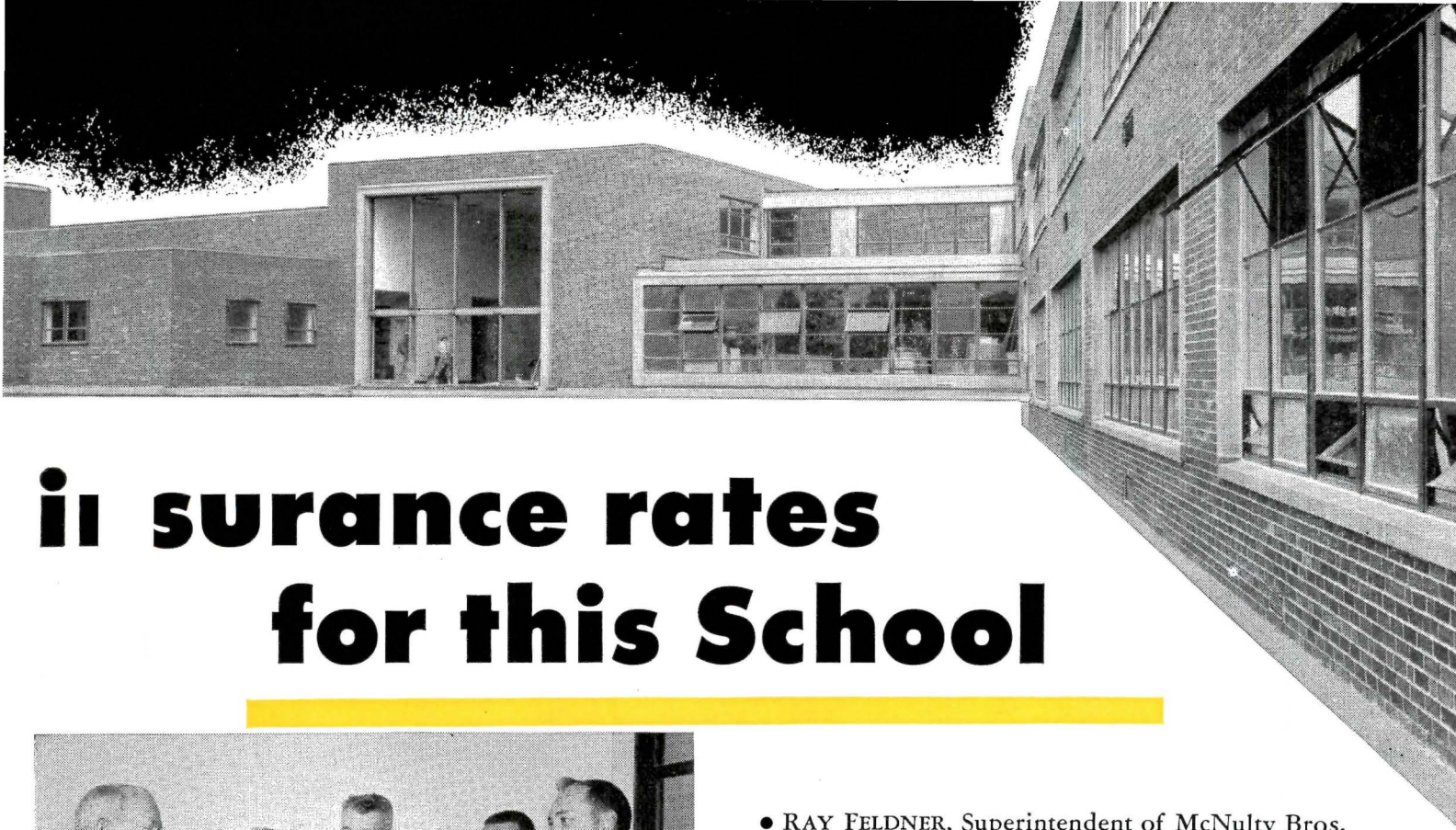
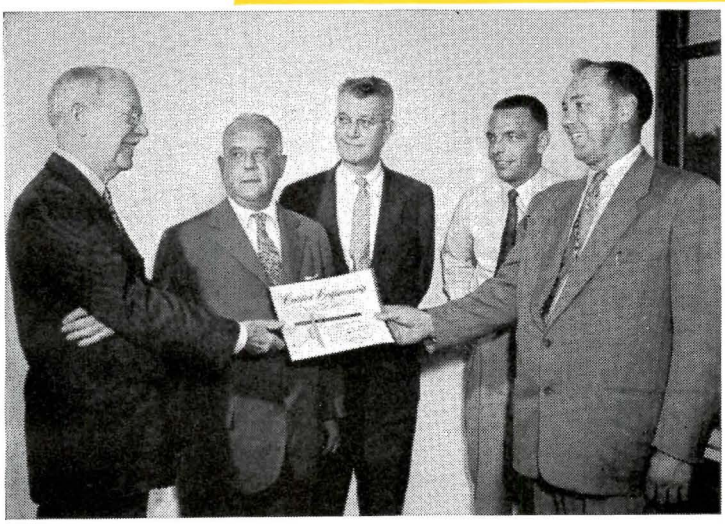


ii surance rates for this School



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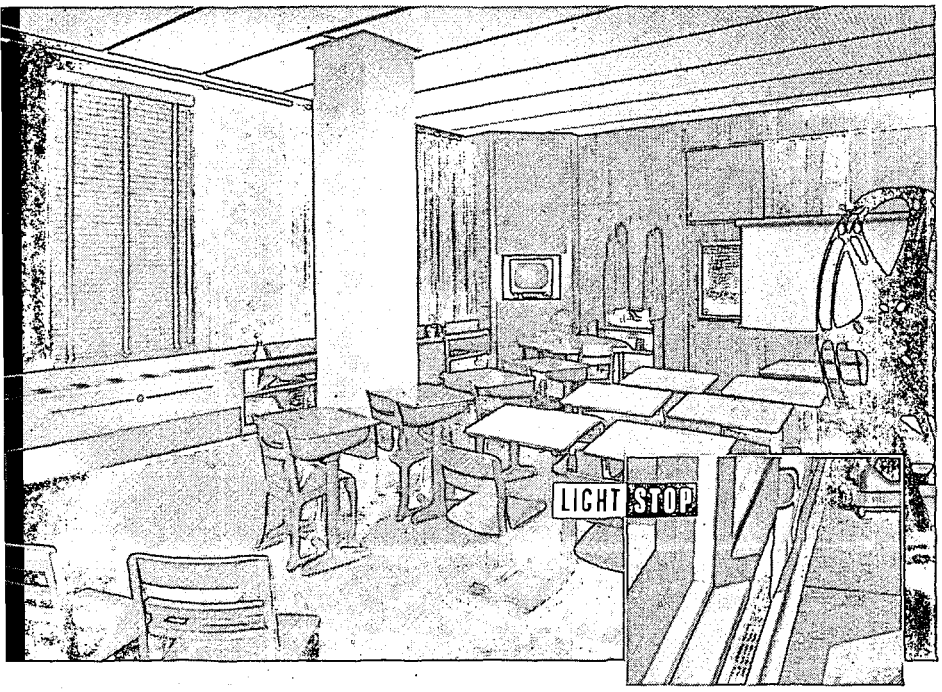

NEW YORK. With today's critical classroom shortage, this room represents a perfect example of low cost modernization. Even with windows closed and curtains drawn, a Herman Nelson DRAFT|STOP Unit Ventilator keeps this Audio-Visual demonstration classroom at New York University properly cooled and ventilated. Installation includes new Light|Stop Curtain Accessory (see inset) which prevents curtain from billowing due to discharge air from unit ventilator, thereby eliminating distracting light streaks. Co-chairmen National Committee on Buildings and Equipment, Department of Audio-Visual Instruction of the N.E.A.: Dr. A. J. Foy Cross and Dr. Irene Cypher; Architects: Eggers and Higgins.



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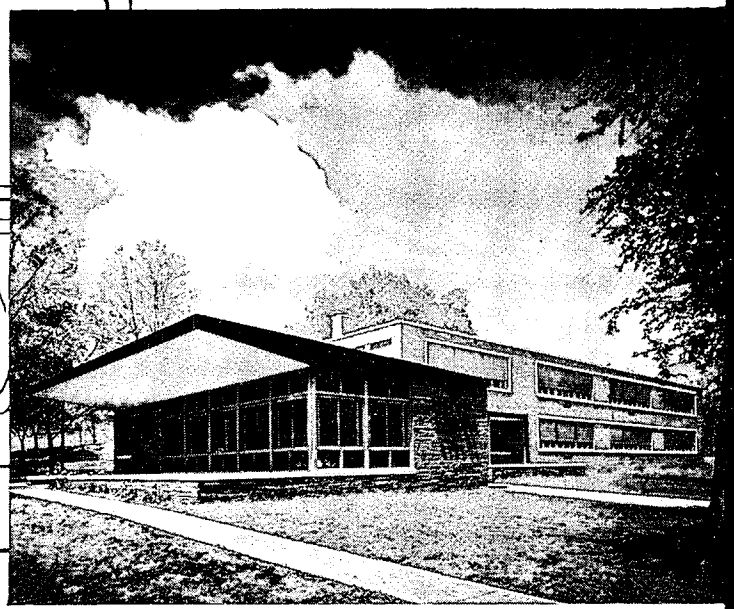
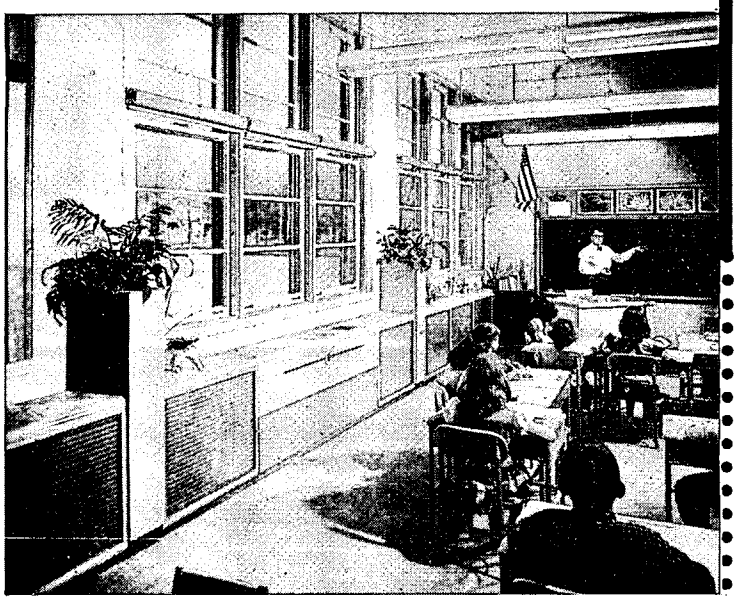


SOUTH DAKOTA. Large glass areas help insure bright, cheerful classrooms—but cooling, heating and ventilating functions at Lincoln Grade School, Yankton, S. D., are assigned to dependable, efficient Herman Nelson DRAFT|STOP Unit Ventilators. Superintendent of Schools: L. H. Baumann; Architects: Hugill, Blatherwick & Fritzel; Engineers: G. M. Orr Engineering Co.; Mechanical Contractor: Freeman Corporation.

ILLINOIS. Helps them to concentrate in comfort. No chilling drafts — no interruptions from opening and closing windows. Herman Nelson Unit Ventilators meet classroom cooling, heating and ventilating requirements every season of the year at Solomon School, Chicago, Ill. Superintendent of Schools: Benjamin Willis; Architect: John C. Christensen; Engineer: Joseph T. Fatz, Sr.; Mechanical Contractor: Dearborn Plumbing & Heating Service, Inc.



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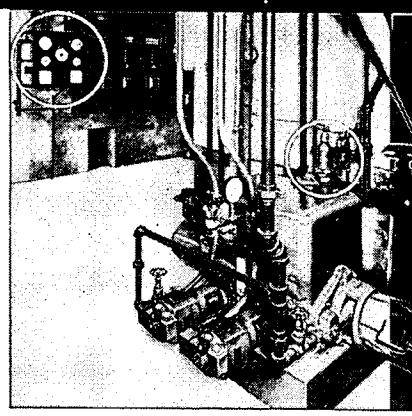

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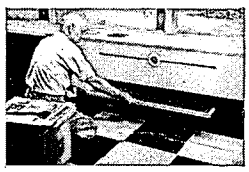
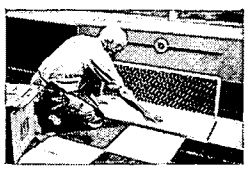


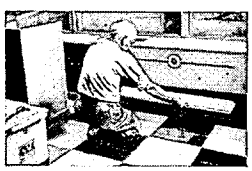
1. Remove the aluminum filter frame from the unit ventilator and dispose of soiled media.



2. Pull out desired length of clean AMER-glas media from self-dispensing carton and cut with scissors.



3. Insert the clean filter media in the frame and lower hinged top into position.



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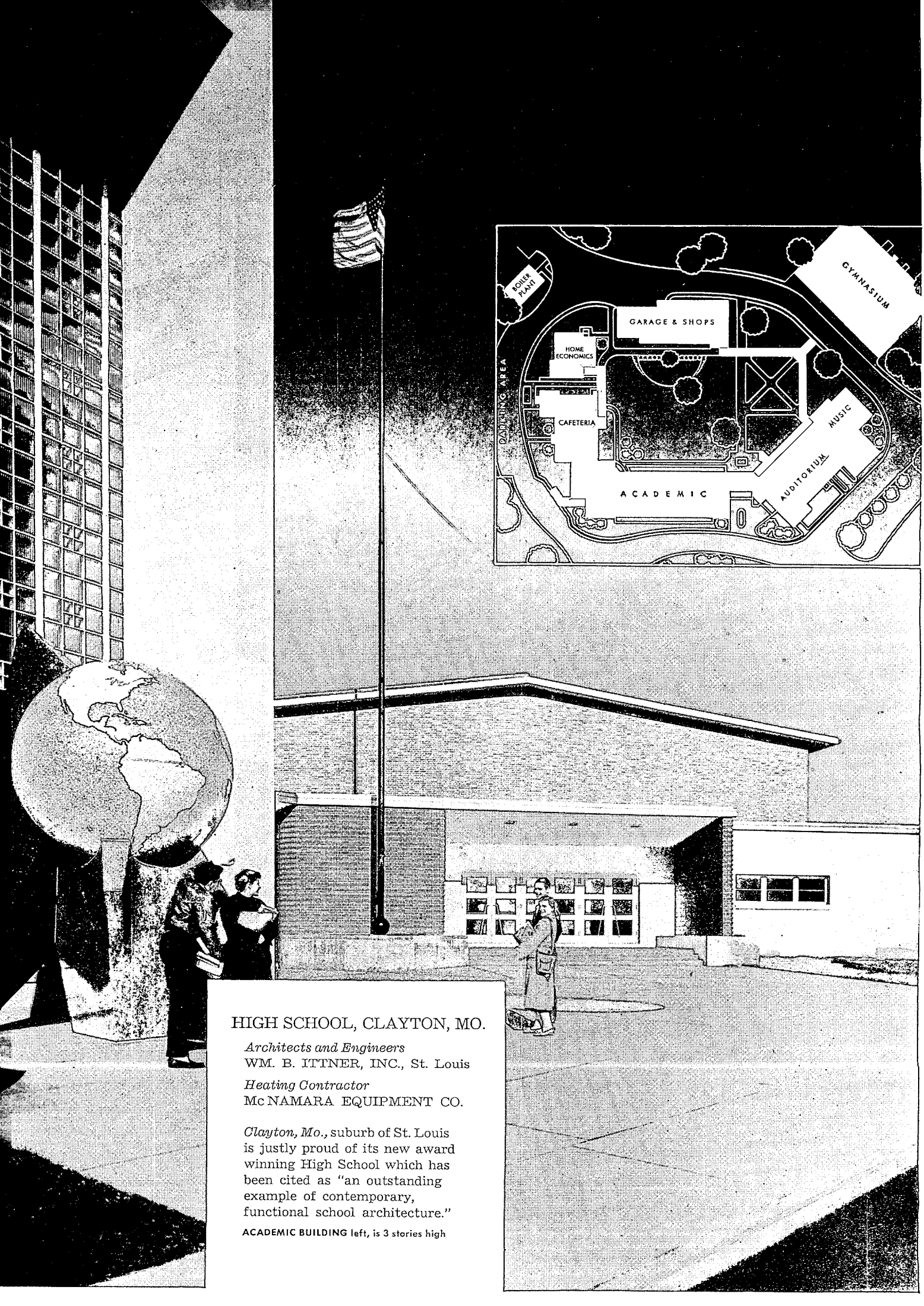

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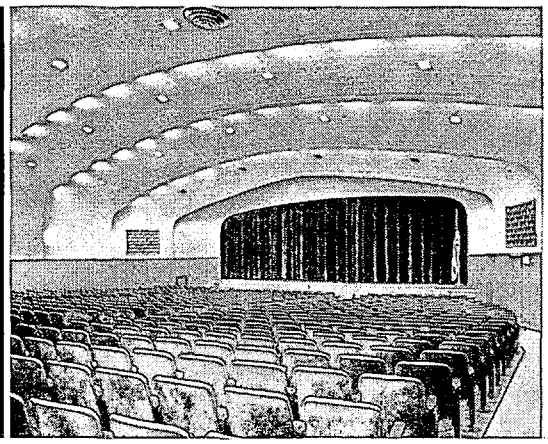
INSTALLED IN THE CLAYTON, MO., NEW CAMPUS TYPE HIGH SCHOOL

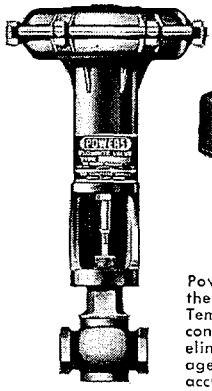
Any of the six buildings here can be occupied at night without operating the entire school plant. Covered walkways connect the buildings which being separated isolate noise from gym, band and shops. Water heaters and shower baths too, are Powers controlled also Whirlpool arm-leg bath in gym.



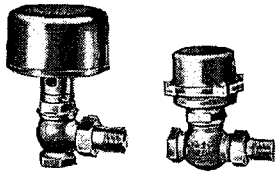


English Literature Classroom

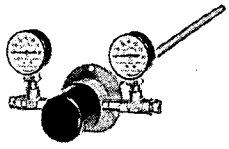
You too can solve your Temperature Control problems with Powers . . . one dependable source, one responsibility. Consult Powers on all temperature control problems. Our more than 60 years of experience will save time and help you get the right control for your requirements.



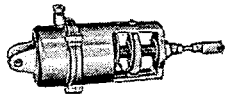
FLOWRITE Diaphragm Valve



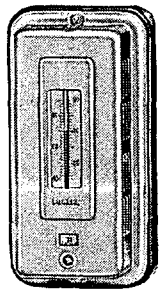
Powers PACKLESS Control Valves — one of the many superior features of a Powers Temperature Control System. Their duo-seal construction reduces valve stem friction, eliminates packing maintenance and leakage of water or steam and gives smooth accurate control.



Above: Powers LIMITEM Low Limit Thermostat. A precision instrument for accurate control of Unit Ventilator discharge temperatures.



POWERSTROKE Damper Operator



Powers Room Thermostat is truly gradual acting and gives smooth control of valves and dampers.

(c21)

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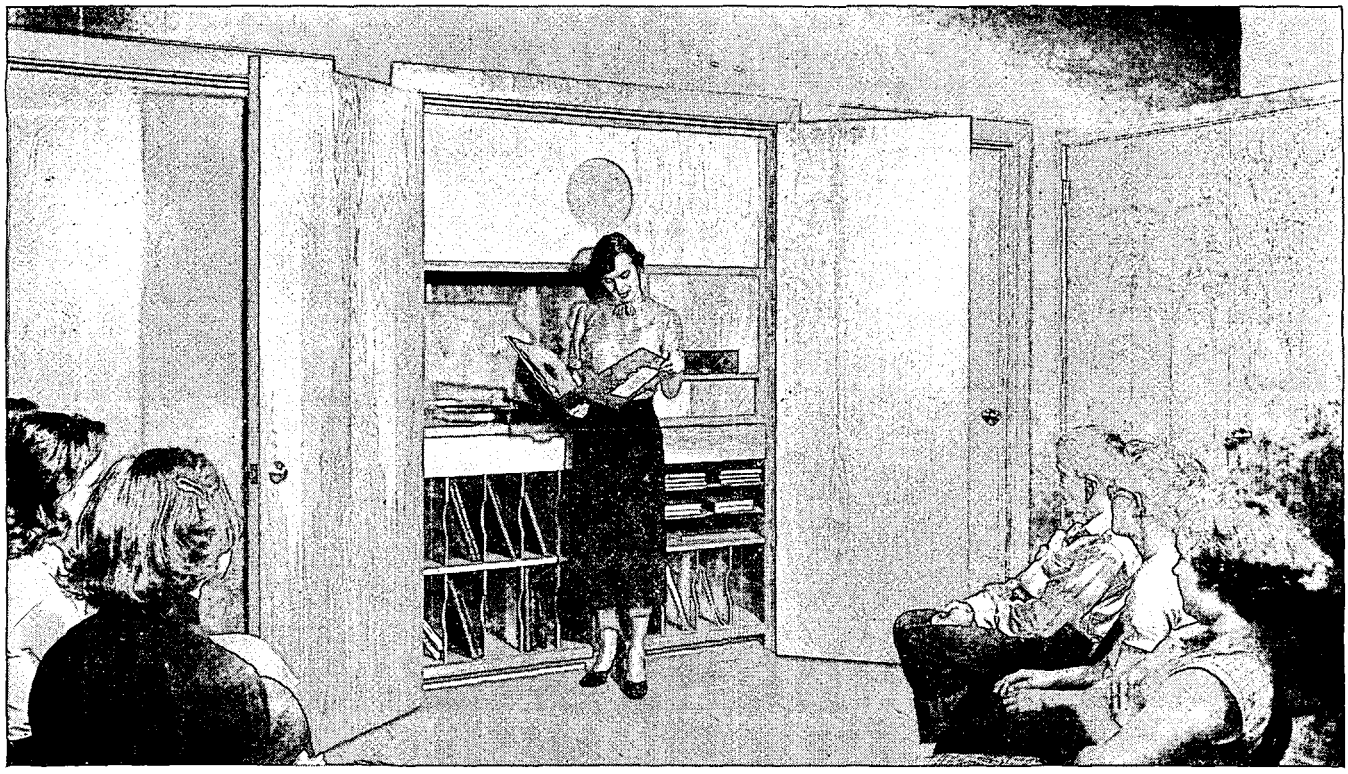
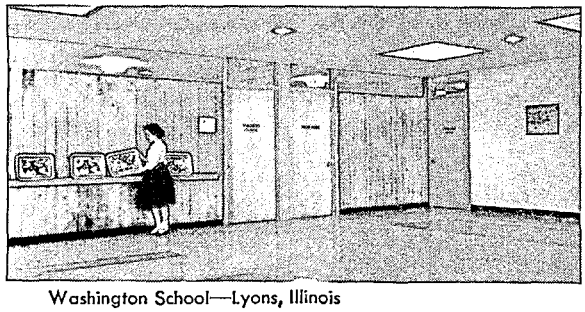


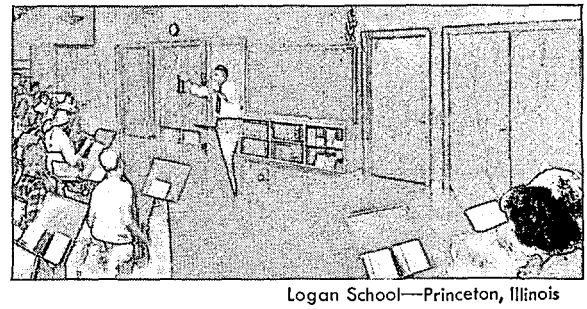
The Logan School—Princeton, Illinois

For School Beauty...and Hard Wear... It's Curtis New Londoner Doors

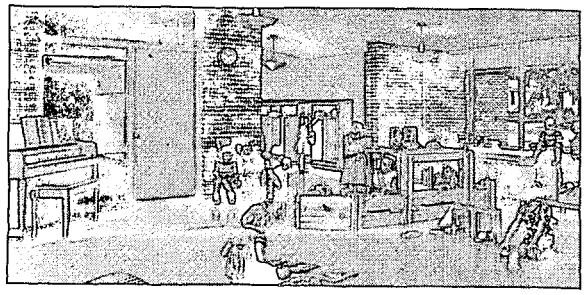
These schools by Perkins & Will, noted school architects, show how Curtis New Londoner hollow-core flush doors, with their beautifully grained, native wood face panels, fit into contemporary school design. New Londoner doors are as durable as they are beautiful. With their exclusive all-wood locked-in cores, they have the stamina to withstand rough use—to stay dimensionally stable without warping or sagging through a lifetime of service. They are made with solid-core construction also. See "Sweet's" for full information—or write for literature. Curtis Companies Service Bureau, Clinton, Iowa.



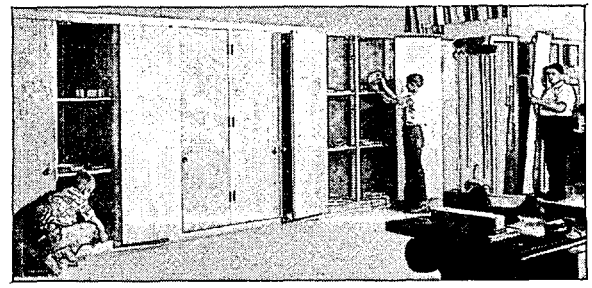
Washington School—Lyons, Illinois



Logan School—Princeton, Illinois



Douglas School—Princeton, Illinois



Logan School—Princeton, Illinois

1866 CURTIS NEW LONDONER HOLLOW-CORE FLUSH DOORS



N.A.H.B.
CONVENTION
Chicago, 1955

The talk of the show

Briggs Beautyware "stopped" the show in Chicago with a striking Coral and Gray exhibit featuring new design bathroom fixtures, a new line of color kitchen sinks and a wide range of styling for any type of home.

"Sell Faster with Color" was the Briggs exhibit theme. Architects, Builders, Jobbers and Plumbers responded by the thousands. They stopped, they looked, they asked for complete information about the great 1955 Beautyware line.

Modern contour design, new color styling, advanced engineering and the economy of the Briggs two-bath package, have made Beautyware the big favorite across the board. And, thanks to a complete national warehousing system, Beautyware is available everywhere in the full range of styles and colors—Coral, Pearl Gray, Sky Blue, Sea Green, Sandstone and White.

1955 promises to be a record year for residential building, and Briggs is honored to have Beautyware made first choice by so many leaders in the building industry.

Briggs Manufacturing Company, Detroit 26, Michigan

Two bathrooms—a must in every modern home

Beautyware by BRIGGS



First Presbyterian Church

HOUSTON • TEXAS

Architect: DR. HOBART UPJOHN, F.A.I.A. and MAURICE J. SULLIVAN, F.A.I.A.
Gen. Cont.: W.S. BELLOWS CONSTRUCTION CORPORATION
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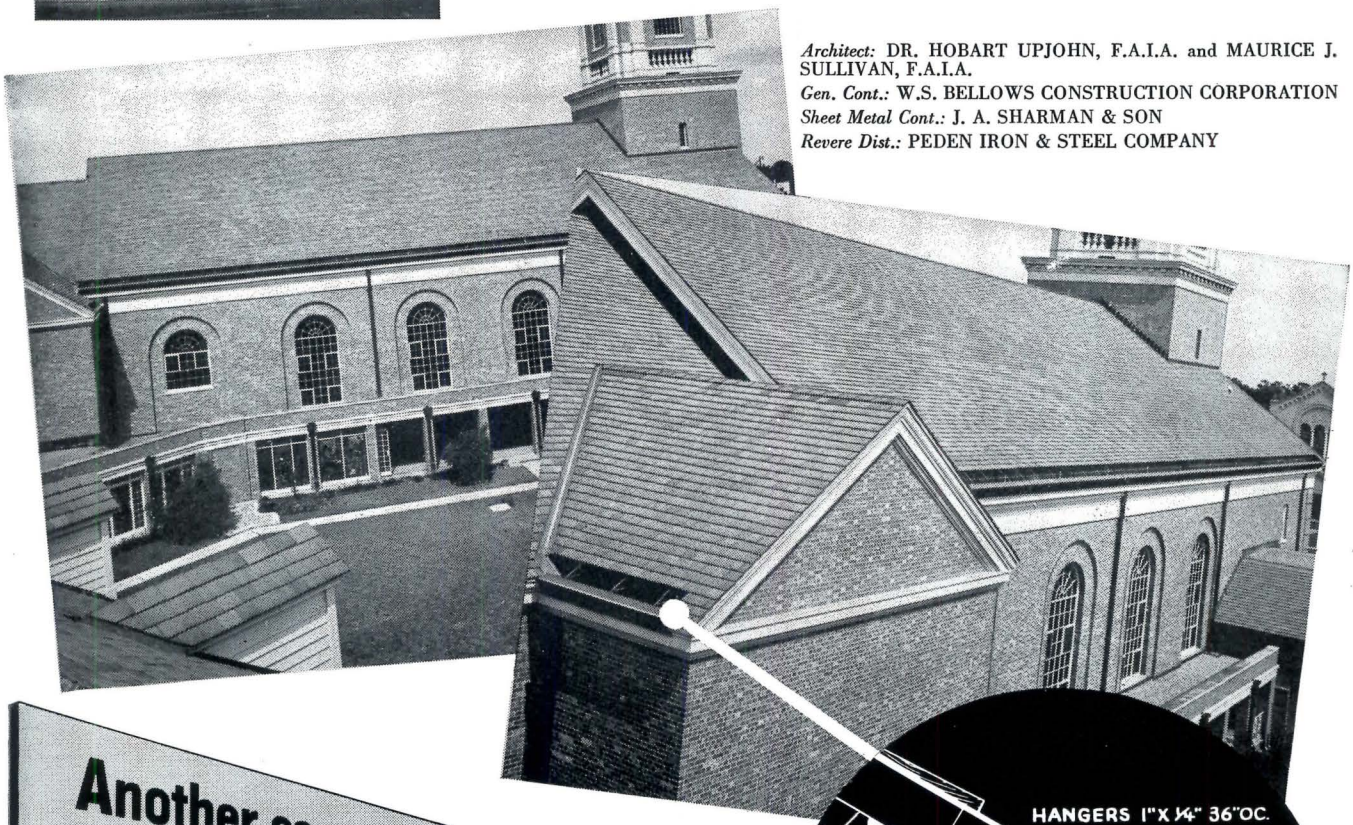
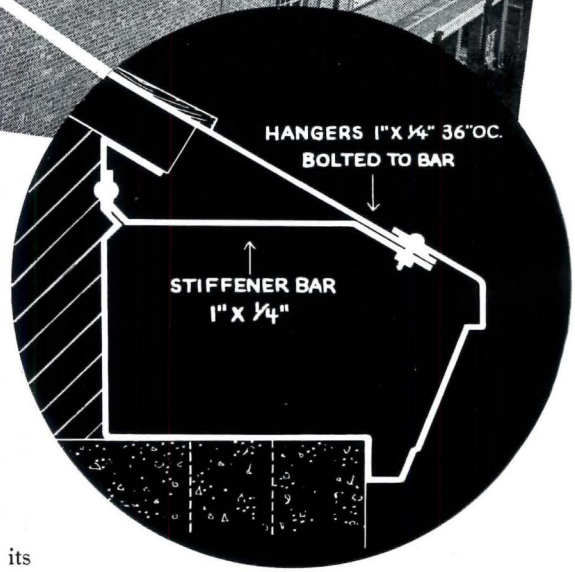


Another case of COPPER where it counts!

COPPER GUTTER DETAIL is shown at right. 24 oz. copper is turned up wall to roof. Stiffener bar is ¼" x 1". Hangers are same size, placed 36" O.C. and bolted to bar. Over 20,000 lbs. of Revere Sheet and Strip Copper were used for gutters, leaders, expansion joints and flashings, with Revere Keystone Thru-Wall Flashing being used in conjunction with the stone work.



• One of the many beauties of copper, from an architect's standpoint, is its versatility, design-wise. Copper is as much at home in the most modern church as it is in an ancient Roman Cathedral. Take, for example, the new, smartly-designed church shown here. Note how the copper box gutter has been made to blend in with the roof line, how neat the stepped-down flashing appears around the steeple and adjoining wall and how the decorative leaders have been designed to become a part of the brick pillars on the lower level.

In addition to its practically unlimited design possibilities copper cannot rust or rot. Its endurance has been proved for centuries. The enviable reputation copper has earned makes it readily acceptable by the toughest board of directors. Contractors prefer to work with it because it solders beautifully, requires no special tools, is readily worked into any shape or form and is readily prefabricated in the shop. Write us today about the money-saving advantages of Revere Keystone Thru-Wall Flashing*. And, if you have technical problems, we will put you in touch with Revere's Technical Advisory Service.

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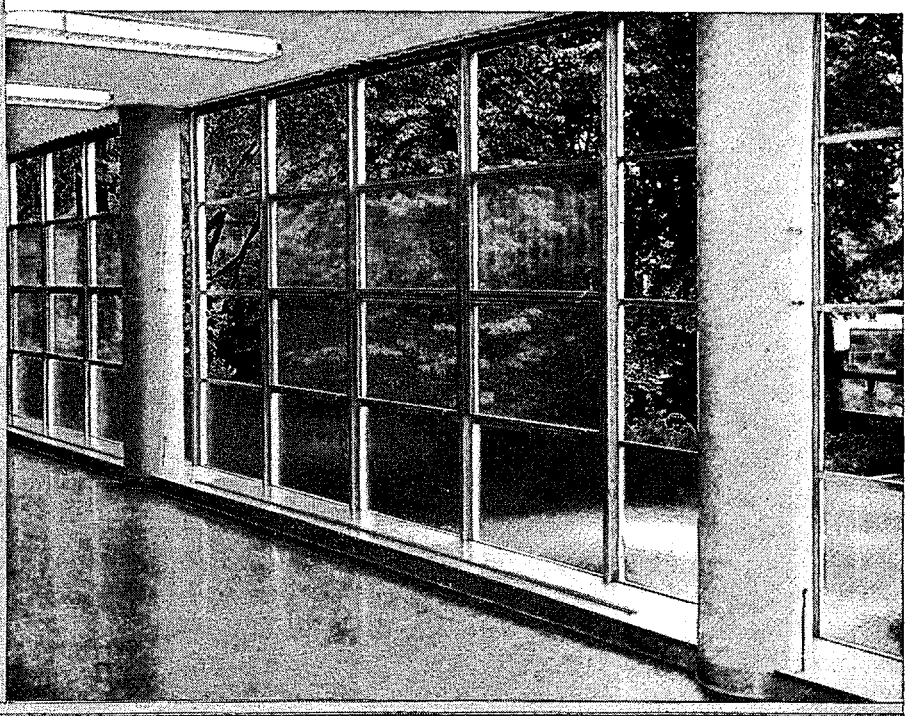

Installed as a continuous strip in window head or sill (as above), AGITAIR STRIPLINE is the only practical means for air curtaining plate glass windows or wall areas to counteract summer heat or winter chill.

AGITAIR® STRIPLINE DIFFUSERS

BLEND IT . . . specify AGITAIR STRIPLINE as a continuous decorative unit, or in sections to meet any requirements of interior treatment.

HIDE IT . . . in shallow lighting coves for perfect concealment.

COMBINE IT . . . with unit or continuous lighting fixtures.

AND REMEMBER . . . no matter how you use it — AGITAIR STRIPLINE diffusing vanes create maximum mixing and aspiration . . . quick temperature equalization . . . and correct air distribution over any desired length.

Every Inch a Diffuser . . . the Vanes Make the Difference

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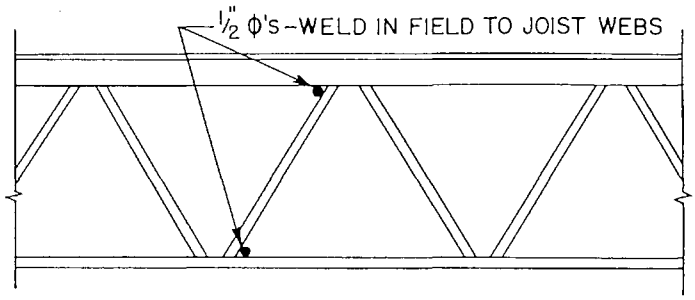
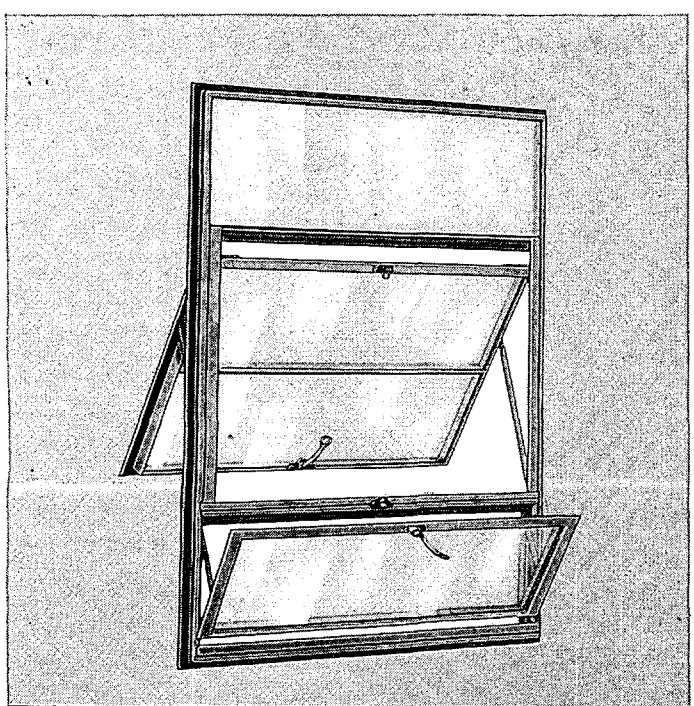
AIR DIFFUSERS • FILTERS • EXHAUSTERS

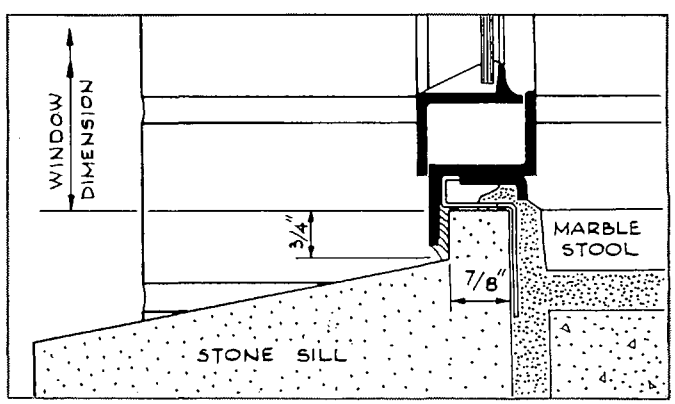
Front view of Normandy Road School, Bay Village, Ohio. Architects: Mellenbrook, Foley & Scott. Contractor: J. L. Hunting Company.



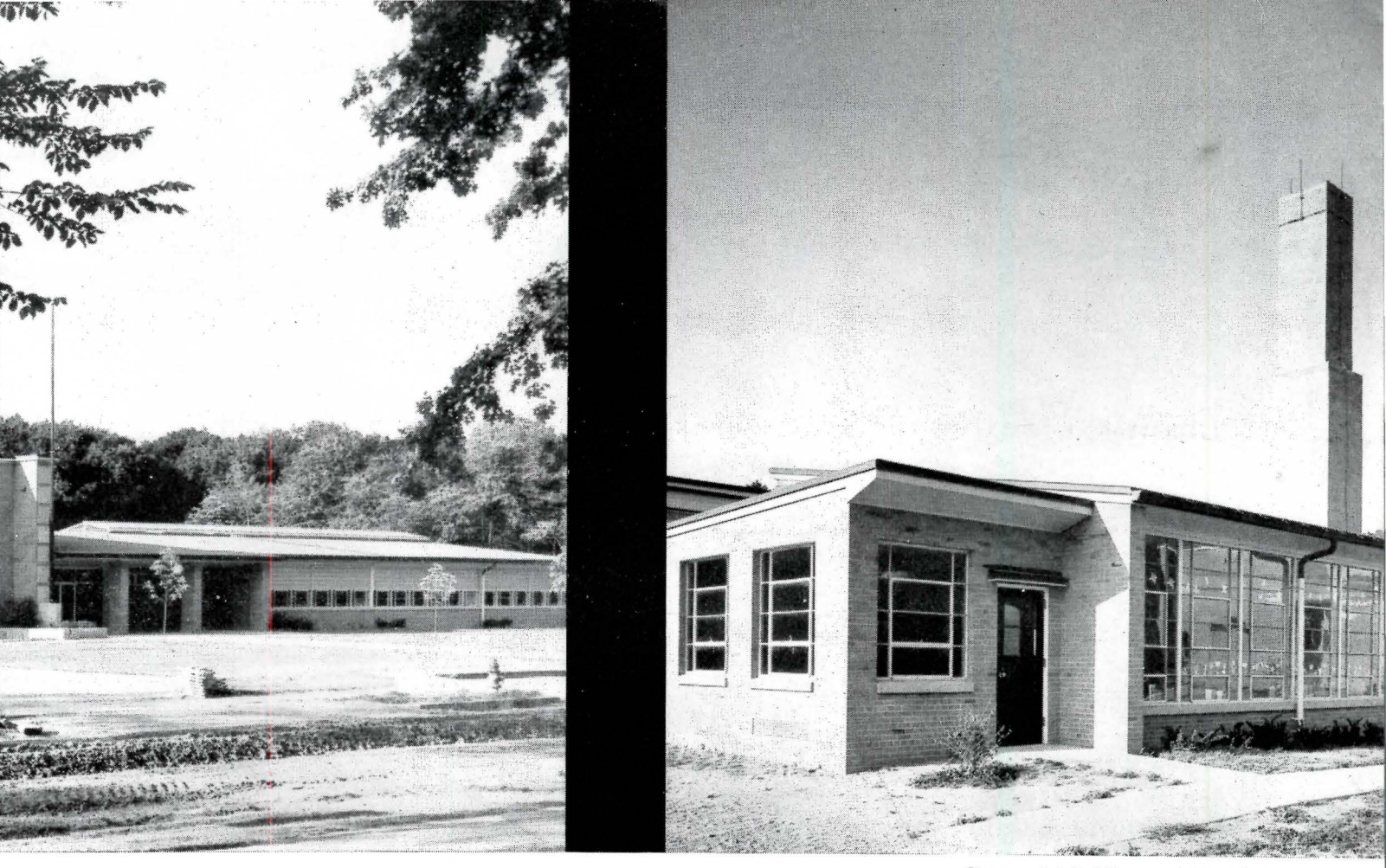
This ½" round horizontal bridging is recommended by the Steel Joist Institute, with ½" round bars bridging both top and bottom chords.



Ceco Architectural Projected Windows also contributed toward an economical, functional building. Their solid hot-rolled sections provide easy wall-bearing anchorage... strength... flexibility of ventilation... plus beauty and good daylighting.



This sill detail, with the window frame overlapping the stone sill and the joint properly caulked, provides efficient watertightness and drainage. Another school-wise feature is the marble stool.



Close-up detail of Normandy Road School.
Note the variations in window use.

How a school for 400 students was built on a limited budget . . .

ARCHITECTS CUT FRAMING COSTS 15% WITH CECO STEEL JOISTS

It takes more than ingenuity to meet building budget problems . . . knowledge of workable short cuts is important here. So Architects Mellenbrook, Foley & Scott drew deeply on experience in designing the Normandy Road School, Bay Village, Ohio. The problem was to accommodate a set number of students—with a limited budget. Ceco Steel Joist Construction contributed to the solution by saving 15% over other floor and roof framing methods. It is the lightest of all fire-safe constructions and is easiest and fastest to erect. Ceco *Standard* Steel Joists were used effectively in classroom, office and corridor areas—bays being from 9′ 9⅝″ to 27′ 4½″ wide. Extended ends provided low-cost sunshade overhangs, cantilevered over the window areas. Ceco *Longspan* Steel Joists with nailer strips simplified framing of gymnasium areas. At least a month's time was saved because steel joists are erected faster than heavier framing. All Ceco deliveries were timed to meet the schedules of the contractor. Here is another example of Ceco performing on the architect-contractor-supplier team to help meet a building need. Next time, call on Ceco Product Specialists. They will assist you in planning and saving.

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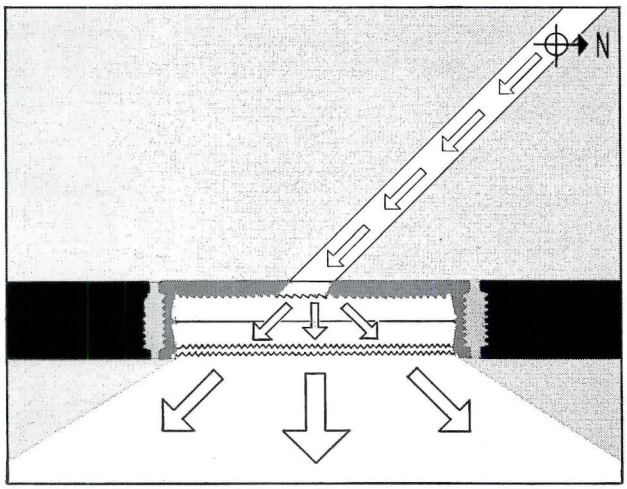
TESTED AND PROVED

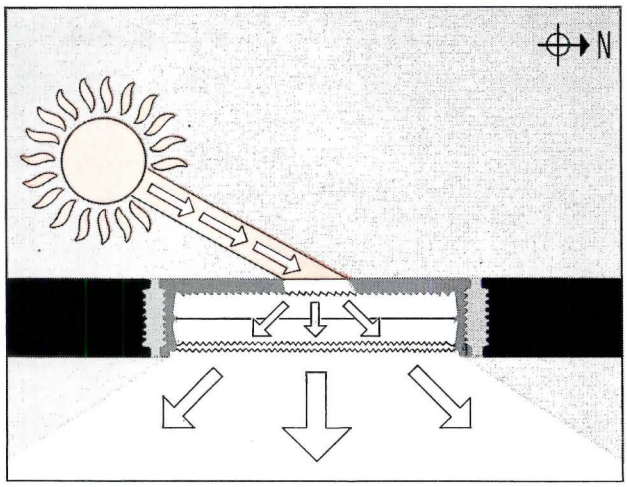
Glass panels bring cool daylight in through the roof

Light-Selective Toplite Roof Panels transmit desirable light; reject hot, glaring sun



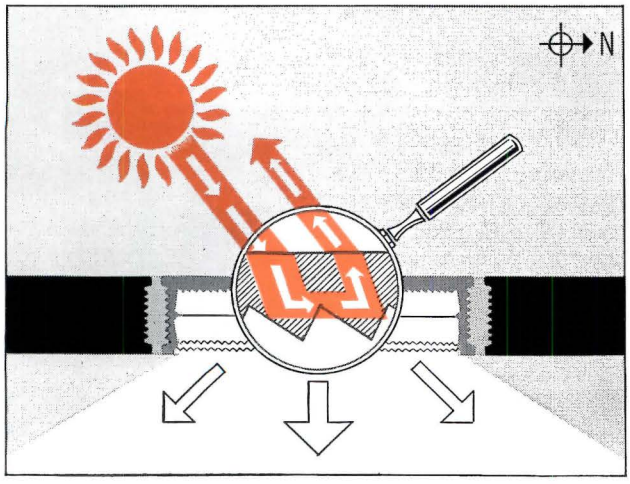
Transmits north light

Maximum transmission of north light is a desirable quality in toplighting because of its uniformity and freedom from glare and solar heat. Note how the prism structure of Toplite affords efficient transmission of north light.



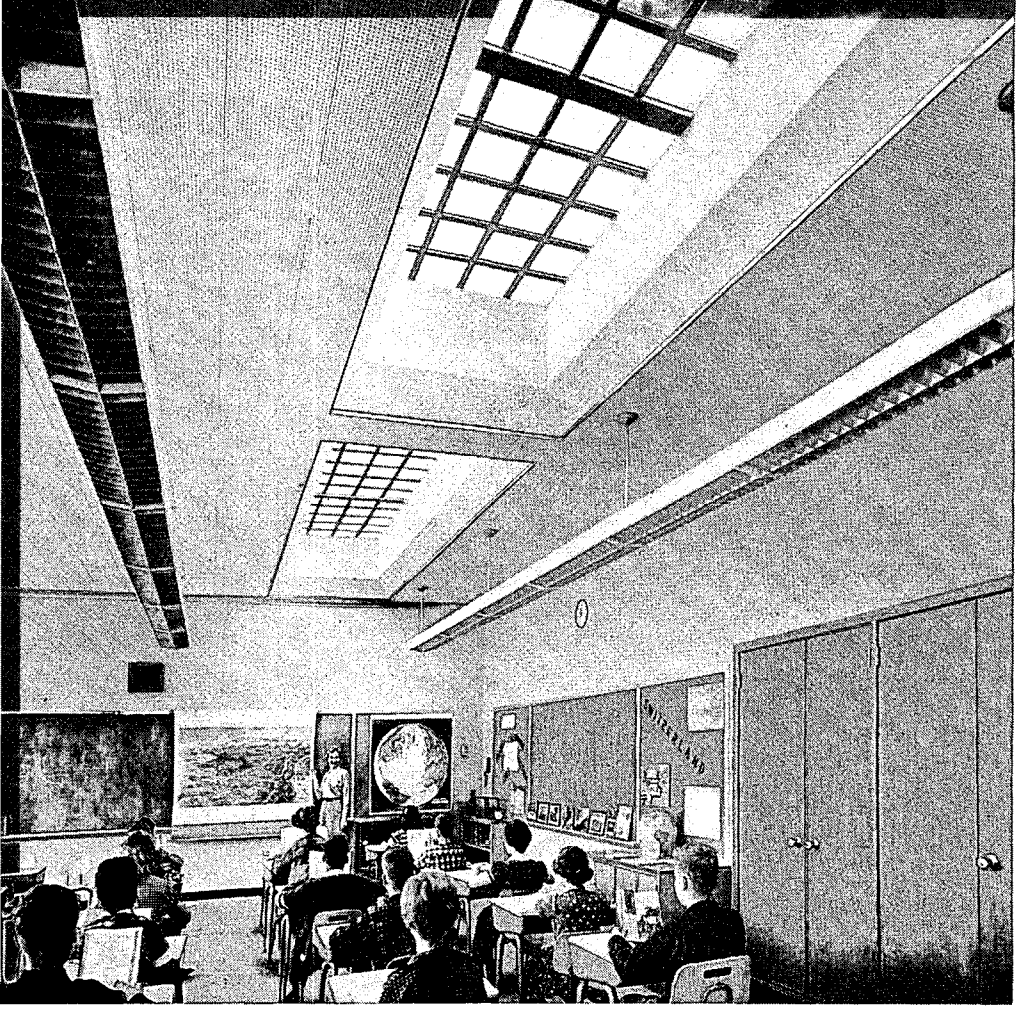
Accepts winter sun

Since low winter sun is comparatively weak in relation to high summer sun as far as glare and solar heat are concerned, maximum transmission is again desirable. This illustration shows how Toplite accepts and transmits winter sunlight.



Rejects summer sun

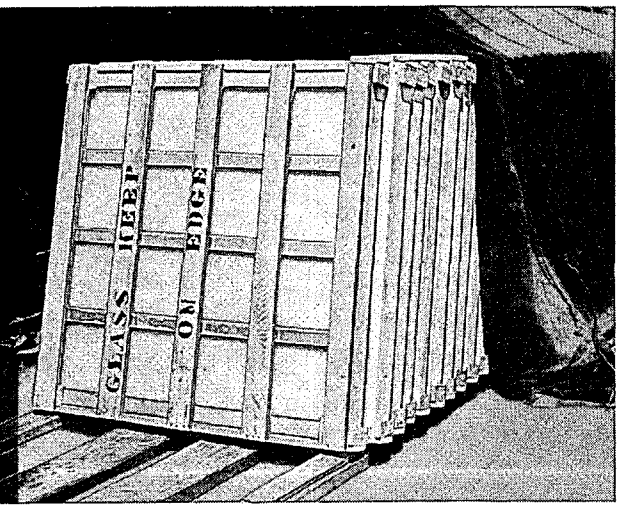
Other materials which transmit north light and low winter sun also transmit high percentages of light during the hot, summer months. Toplite rejects direct light and heat from hot, summer sun, but transmits much of the cool, north light.

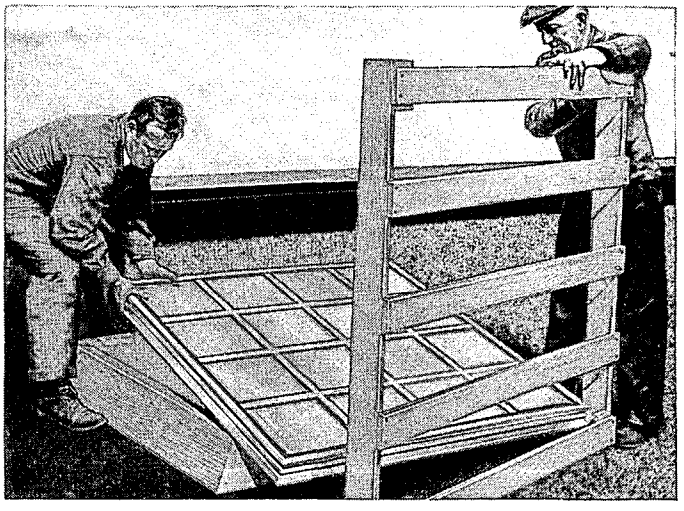


Toplite installation at
Campus Elementary School
New Jersey State
Teachers College
at Glassboro—
Glassboro, New Jersey
Dr. Thomas Robinson, President

Toplite Panels may be installed in continuous strip, pattern, or in individual panels. Use a Toplite panel as you do a lighting fixture. They permit daylighting of all building areas regardless of location or distance from exterior walls.

Edwards and Green, Camden, N. J., Architects
S. Levy & Company, Camden, N. J., General Contractor





Toplite Roof Panels are factory-fabricated . . . *ready to install*

They are shipped in individual crates marked to show correct orientation and directional positioning; for speed and ease in installation. Panels arrive on job site ready to install. They are set on prepared curbs and anchored ready for flashing by the roofer.

Write for free booklet on Toplite Roof Panels

The complete story of this great new advance in efficient utilization of free daylight is available in this new bulletin. For your free copy write today: Kimble Glass Company, subsidiary of Owens-Illinois, Dept. PA-3, Toledo 1, Ohio.

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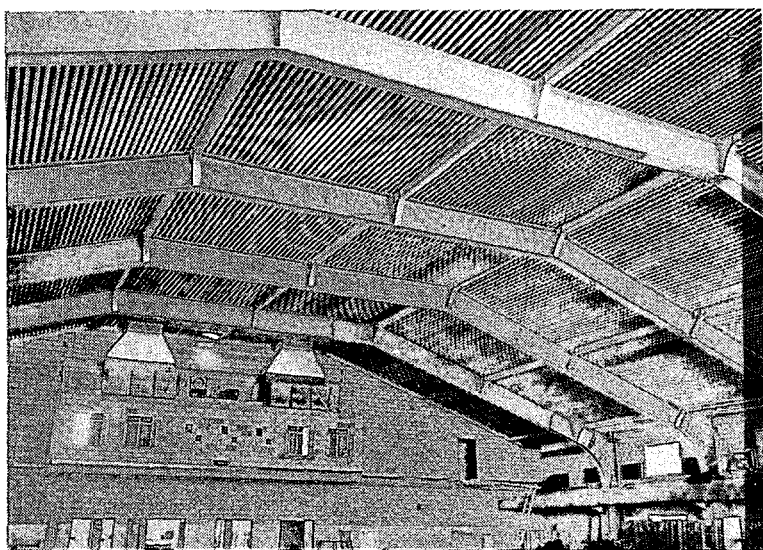
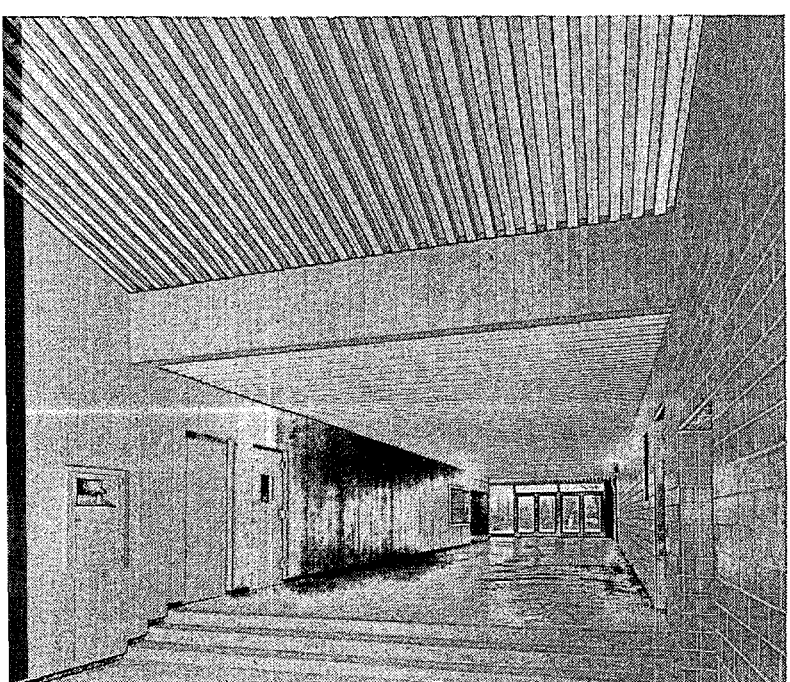
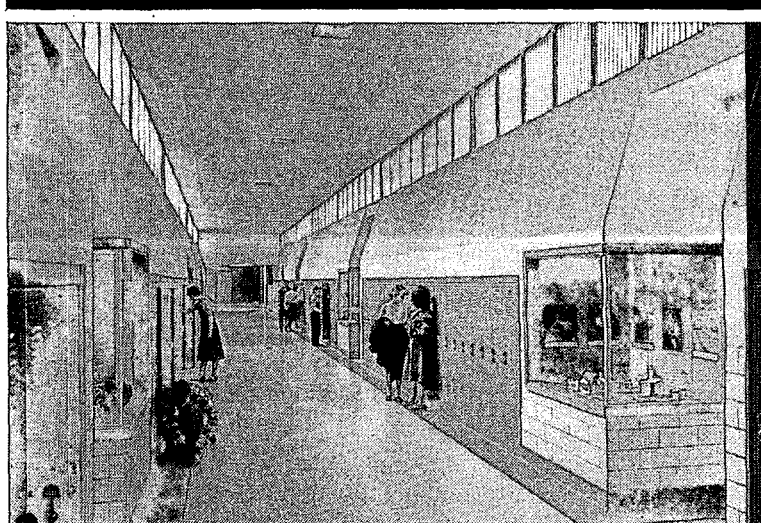


• **LONG SPAN** . . . In addition to its acoustic qualities, Robertson Q-Deck permits longer spans. This means fewer supports, faster installations, lower cost. This is the gymnasium at St. Edward's High School, Lakewood, Ohio. George S. Rider Company, engineers.

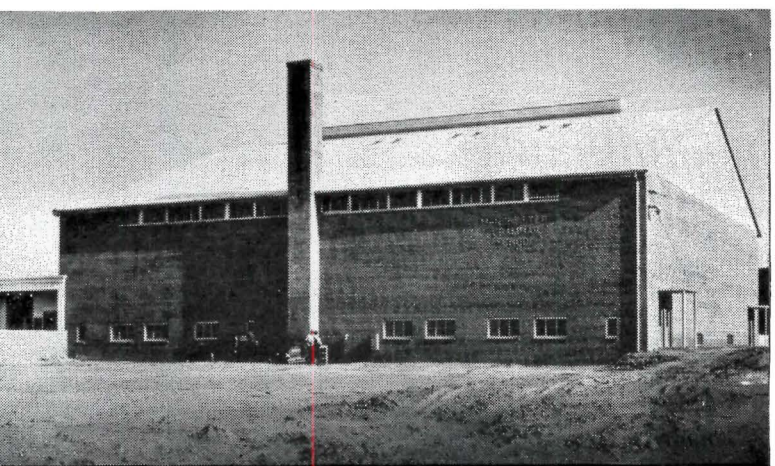


• **ACOUSTIC CEILING AND ROOF DECK** . . . Robertson Q-Deck is as functional as it is attractive. Varying Noise Reduction Coefficients are easily and inexpensively obtained. Write for Acoustic Data on Robertson Q-Deck. Shown is the Cedarville (Ohio) School; John L. Kline, architect.

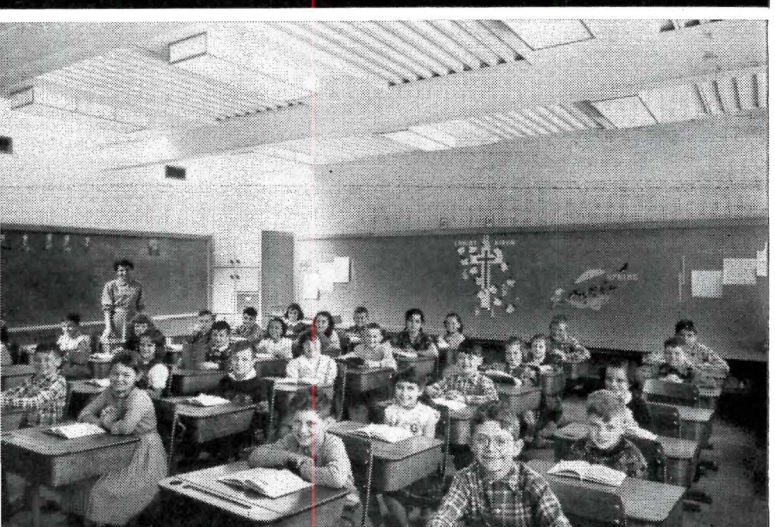


• **BRIGHT CORRIDORS** . . . Daylight is free, so why not use it. Robertson Corrugated Wire Glass Sash is maintenance-free, economical and efficient. George Washington School, E. Moline, Ill.; M. R. Beckstrom, architect.

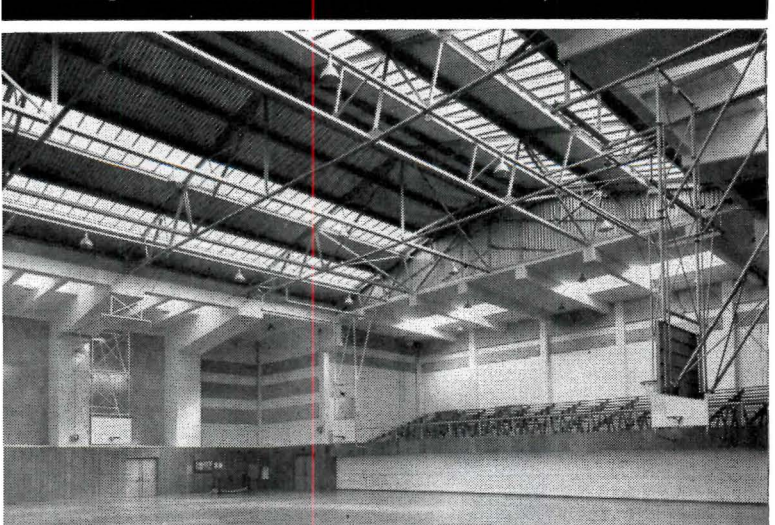
ROBERTSON products



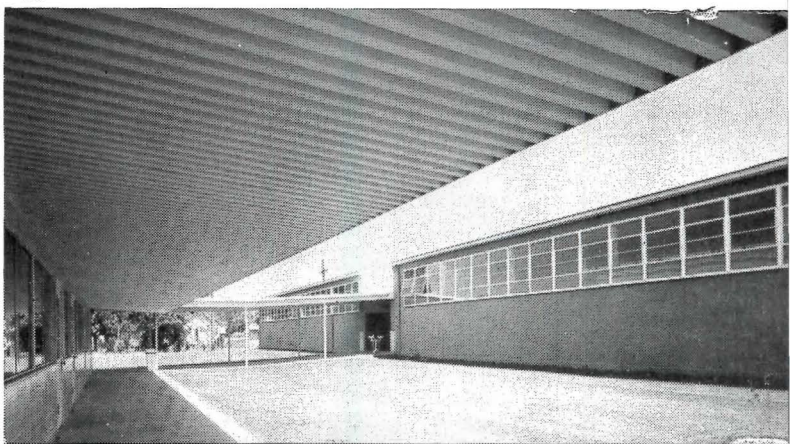
• **ROOFING AND VENTILATION** . . . Pitched roofs offer an opportunity to use Robertson Galbestos (zinc bonded asbestos protected steel) and Robertson Ventilators. This modern gymnasium designed by Gregson & Ellis, Atlanta, Ga., shows both of these cost-cutting Robertson products.



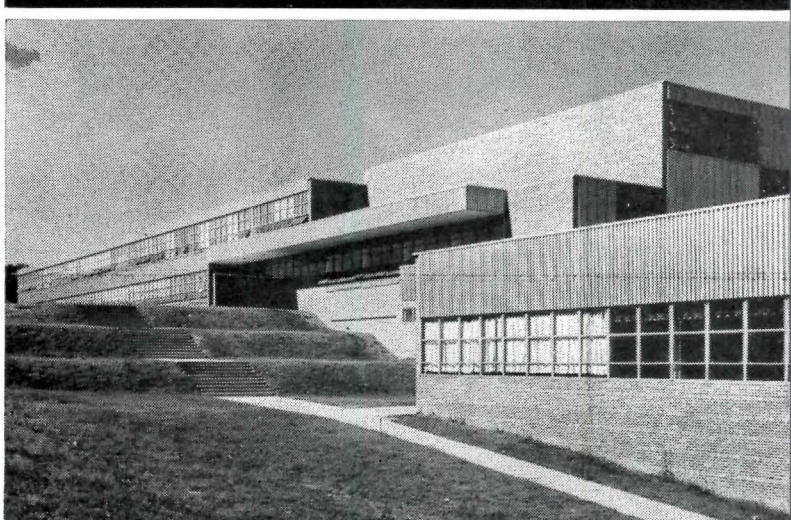
• **BI-LATERAL LIGHTING** . . . At the St. Thomas More School near Niagara Falls, Ontario (Arthur B. Scott & Associates, architects) Robertson Skylights give an assist to sash in classrooms. Robertson Q-Deck can be recognized as the roof construction.



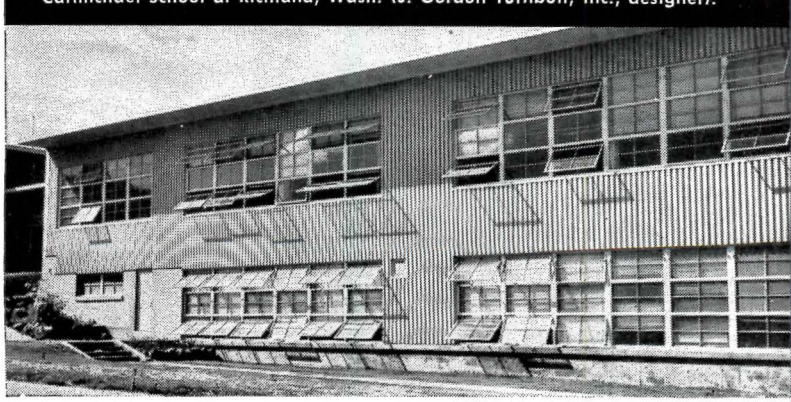
• **GLARELESS OVERHEAD LIGHTING** . . . There is no glare either to contestants or spectators when daylighting is handled like this. These are Robertson Corrugated Wire Glass Skylights at Herbert Hoover High School, San Diego, California.



• **CANTILEVERED CANOPIES** . . . Long span Robertson Q-Deck permits the long overhang desired for covered walkways. This fine example is by Gordon Stafford at his Lincoln (California) High School.



• **INSULATED WALLS — QUICK** . . . Robertson Q-Panels are dry, clean fast construction with unlimited architectural possibilities. Above, they are shown combined with masonry at the Booker T. Washington School at Shreveport, La. (Van Os & Flaxman, architects). Below, Q-Panels at the Carmichael School at Richland, Wash. (J. Gordon Turnbull, Inc., designer).



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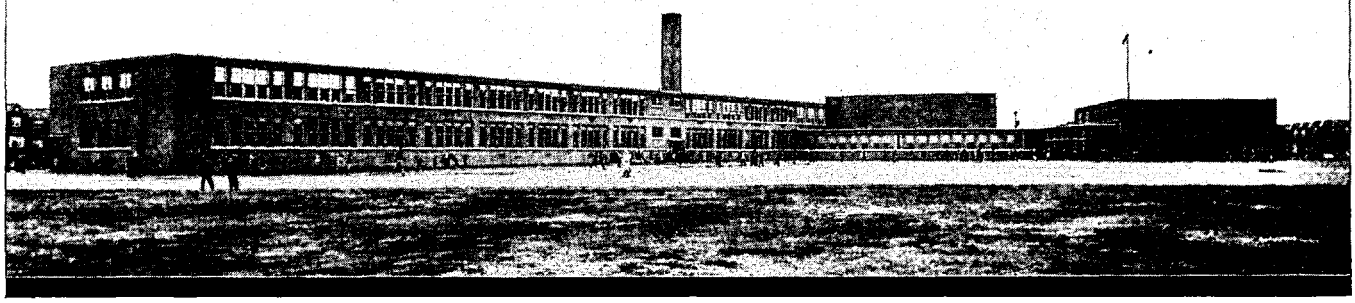
Address.....

Even 100-mile-an-hour rain cannot penetrate this modern school's walls, coated entirely with water repellent made with *Linde* silicones.



Huge school system approves water repellents made with LINDE silicones for above-grade masonry

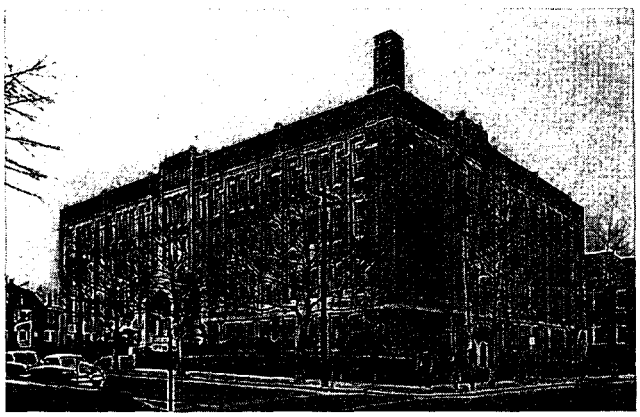
"Invisible Raincoat" Protects City's Schools

In one of the nation's largest cities, the above-grade exterior brick and concrete of school buildings is being coated with water repellents made with LINDE Silicones.

More than thirty of the school system's close to 300 older buildings have already been treated. New schools are being treated as erected. To date, 500,000 sq. ft. are done.

Board of Education maintenance engineers say that rain leaks and seepage that once caused costly damage to interior plaster, paint, and woodwork, have been eliminated.

Masonry spalling and cracking caused by water absorption and freezing have been completely stopped. Unsightly efflorescence is a thing of the past. And buildings stay cleaner because rain simply washes dirt down the walls.



Leaks were serious in this older school, so brick was repointed, then coated with silicone repellent. Result: No more problems from moisture.

Why you, too, should specify "Linde" silicones

Above-grade masonry water repellents made with LINDE silicones mean . . . longer life for concrete and brick . . . reduced maintenance inside and out . . . better appearance.

More and more architects are specifying masonry water repellents made with LINDE silicones. They alone provide all these advantages:

- **Clear and Invisible** — Cause no change in color, no shine.
- **One Coat** — For complete water repellency.
- **Penetrating** — Reach correct depth for maximum effectiveness.
- **No Seepage** — Even rain driven 100 miles an hour runs right off, yet . . .
- **Non-Sealing and Pressure Resistant** — Permits masonry to "breathe."
- **Fast-Working** — Dry in 3 hours to complete water repellency.
- **Applicable the Year Round** — Can be applied even at 15 degrees Fahrenheit.
- **Long Lasting** — Tests indicate dependable service for 10 years!
- **Easy to Apply** — Either low-pressure spray or brush.
- **Can Be Painted Over** — With oil-base paints.

• **CALL OR WRITE LINDE**—for the full story on water repellents made with LINDE silicones for above-grade masonry, and a list of representative suppliers. Address Dept. B-3.

FOR SILICONES LOOK TO

Linde AIR PRODUCTS COMPANY | A DIVISION OF UNION CARBIDE AND CARBON CORPORATION

General Offices: 30 East 42nd Street, New York 17, N. Y.

IN CANADA: Dominion Oxygen Company, Division of Union Carbide Canada Limited

The term "Linde" is a registered trade-mark of Union Carbide and Carbon Corporation



TILE makes a good beginning

An attractive entrance, using American-Olean Tile, makes an excellent first impression. Yet even more important is the lasting good impression ceramic tile makes on those responsible for its upkeep. A recent impartial study, reported by "Modern Sanitation," indicates that tile is the least expensive surface to maintain.

Comparative figures on maintenance costs are given in detail in the new American-Olean Tile Booklet, "Tile in Schools and Hospitals." Such facts as these make this booklet an indispensable addition to your files. There are, as well, abundant color illustrations showing many actual tile installations in schools and hospitals. Write for your free copy!

American-Olean Tile Co.

Executive Offices: Lansdale, Pennsylvania
Factories: Lansdale, Pennsylvania • Olean, New York
Member: Tile Council of America

A-O TILE MAKES A BEAUTIFUL, DURABLE ENTRANCE

1. Tiled floor resists damage by the most rugged kind of foot traffic. Mud, grit, and slush whisk away easily.

2. Tiled walls need only a minimum of maintenance. Sunlight won't fade them, and they resist marking and scarring.

3. Tiled stair treads provide long life, add beauty, and help prevent dangerous slips and skids.

4. Self-spacing A-O wall tile assures straight, even grout lines. With it you can be sure of a better-looking installation.

TILE SPECIFICATIONS: Color Plate 347, Entrance Hall, St. Ann's Parochial School, Emmaus, Pa. Architects: Brown and Guenther. Walls: 17 Maize Cap and Base: 34 Berry Brown. Stair Treads: Brickpoint Squares, Full Range Varitone. Floor: Tan Shadowflash.

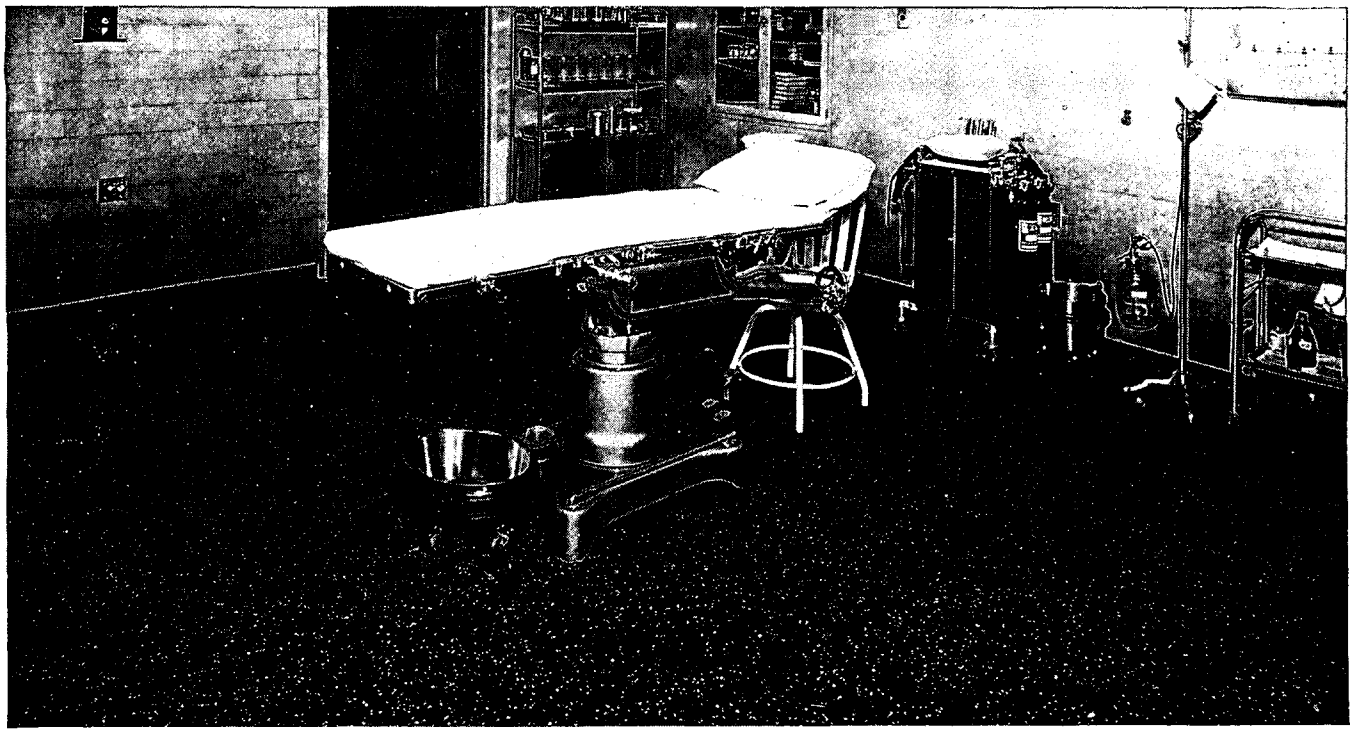
Send for these helpful booklets!

AMERICAN-OLEAN TILE COMPANY
1088 Kenilworth Ave., Lansdale, Pa.
Please send me the following free literature:



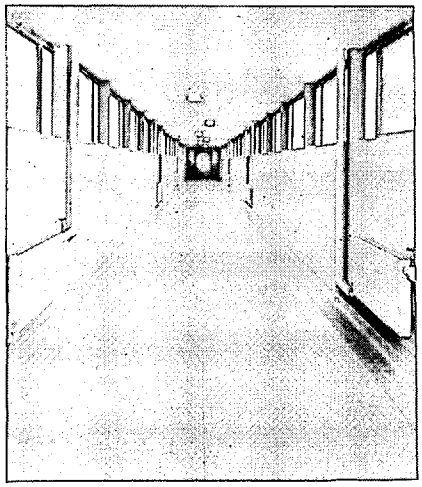
- ☐ Booklet 600: "Tile in Schools and Hospitals"
- ☐ Booklet 300: "Industrial Washrooms"
- ☐ Booklet 205: "Catalog of Tile Products"

Name .....
Title .....
Firm Name .....
Address .....
City ..... Zone ..... State .....



MODERATELY CONDUCTIVE operating room floor provides added safety at St. Elizabeth's Hospital, Dayton, Ohio. *Architects:* Schmidt-Garden & Erickson, Chicago. *Terrazzo Contractor:* Serena Art Terrazzo & Mosaic Co., Inc., Dayton. *General Contractor:* James McHugh Construction Co., Chicago.

Special treatment for hospital floors ... with Terrazzo



DURABLE BEAUTY of corridor at St. Elizabeth's will withstand heavy wear, frequent scrubbing. Smooth, even surface of terrazzo cleans easily and economically.

Hospital floors made with terrazzo remain bright and attractive in spite of heavy foot traffic, rolling equipment and continuous scrubbings. In the operating room shown above — where absolute cleanliness is a must — terrazzo's smooth surface is easy to clean ... and keep clean. In addition, for greater safety in such rooms where anesthetics or oxygen therapy are used, terrazzo floors can be made moderately conductive by an acetylene carbon admixture. These special floors guard against possible explosion caused by static electricity.

Only terrazzo offers such a wide latitude of design possibilities ... assures durable beauty at low annual cost. And no matter what design you choose, you can obtain almost unlimited colors and tones when you use Atlas White Cement.

Whenever a job calls for lasting good looks, long-term economy and ease of cleaning, consider terrazzo made with Atlas White Cement. Ideal for wainscoating and stairways, too. For more information, see SWEET'S Catalog, Section 12g/Un and 3d/Un, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

PA-WCT-82

A UNIVERSAL ATLAS PRODUCT

FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station.



RECOMMENDED APPLICATION OF BEVEL SIDING

Use rust-resisting casing nails, not less than 6d for bevel and 8d for bungalow. Nails should be located at each stud above lap as shown in diagram. Minimum headlap (FHA) should be 1″ for 4″ and 6″ siding, 1¼″ for widths over 6″.

This nailing procedure is recommended to prevent any possibility of cupping or splitting. Tip of siding is left "floating free" to allow for normal dimensional changes. Siding nails should be set and puttied. (Note: If necessary, to prevent splitting near ends of pieces, holes should be prebored through the siding for the nails.)

USE WEST COAST LUMBER FOR DISTINCTIVE SIDING

Siding of versatile West Coast lumber, with its natural pattern lines and flexibility of use, offers the widest variety of interest-arousing treatments. Wood performs better, too... for lumber is durable, has high insulation value, and is easy to use, regardless of building style or plan.

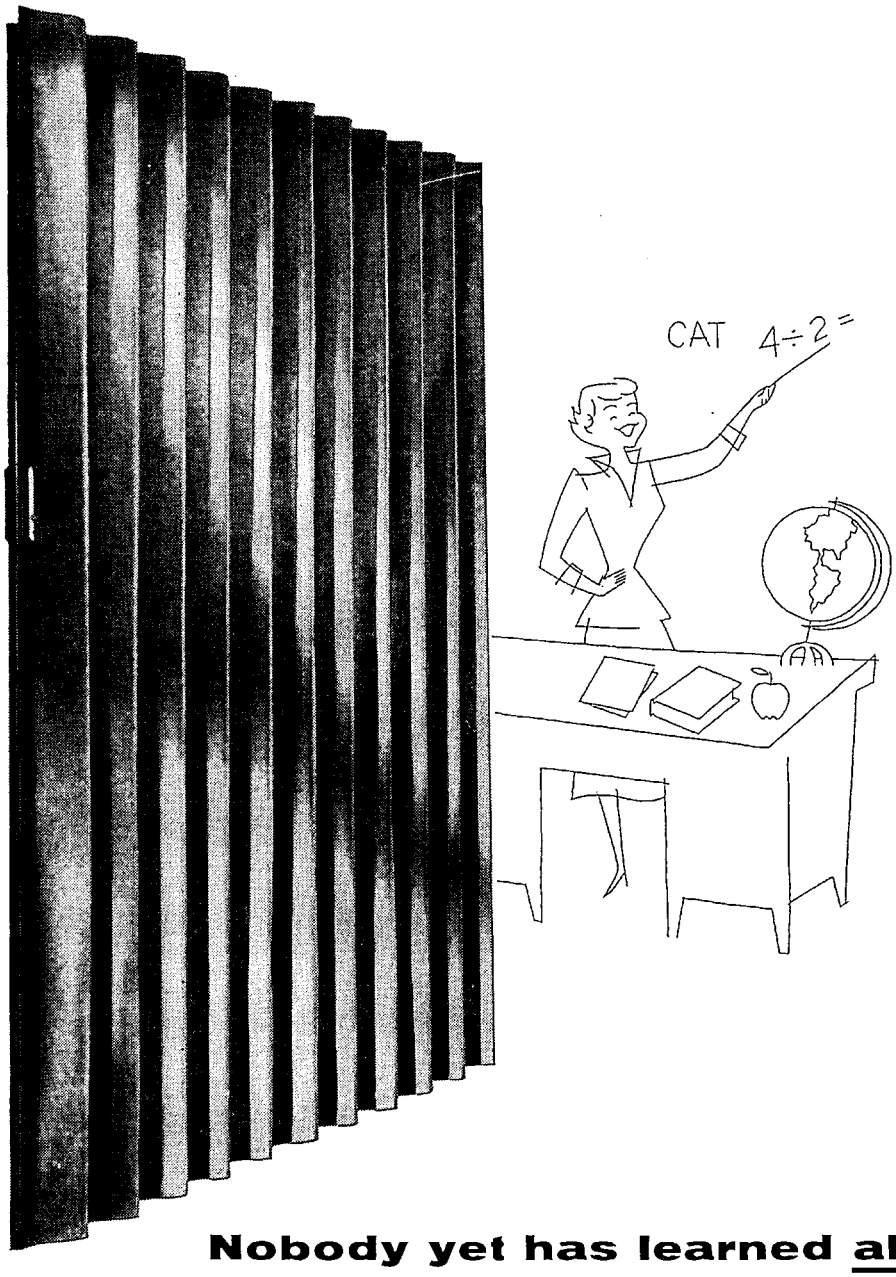
Choose from these popular West Coast lumber species... Douglas Fir, West Coast Hemlock, Western Red Cedar and Sitka Spruce.

whatever the job, consider WOOD FIRST!

WEST COAST LUMBER

Douglas Fir • West Coast Hemlock • Western Red Cedar • Sitka Spruce

WEST COAST LUMBERMEN'S ASSN., 1410 S. W. Morrison St., Portland 5, Oregon



Nobody yet has learned all the ways Modernfold makes space flexible

From grade schools to colleges, from workshops to factories, space in today's buildings can be as fluid and versatile as an architect desires...for MODERNFOLD doors and walls have given design a new flexibility, as exciting as it is practical.

Space requirements which change hourly or daily can be met quickly and easily. And space needs which are likely to change months or years in the future need not require expensive, time-consuming remodeling if MODERNFOLD doors and walls have been installed with growth in mind.

MODERNFOLD doors are available in two lines: Custom, which comes in any size and a multitude of colors, and Spacemaster, which fits standard-size door openings and can be painted or slip covered.

In any size, MODERNFOLD doors assure an almost unlimited life of efficiency and service because of their balanced, double-strength steel framework. And their washable vinyl covering has to meet the most rigid specifications in the industry for flexibility, resistance to cold, abrasion resistance and flex resistance.

Switches and overhead tracks make it possible for one MODERNFOLD Custom door to serve in more than one location...to meet a variety of fast-changing demands for space. In fact, there's just no limit to the ways MODERNFOLD makes space more flexible.

If you have a problem in space division, the MODERNFOLD distributor (listed under "Doors" in classified directories) will be glad to show you the Custom line. Your building supply dealer has the Spacemaster line available. Or write New Castle Products, Inc., Dept. C31, New Castle, Indiana. In Canada: New Castle Products, Ltd., Montreal 6.

Full details in Sweet's file

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DOORS

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stronger edgewise!

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full height reinforcement is exclusive!

Overline Flush Hollow Metal Doors have a solid steel member running the full height of the door at both edges. *With Overline Doors, this construction is standard at no extra cost.* Specify Overline for extra internal strength as well as custom quality and finished appearance. Write us today for our new 1955 comprehensive Hollow Metal Catalog.

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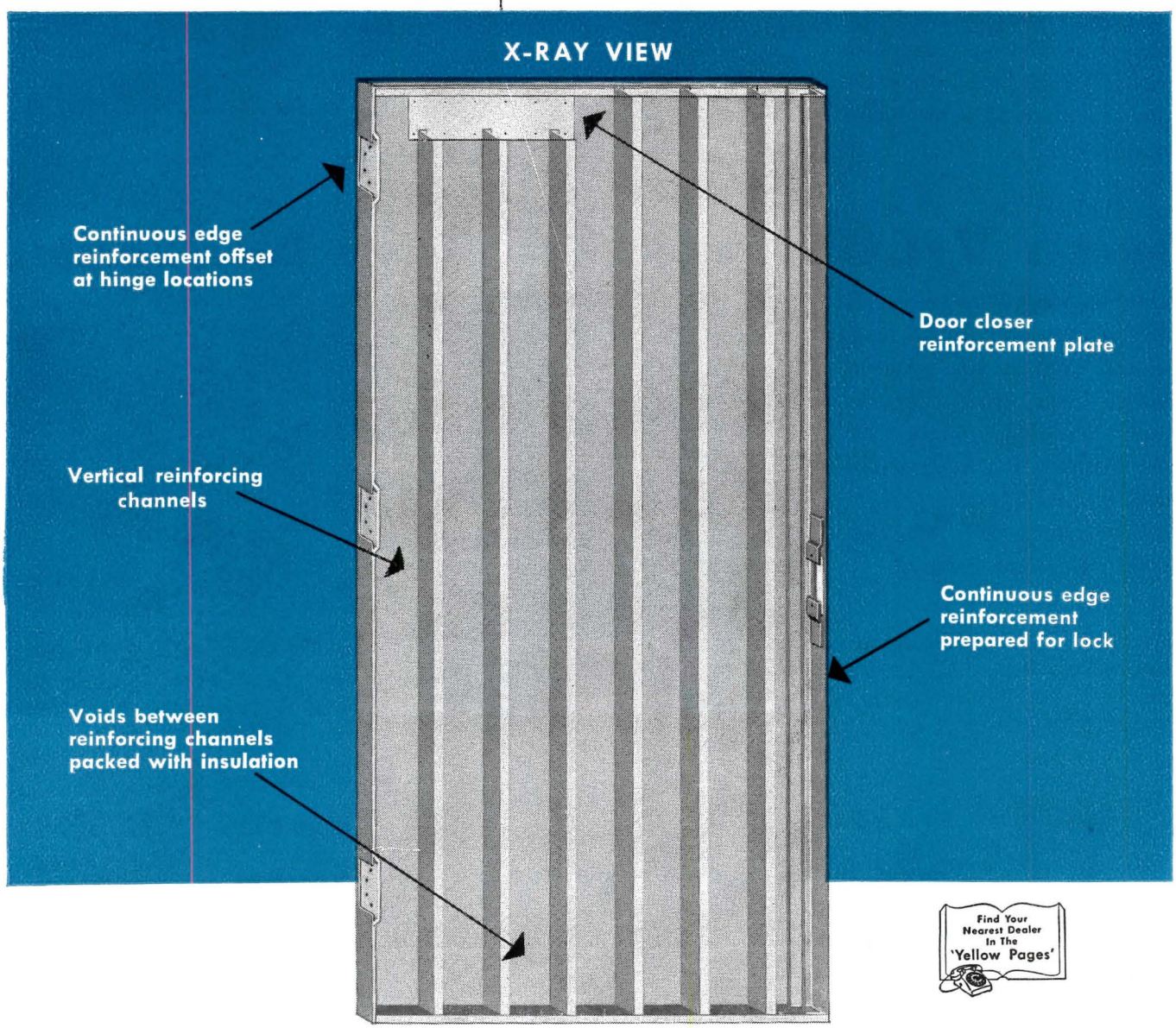
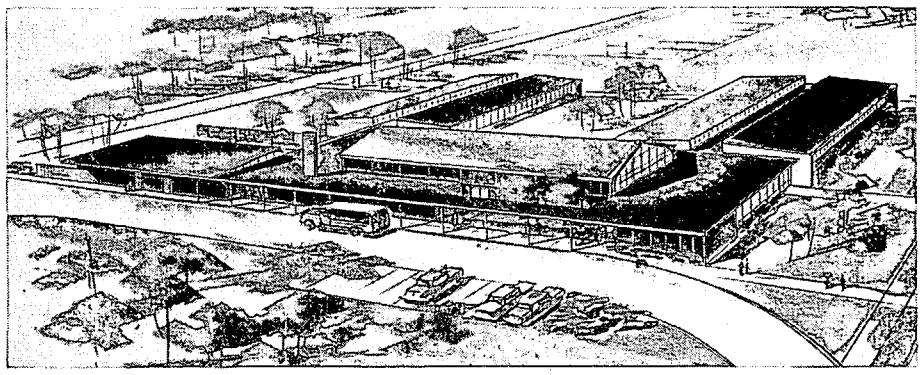


Find Your Nearest Dealer In The 'Yellow Pages'

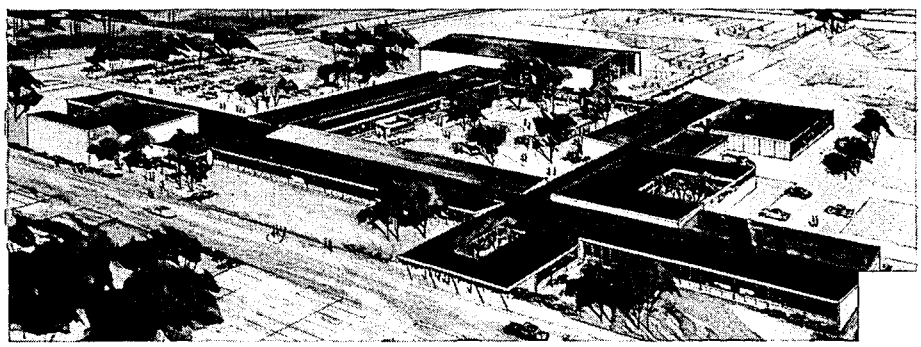
Because **V-LOK** Reduces Erection Costs

A school designed with a V-LOK Steel Frame can be erected and under roof in a very few days—using a minimum of skilled labor and equipment to expense against the job. Interlocking structural members require no bolting, riveting or welding — except anchor bolts.



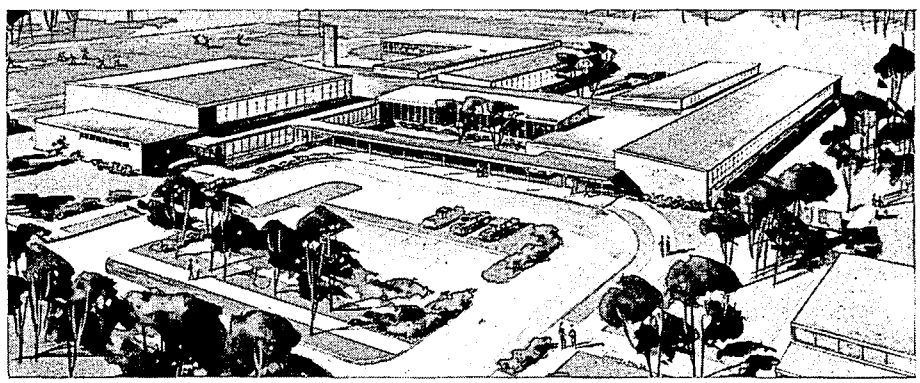
Because **V-LOK** Gets a School Under Roof Faster

A school under roof in a few days permits craftsmen to move in and start finishing operations for much earlier occupancy. This speed combined with actual economies—per sq. ft.—puts a School Board definitely over on your side for future expansions.



Because **V-LOK** Designs Readily Into School Layouts

With V-LOK—you're the Architect, unhampered in the most modern layouts you want to design. You have adequate spans and loading capacity plus a practical joining of accessory materials and component structural units. Contact us for design standards.



Illustrated here are three of the many V-LOK Schools designed by Walter Anicka of Ann Arbor, Michigan. At the top is the Saline Elementary School, Commermercial Const. Corp., General Contractor. Second is the Willow Run High School, Birchard & Roberts, Dearborn, Gen. Contractor. Third is the South Lyon High School, A. N. Hickson, Inc., General Contractor, Detroit, Michigan.

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NAILABLE STEEL JOISTS
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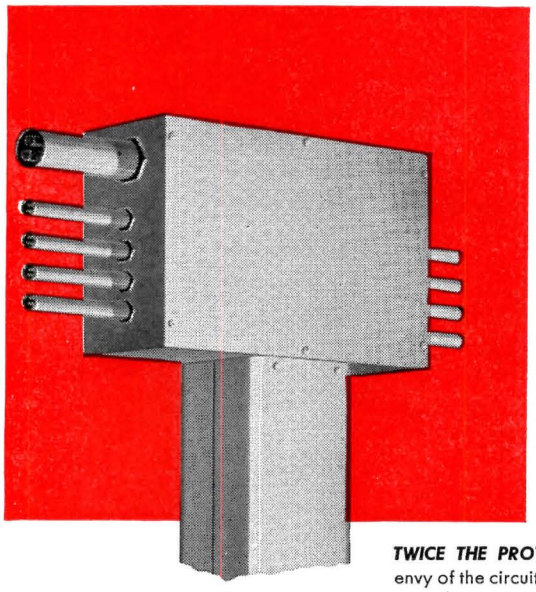
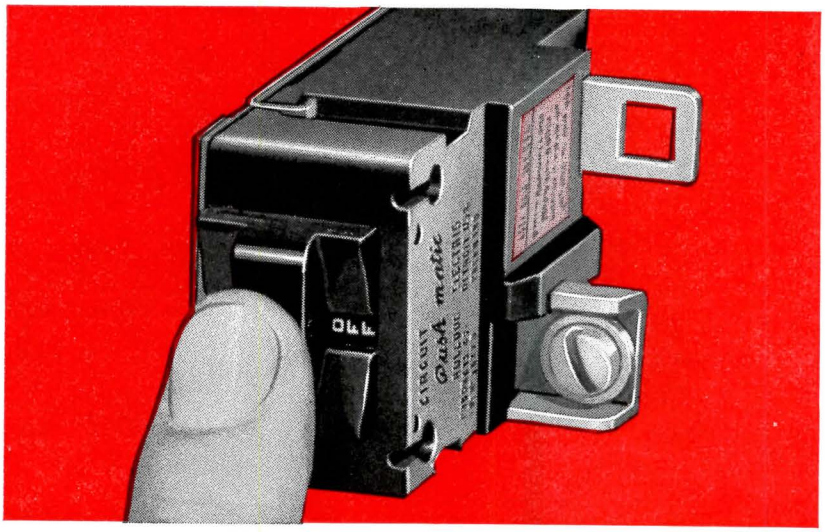
STRUCTURALS





TWICE THE PROTECTION, TWICE THE CONVENIENCE! Famous Duo-Guard Pushmatic circuit breakers—the envy of the circuit breaker industry—protect circuits two ways—with a thermal bi-metal and a magnetic solenoid.



NOW...BULLDOG PUSHMATIC CIRCUIT PROTECTION IN A

narrow, neat, space-saving panel

TRIM "NP" ELECTRI-CENTERS EXTEND TO ANY CEILING HEIGHT, ELIMINATE UNSIGHTLY CONDUIT

"NP" means Narrow Panel. And that means an attractive Pushmatic Electri-Center® you can specify for space-restricted quarters, or where good looks are good policy.

BullDog engineers have designed this panel to fit into a standard "8" H-beam, or to surface-mount unobtrusively behind doors, in hallways, on non-structural walls—*anywhere!* It is compact—only 6¾" wide. Its many features include famous DUO-GUARD Pushmatic protection, wireway extensions and pull boxes to conceal wires and eliminate naked conduit, easier installation.

It is impossible to point out all the advantages of the Narrow Panel Electri-Center here. But a Bulldog Field Engineer or Qualified Distributor will be pleased to call and point out its many fine features. Or, write: BullDog Electric Products Company, Detroit 32, Michigan. ©BEPCO

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Export Division: 13 East 40th Street, New York 16, New York. *In Canada:* BullDog Electric Products Company (Canada), Ltd., 80 Clayson Road, Toronto 15, Ontario.

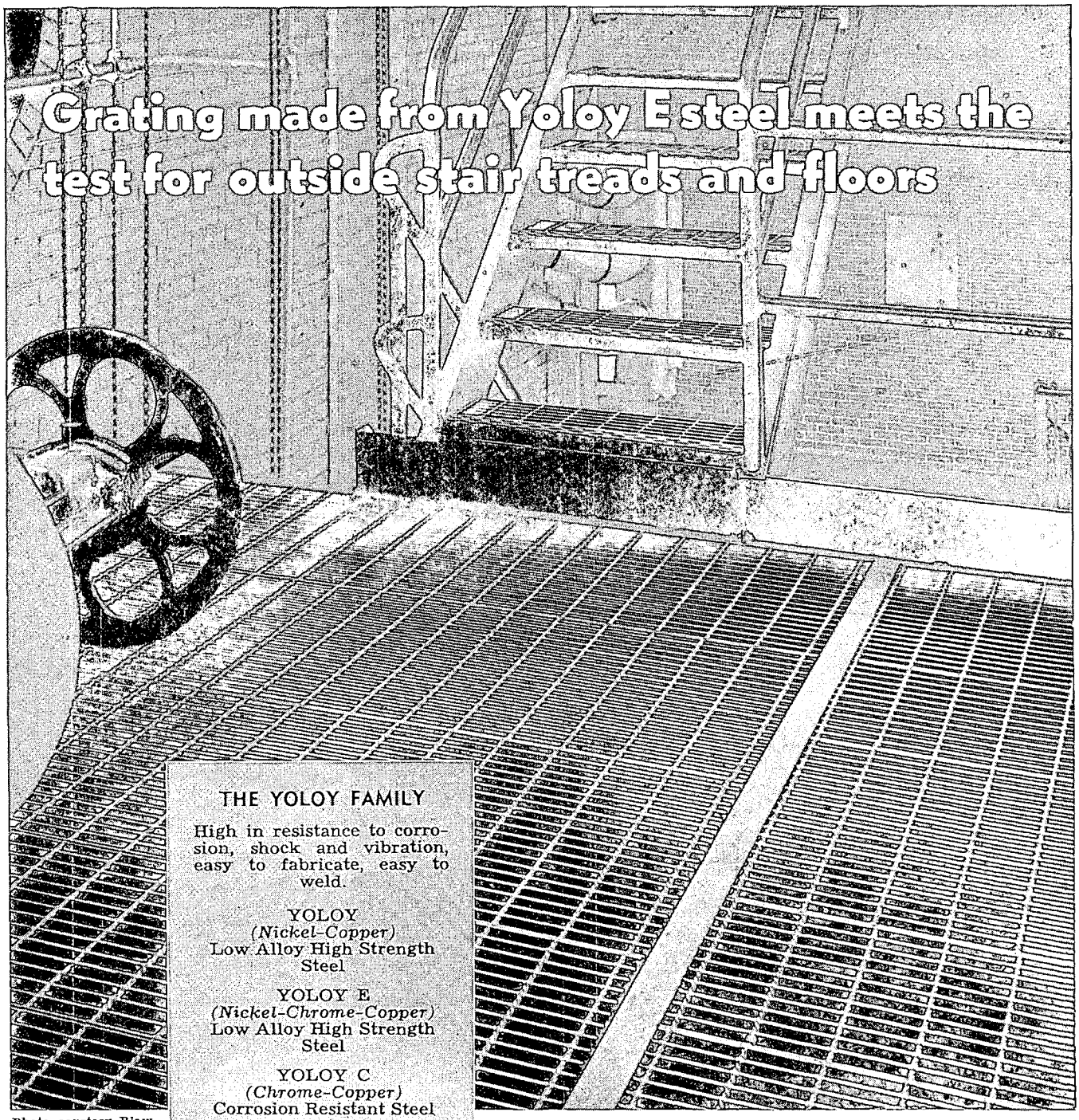

Photo courtesy Blaw-Knox Company.

THE YOLOY FAMILY

High in resistance to corrosion, shock and vibration, easy to fabricate, easy to weld.

YOLOY
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Youngstown

QUALITY YOUNGSTOWN SERVICE

● Safety - durability - atmospheric corrosion resistance - good appearance - all are inherent in this grating fabricated from Yoloy E high-strength steel. The design of such grating contributes toward a non skid surface. The Yoloy family of steels includes several types. For details, write our nearest District Sales Office.

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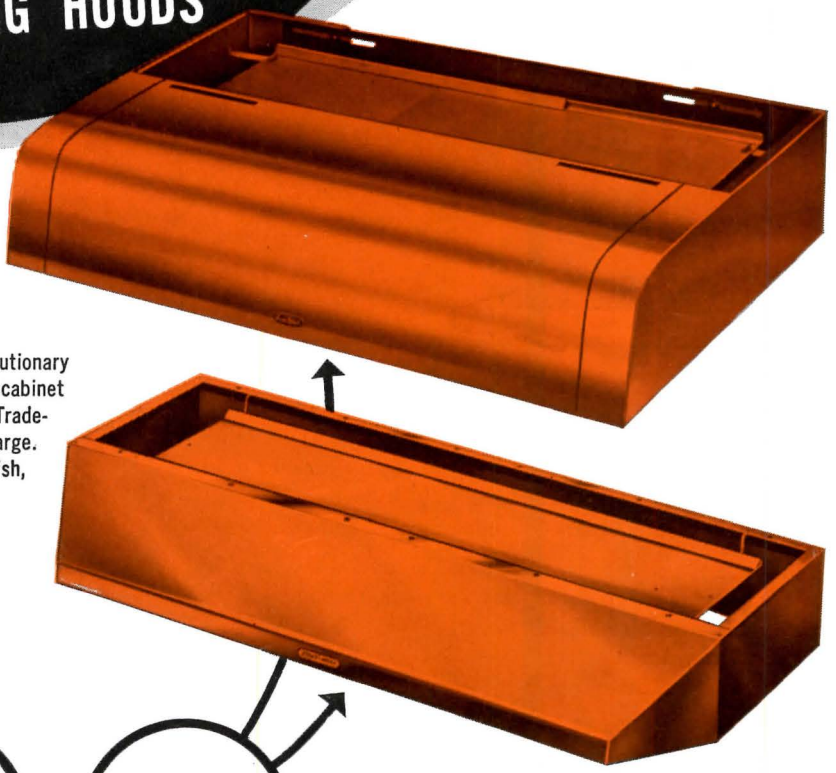
...THE DEMAND IS FOR COPPER IN THE MODERN KITCHEN
and the trend is to Trade-Wind!

Only
TRADE-WIND
gives you **GENUINE COPPER** in these
beautifully designed
VENTILATING HOODS

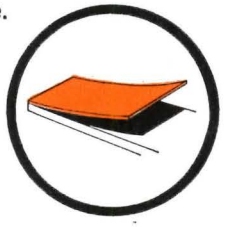


Here's the First Expansion Hood on the Market— Fits All Cabinets

Styled by a leading industrial designer, these revolutionary Expansion Hoods by Trade-Wind are adjustable to any cabinet length from 30″ to 54″. Incorporate the proven Trade-Wind baffle plate for even distribution of the discharge. Available in genuine copper or stainless steel. Stylish, simplify installation, increase efficiency.

This is the Hood that set the Style

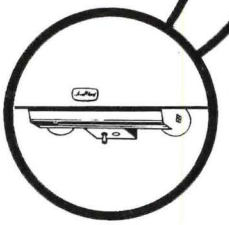
These modern styled hoods by Trade-Wind are the most popular selling hoods in America. Come in genuine copper or stainless steel. 39″ and 42″ lengths. Include baffle.



Genuine Copper

NOT PLATED OR PAINTED ON!

Only Trade-Wind Hoods are made from exclusive DUOMETL — solid copper and steel laminated sheet stock. The finish CANNOT be removed—even by scratching!

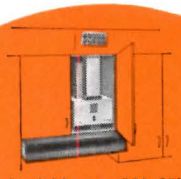


Under-Hood Light!

New, easy-to-clean . . . with twin sockets and independent switch. Available with any Trade-Wind hood or as an accessory.

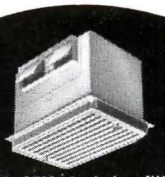
USE ANY OF THESE TRADE-WIND TOP EFFICIENCY VENTILATORS

Model 3501 — **Cabinet type.**



Dual blowers 550 CFM.
Two filtered inlets.
4-speed switch.

Model 2504 — **Dual blowers.**



425 CFM. Includes filter.
Interchangeable discharge.
4-speed switch.

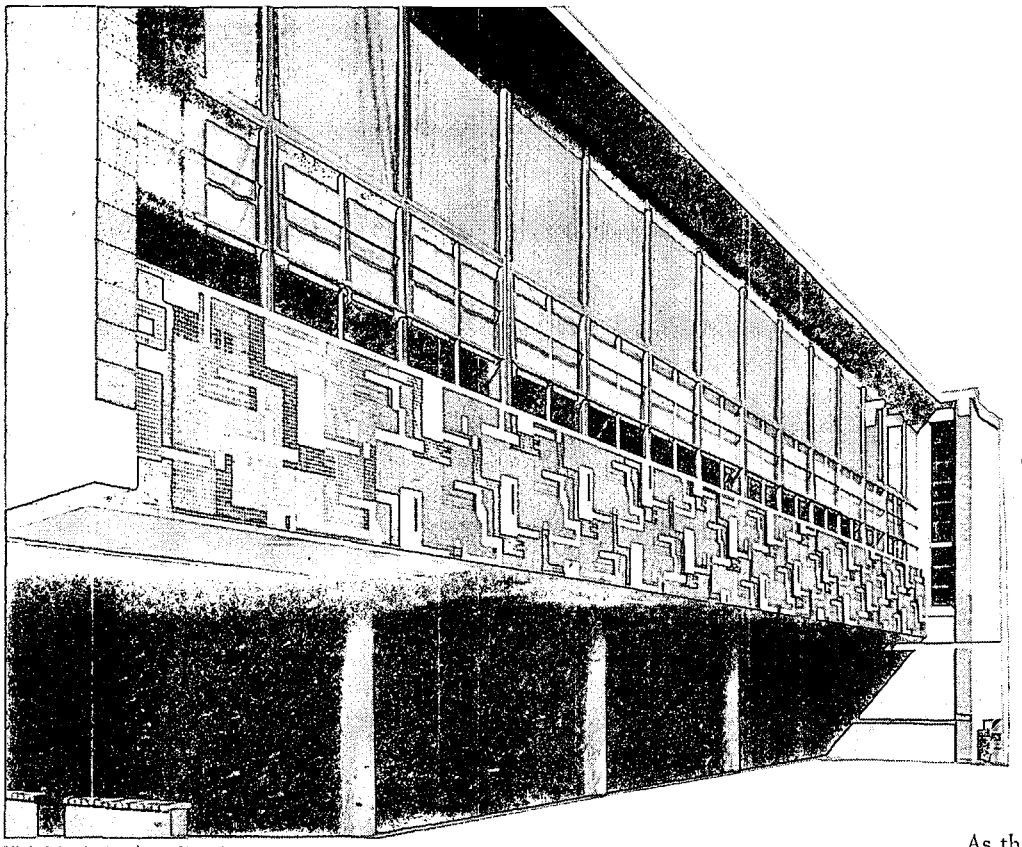
Model 1504 — **Dual blowers.**



300 CFM. Includes filter.
Interchangeable discharge.

FOR A BETTER KITCHEN THAT SELLS HOMES FASTER.

Trade-Wind Motorfans, Inc. 7755 PARAMOUNT BOULEVARD, DEPT. PA, RIVERA, CALIFORNIA



High School, New Bern City, North Carolina
Architects: Burett H. Stephens, Robert H. Stephens

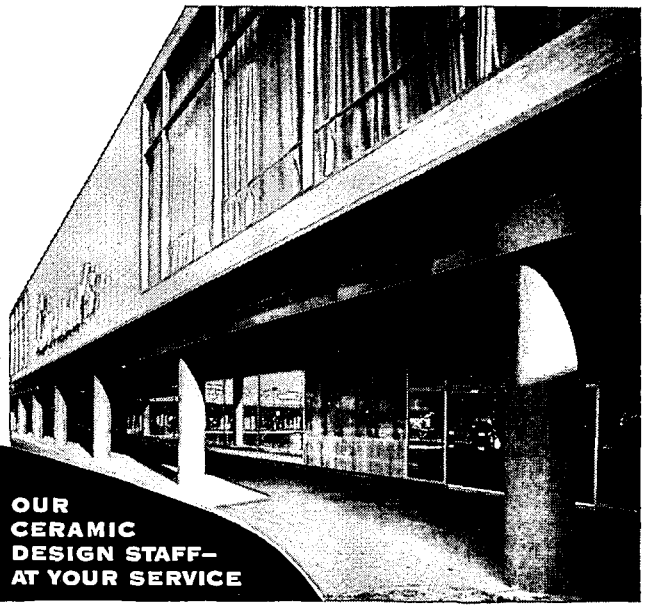
new exteriors in *Suntile* ceramics

As these three exteriors suggest, your opportunity for surface enrichment is almost unlimited when you use Suntile Satinized Ceramics.

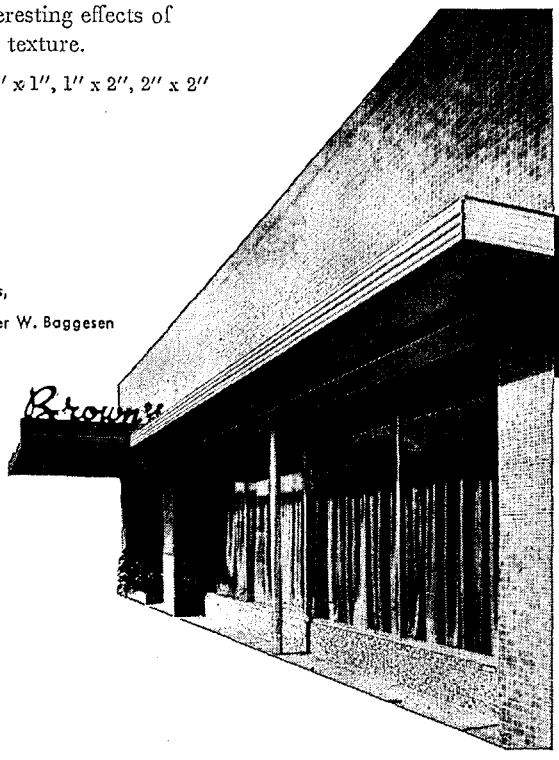
This matt-finish, natural clay tile is suitable for exterior use in any climate. Equally serviceable in walls or floors, it gives your clients lasting beauty—with minimum maintenance.

You'll like the color range of Suntile Ceramics—developed by color authority Faber Birren. And the combination of satinized finish and smaller sizes* permits interesting effects of pattern and texture.

*½" x ½", 1" x 1", 1" x 2", 2" x 2"



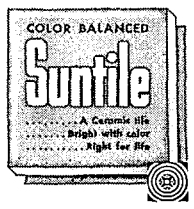
Normandale Shopping Center,
Montgomery, Alabama
Architects: Sherlock, Smith & Adams



Brown's Interiors,
Miami, Florida
Architect: Walter W. Baggesen

OUR CERAMIC DESIGN STAFF— AT YOUR SERVICE

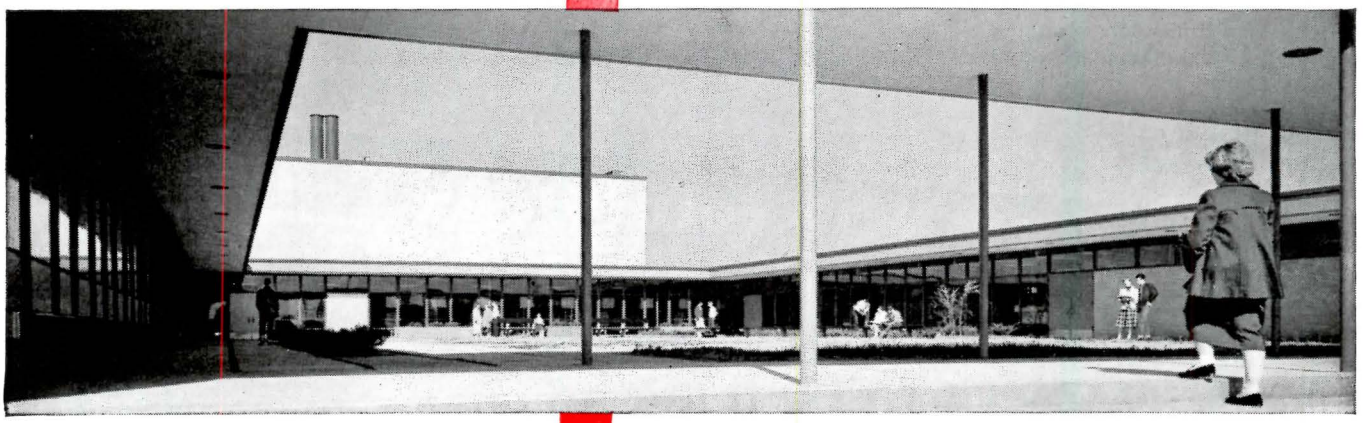
Our staff of trained ceramic artists, headed by Harry J. Macke, is always prepared to assist you with tile design or layout problems—at no obligation. Write us for full information on this service. Address Dept. PA-53.



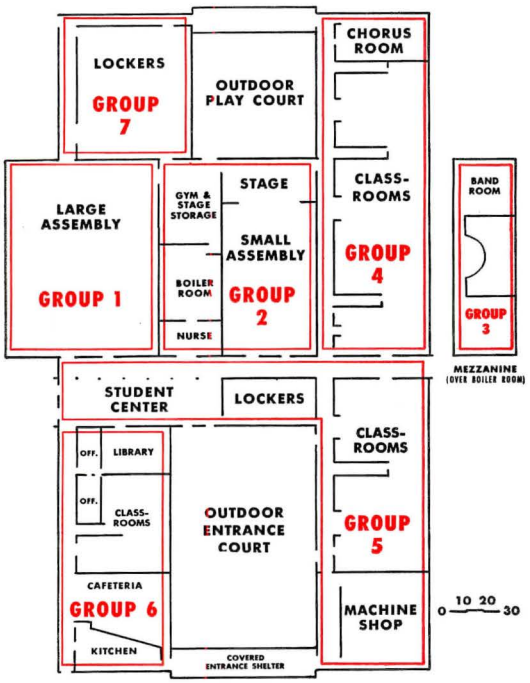
THE CAMBRIDGE TILE MFG. CO.

P. O. Box 71
Cincinnati 15, Ohio

another award-winning school gains comfort . . . saves fuel with JOHNSON *DUAL* CONTROL



Norman High School, Norman, Oklahoma, recipient of First Honor Award of the American Institute of Architects in 1954. Architects and Engineers: Perkins & Will, Chicago, and Caudill-Rowlett-Scott & Associates, Oklahoma City, and Bryan, Texas. Heating Contractor: Fischer Engineering Co., Norman.



Floor plan shows how Johnson *Dual* Thermostats are grouped for convenience. During regular school hours, a *Dual* Thermostat in each room maintains every space at the ideal comfort level. When classes are over, each group of thermostats is reset, from a central point, for lower, non-occupancy temperatures. In those rooms which continue in use, a touch of the button on the *Dual* Thermostat restores them to normal occupancy temperatures, *without changing the economy settings of the other thermostats.* In a busy school, heating only the occupied rooms can easily save enough fuel dollars to pay for the cost of the entire system!

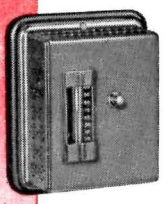
Comfort *could have been* a real problem in this remarkable school. The size of the building itself is a factor . . . so are the large glass areas . . . widely varied room sizes . . . exposure . . . changing occupancy levels. A busy program of social, athletic and other extracurricular activities is another important consideration.

But comfort *isn't* a problem, and *never will be,* thanks to a pace-setting system of Johnson Automatic Temperature Control engineered to meet the exact needs of this building and its occupants.

Equally important, the special economy features of Johnson *Dual* Control make it possible to provide the finest in individual room temperature regulation at a large saving in fuel costs. The accompanying plan shows how.

You can easily insure the same degree of comfort and economy for your clients' buildings that Johnson has provided for this and thousands of other outstanding buildings of all types and sizes. Remember, Johnson brings to each job over 70 years' experience in solving every conceivable type of temperature control problem—*more specialized experience than anyone else!*

Why not take advantage of this experience? A nearby Johnson engineer will gladly make recommendations for your next building without obligation. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.



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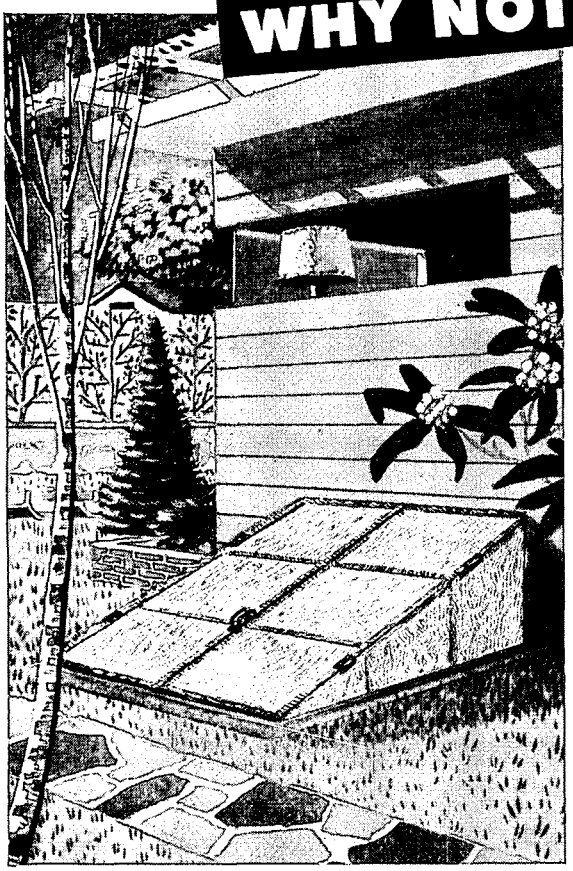
- rust-proof
- rot-proof
- translucent or opaque
- unbothered by weather
- resistant to abrasion
- high in impact strength
- non-splintering
- extremely light
- sound and heat insulating
- integrally colored

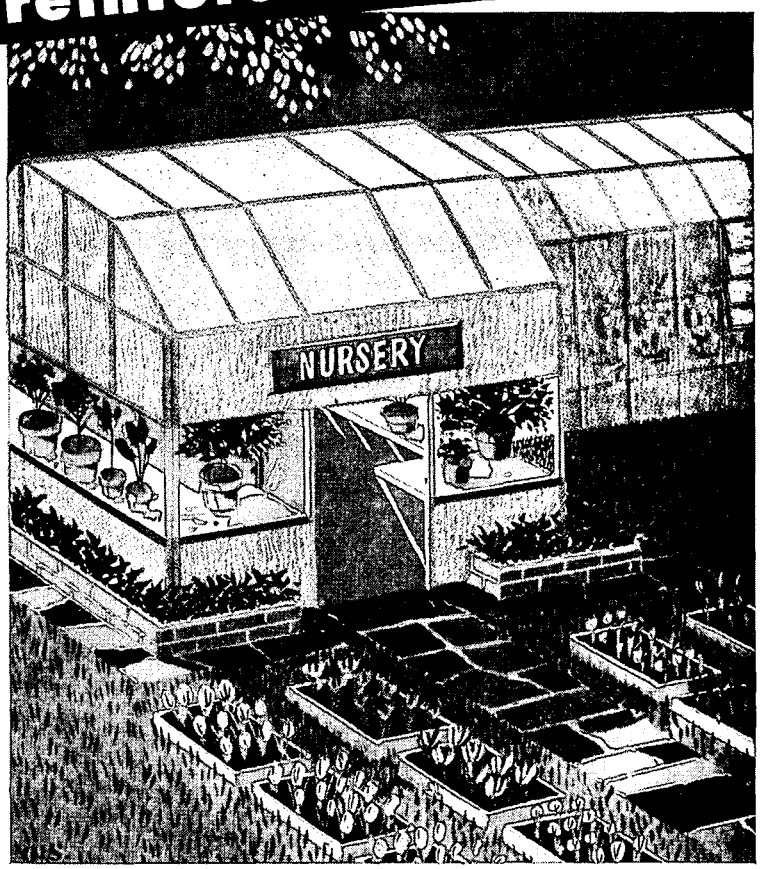
IN PANELS



WHY NOT reinforced Vibrin®...?



...BASEMENT HATCHWAYS



...GREENHOUSES

Hatchways of reinforced Vibrin, for example, could be strong enough to stand on, yet extremely light and easy to open. There'd never be any need for painting, either, to protect or beautify—the color would be built-in, permanently... would never scratch or wear off.

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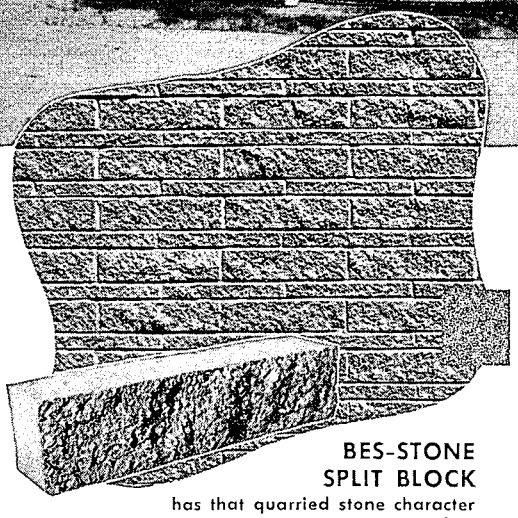

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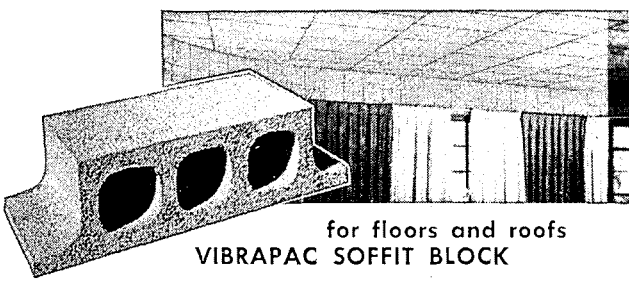
has that quarried stone character



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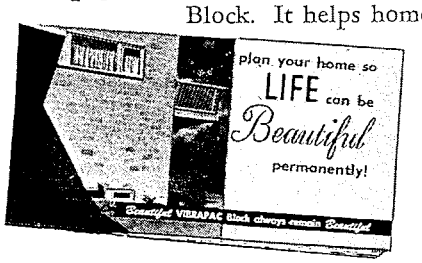
This Booklet Helps You Make Profitable Decisions —
Its 24 pages show many attractive exterior and interior adaptations of VIBRAPAC Block. It helps homemakers "make up their minds" that it pays to make the most of modern concrete masonry. Ask your nearby Concrete Block Plant for a free copy of this book, or write to: BESSER Company, Box 177, Alpena, Mich.



VIBRAPAC BLOCK
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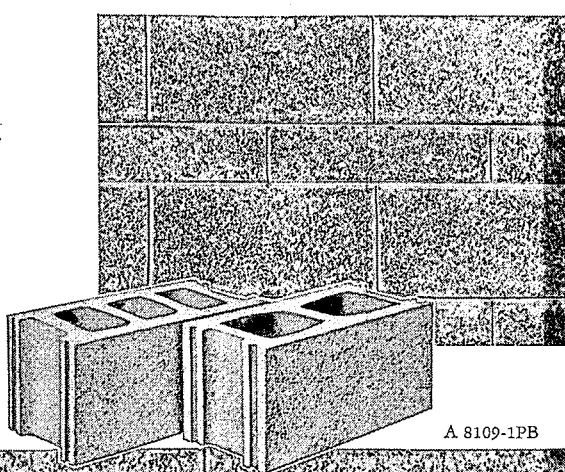

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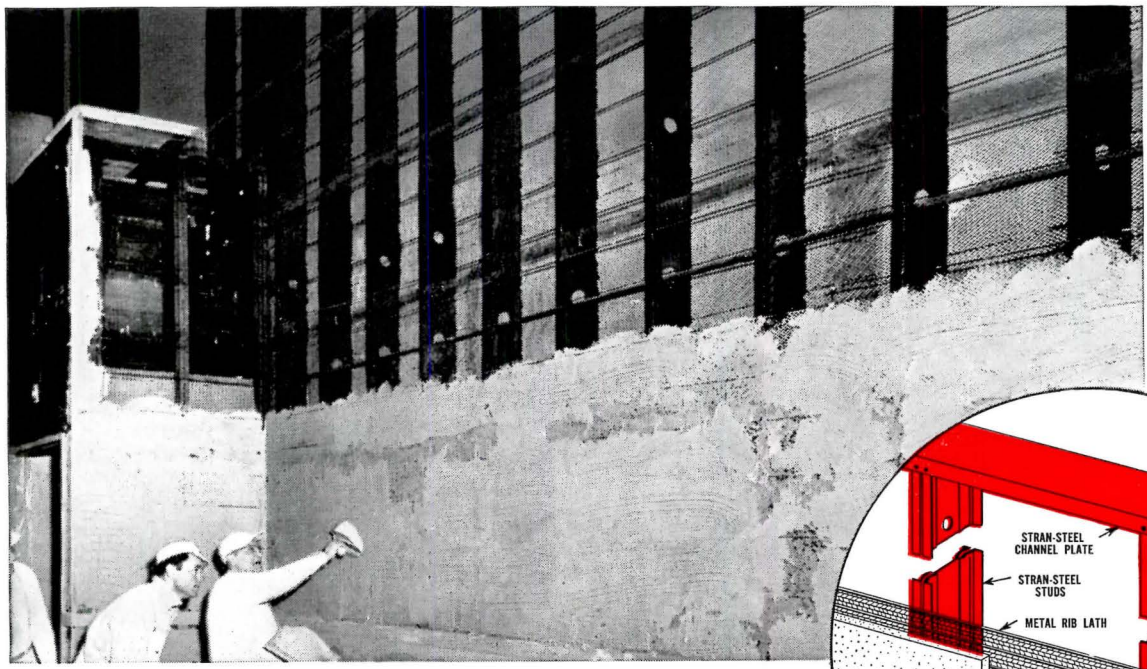

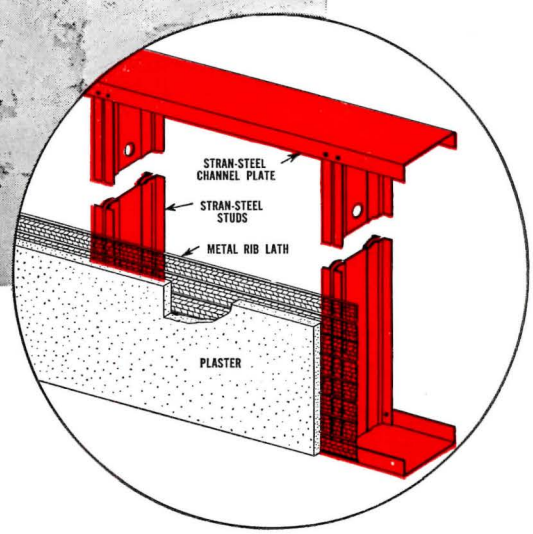

The problem of relatively high partitions was a major one for Station WMAL-TV (Washington, D.C.) in converting an ice-skating rink into a TV studio. Partitions had to be lightweight but able to carry a high fire rating. And, as usual, speed and economy were important. Nailable Stran-Steel Framing was the ideal solution. As shown above, metal lath was nailed directly to Stran-Steel verticals which, in some cases, tower up to 30 feet. W. P. Lipscomb, Inc., General Contractors.

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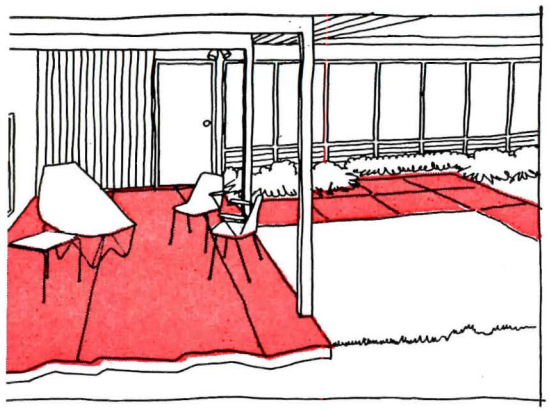

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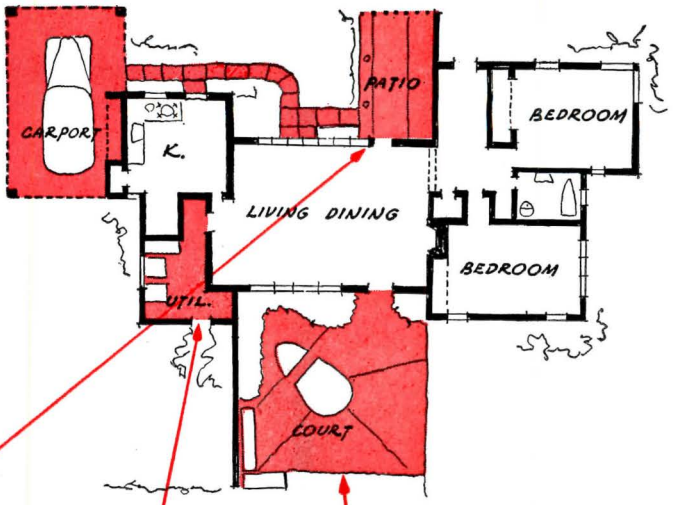

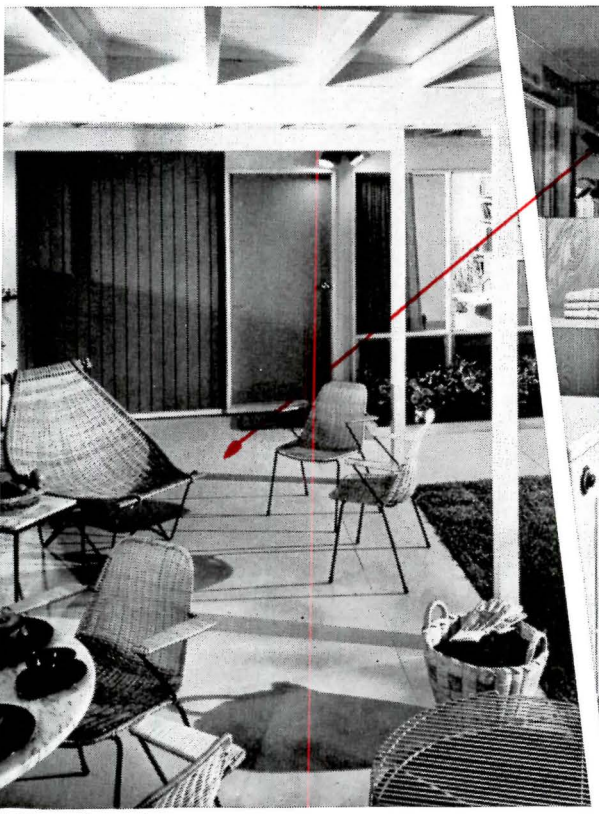

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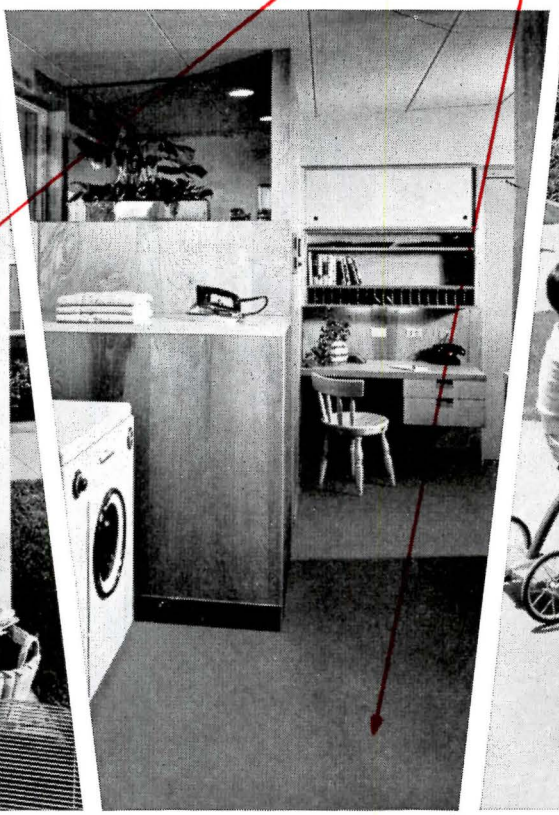

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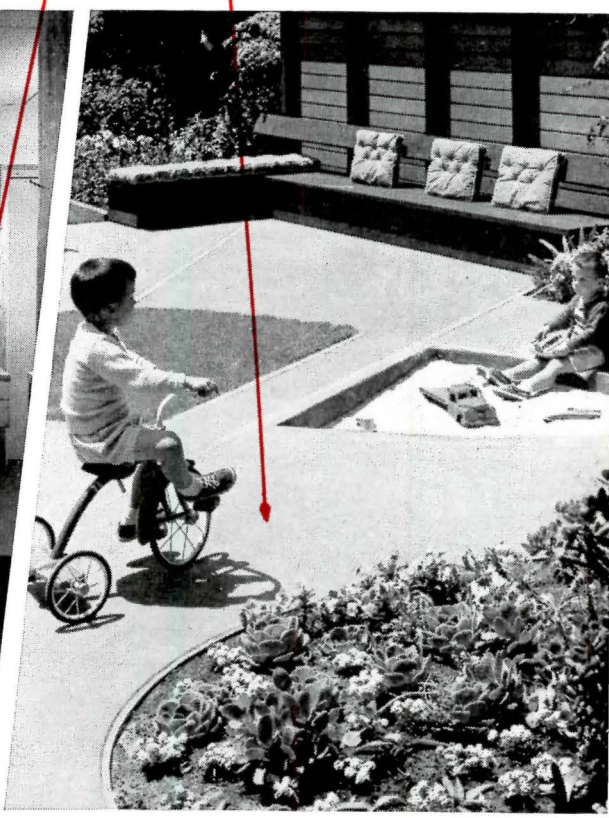

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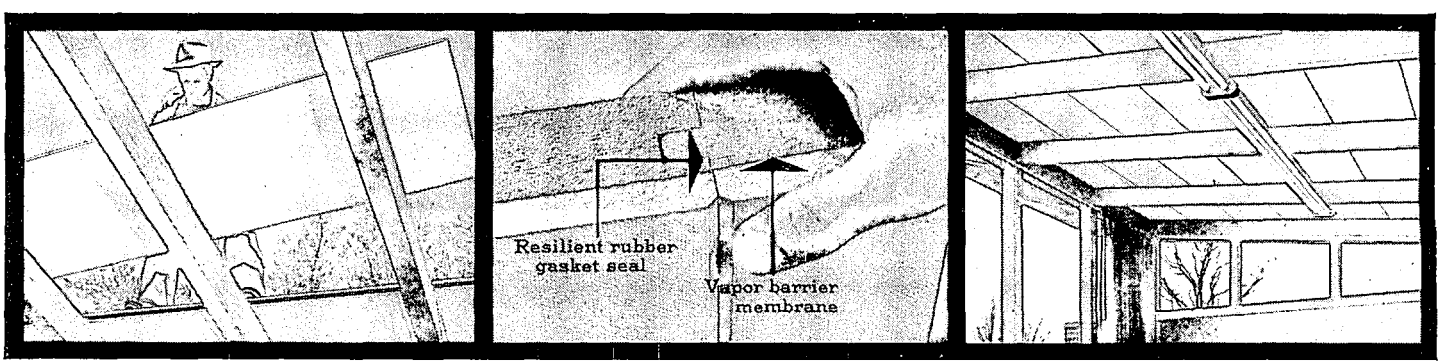
New 3 in 1 Roof Deck costs to $7.94

Cedar Heights School, Cedar Falls, Iowa. Architects: Thorson, Thorson and Madson, Waterloo and Forest City, Iowa.



1. It's roof deck . . . Two by eight foot unit cuts application time as much as 45%. Only one material to handle. New Insulite Roof Deck eliminates need for separate roof boards, insulation, lath and plaster and ceiling finishing. Roof Deck can save 12 man-hours per 1,000 sq. ft. of surface compared with 2″ x 6″ D&M roof sheathing.

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helps hold school per sq. ft.



He held costs to $7.94 per sq. ft. O. H. Thorson, A.I.A., of Thorson, Thorson and Madson, Waterloo and Forest City, Iowa, took advantage of Roof Deck's money-saving features to help hold costs to $7.94 per sq. ft. on this 8700 sq. ft. elementary school. How this 3 in 1 product—roof deck, roof insulation and finished ceiling—can save $80 to $300 per M sq. ft. on exposed beam ceiling jobs is shown in the pictures at left.

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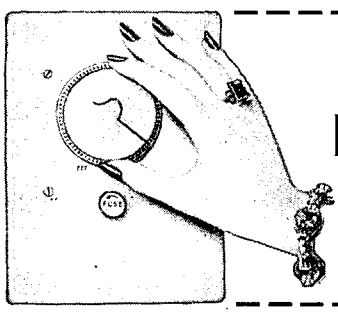

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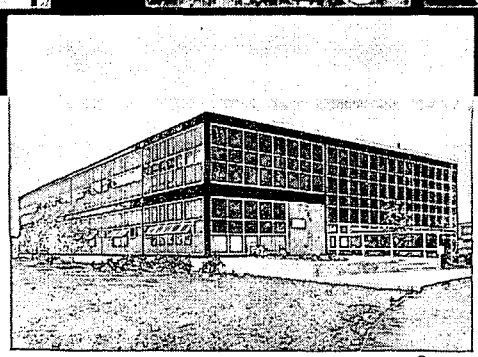
For maximum comfort and protection specify Mississippi Coolite Heat Absorbing and Glare Reduced Wire Glass. Available through leading distributors of quality glass. Mississippi offers a wide variety of translucent, light diffusing glass patterns for every glazing requirement.





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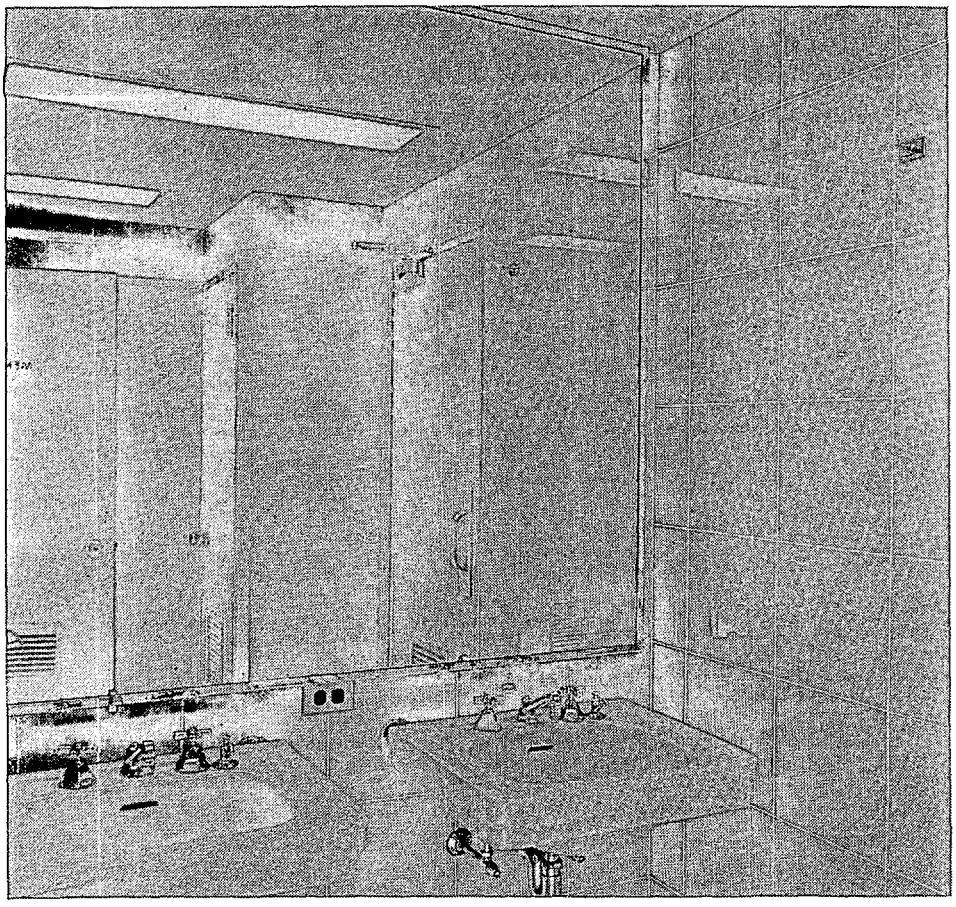

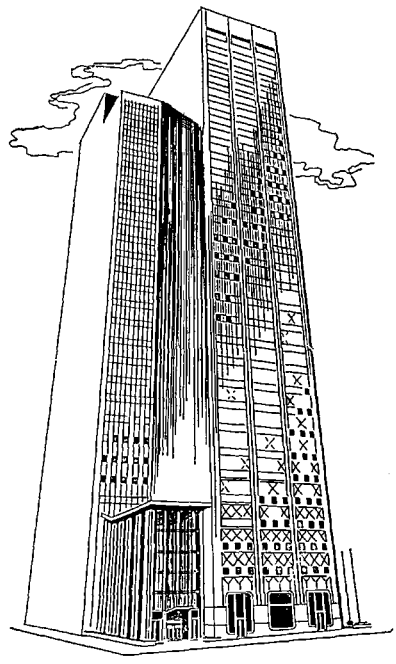

Alcoa Building, modern home office of the Aluminum Company of America, Pittsburgh, Pa., was designed by Architects Harrison and Abramovitz, New York, N. Y

Washrooms of another notable building finished in Carrara Glass

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Beautiful. Available in ten lovely colors, gleaming Carrara Glass adds a note of distinction and dignity to every building in which it is used.

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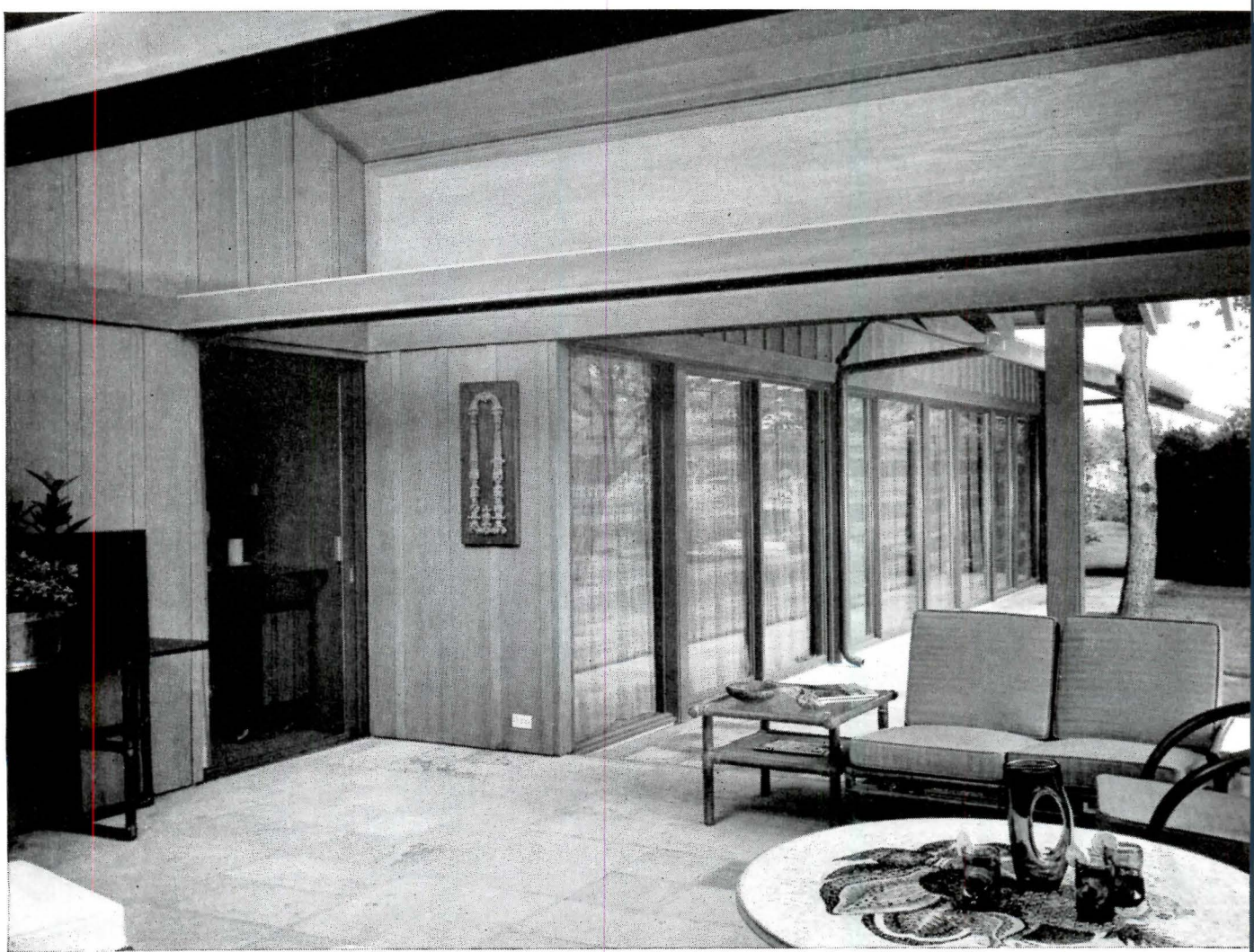

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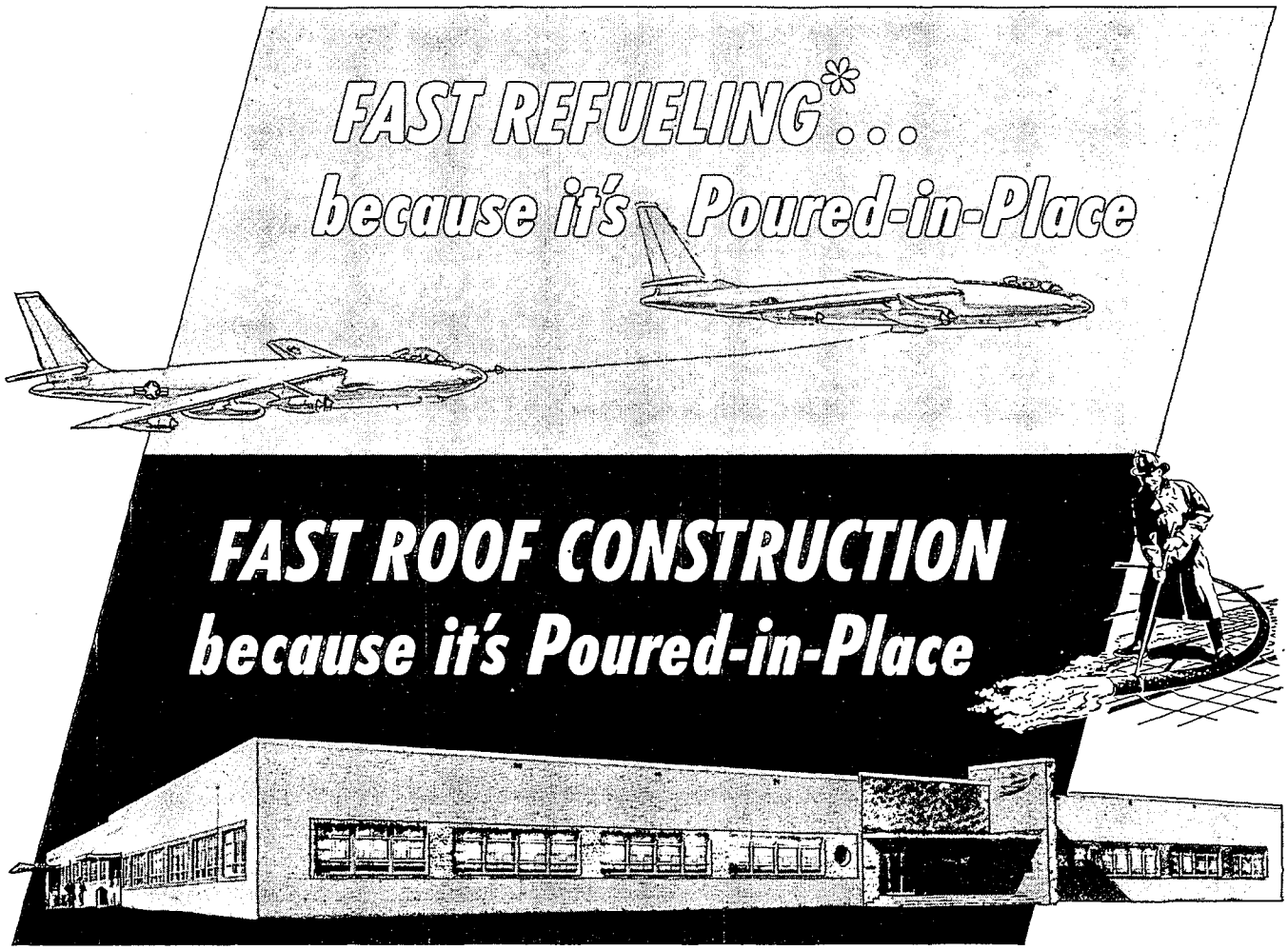

*New headquarters of FLIGHT REFUELING, INC., at Friendship International Airport, Baltimore, Md. *Engineers and Gen. Contractor:* Armiger Construction Corporation, Baltimore, Md. *Roof Deck Applicator:* J. B. Eurell Company, Lansdowne, Pa.

FLIGHT REFUELING, INC., originators of the Probe and Drogue systems of refueling aircraft in flight, specified a fireproof Gold Bond "Firefighter" Roof Deck for their new plant at Friendship International Airport. Nearly 70,000 square feet of incombustible gypsum protects valuable refueling equipment against fire danger.

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Full details on "Firefighter" Roof Decks are available by writing Dept. PA-35, National Gypsum Company, Buffalo 2, New York, for Technical Bulletin No. 589

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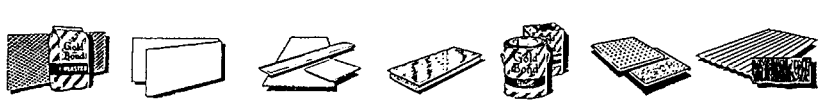

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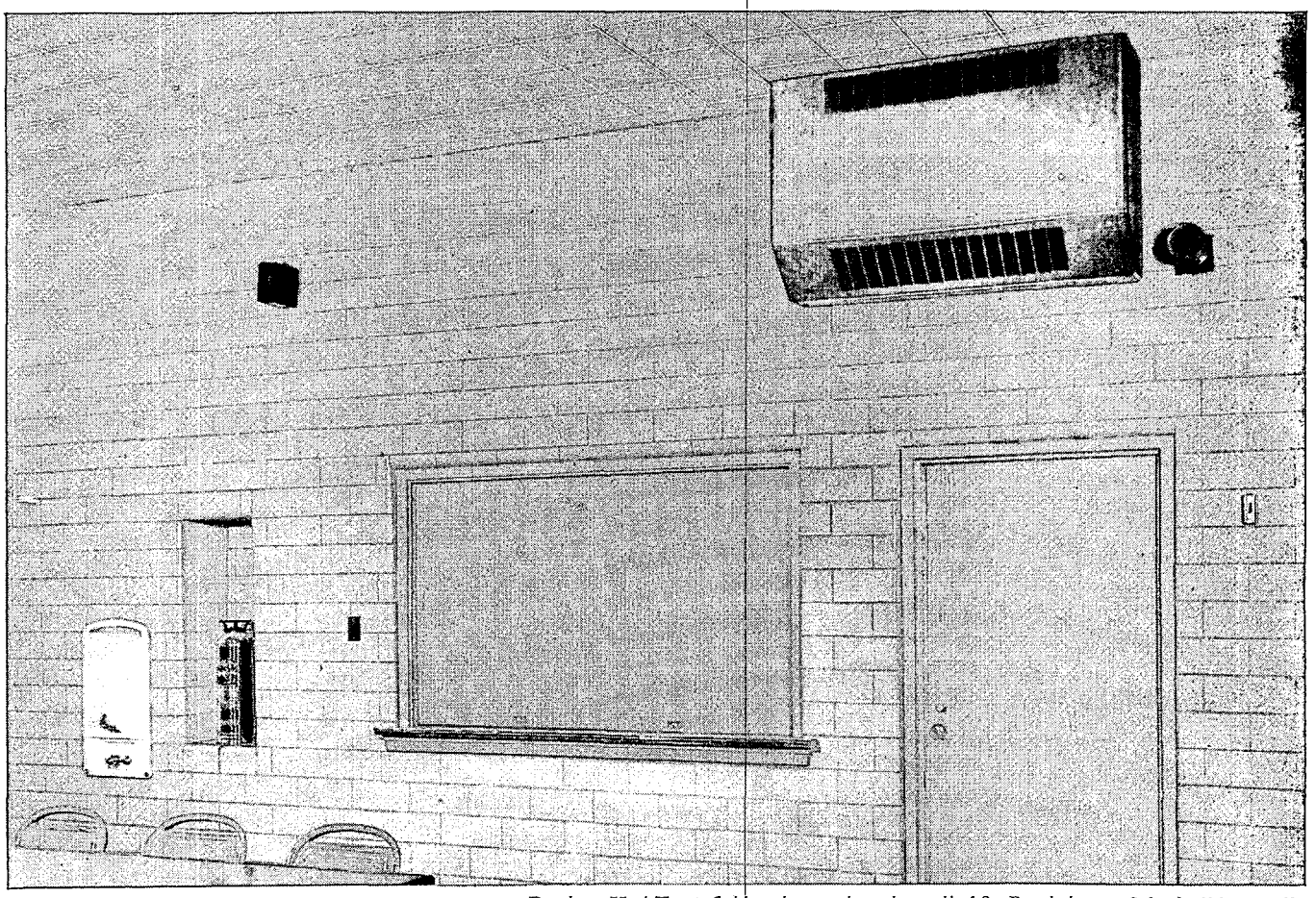


Dunham Vari-Temp Cabinet inverted on the wall of St. Bartholomew School, Chicago, Ill.
Architect: Barry and Kay, Chicago, Ill. Heating Contractor: Northwestern Heating & Plumbing Co., Evanston, Ill.

How to heat and cool with just one unit...
DUNHAM VARI-TEMP

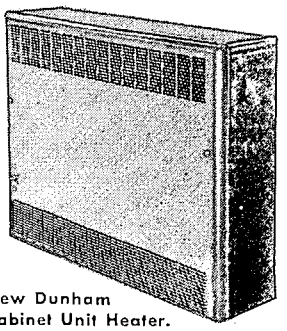
Specify Dunham all-weather Vari-Temp® and you have *more* than a heating system . . . *more* than a cooling system. You have *both* . . . and with *just one unit.*

Dunham Vari-Temp is a simple solution for your clients who want year-round air-conditioned comfort in their buildings but can't afford costly space-using central system ductwork. Vari-Temp eliminates ducts since a single riser can supply hot water for heating, chilled water for cooling to each unit.

Individual Room Control. Dunham Vari-Temp Units heat, cool, ventilate, filter and dehumidify air on a *room-by-room basis*—an ideal setup for hotels, motels, hospitals, apartments, offices and other multiroom applications.

Versatile Vari-Temp not only heats and cools with water, but also heats with steam. Furthermore, you can mount this newly expanded line of comfort conditioning, double-duty cabinets on the floor, walls or ceiling . . . fully or partially recessed . . . or even completely conceal them.

For all the facts about all-weather Vari-Temp, clip and mail the coupon.



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"It's narrower, stacks into 1⅝" per foot of opening—that's less than any similar door—and has none of the *bellows* action that's sometimes very annoying."

"And, Joe, I'm sure our client will like the FOLDOOR fabrics. They look and feel like cloth, but wear and wash like vinyl. He'll go for FOLDOOR's attractive cornice, too . . . especially when he finds there's no extra cost for it!"

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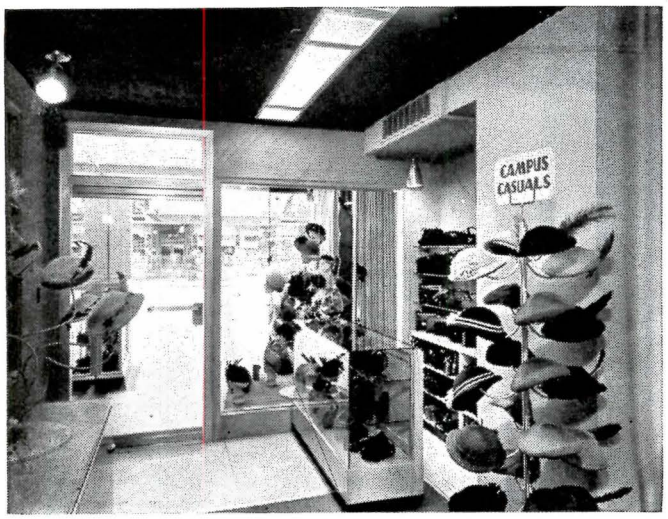
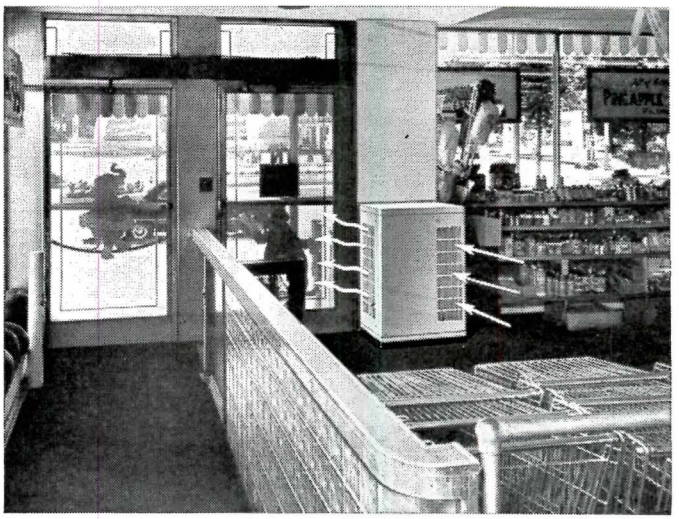
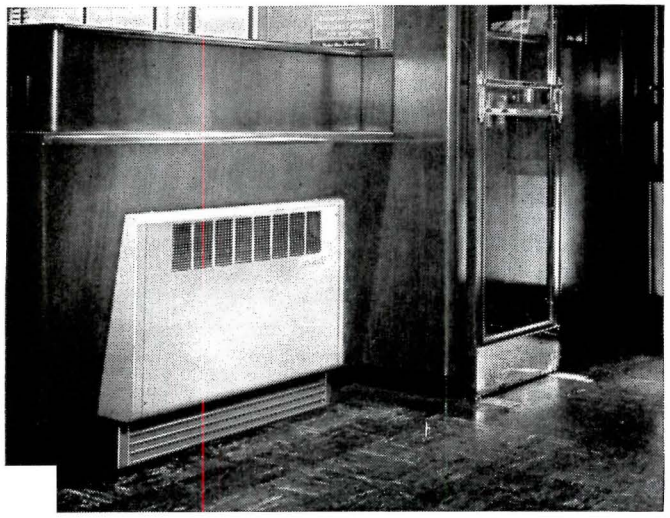


CEILING MOUNTED Type BT Cabinet, connected to duct with inlet at floor level, replaced a bulky, unattractive cast iron radiator that formerly was located below show window.



BLANKETING OPENING DOORS with a curtain of heated air, Modine Type FE Cabinet Unit protects customers and employees of this supermarket from the coldest wintry blasts.



RECESSED IN THE WALL and blending unobtrusively with the modern decor, a Modine Type BF Cabinet Unit provides economical heating, requires almost no floor space.



HARD-TO-HEAT CHURCHES offer no problems for Modine Cabinet Units. Here cold air, drawn into opening in bottom of unit, is heated and discharged through wall grille.

SEE YOUR HEATING JOB HERE?

Then Modine Cabinet Units are your low-cost answer!

YES, for the steam and hot water heating applications pictured above—and hundreds of others—versatile Modine Cabinet Units provide economical comfort. Quiet blower fans assure positive yet gentle circulation of heated air. Some models have provision for cooling with chilled water.

What's more, Cabinet Units' attractive appearance—plus their ability to replace at least two or three cast iron radiators—makes them ideal for new construction or modernization. If you've a difficult heating problem, get all the facts about Cabinet Units from the Modine representative listed in your classified phone book. Or mail the handy coupon at the right.

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MODINE MFG. CO.
1572 DeKoven Ave., Racine, Wis.

Please send me immediately a free copy of Bulletin describing Modine Cabinet Units.

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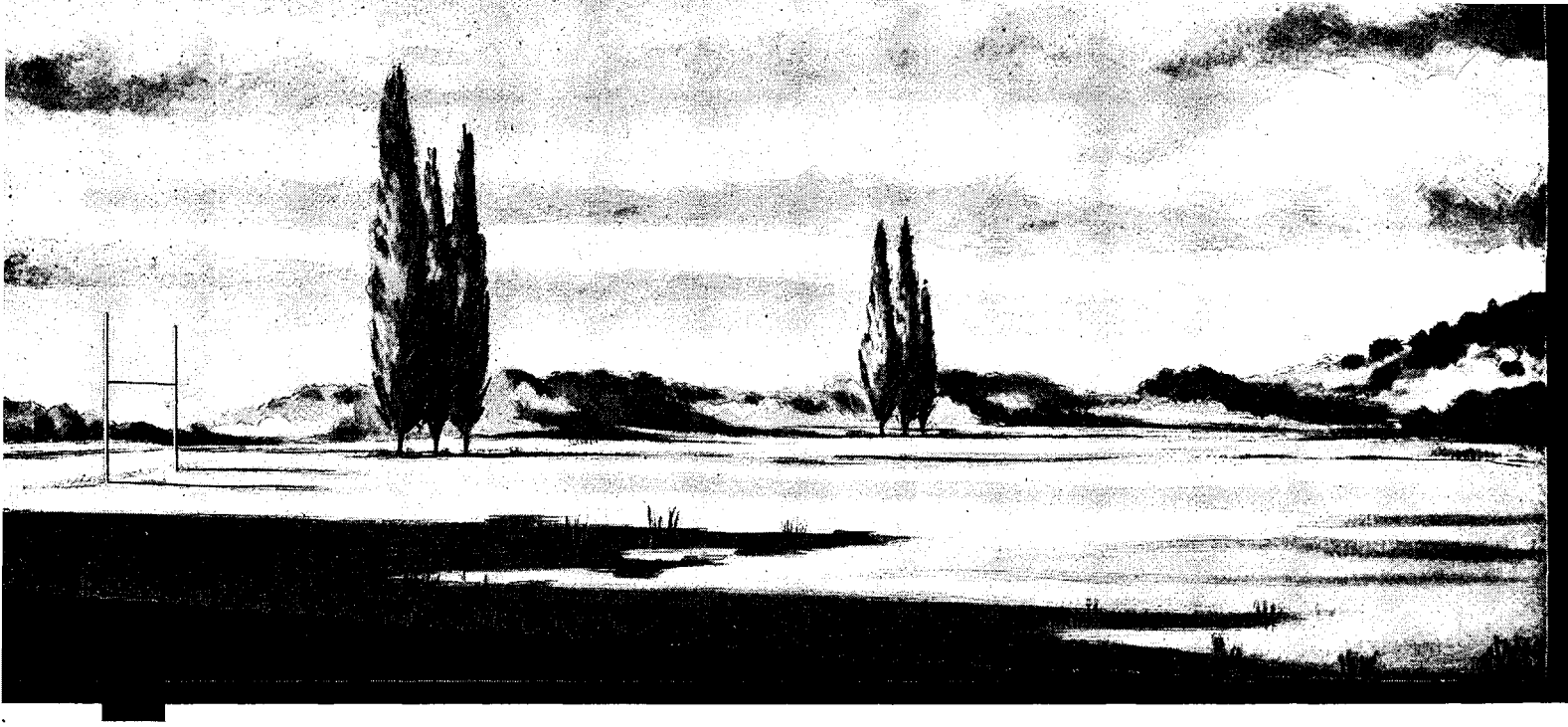

More of this...



...in here...can make a happy difference

Nobody likes to be shut in. Least of all a youngster.

That's why children are happier . . . and seem to learn more, faster . . . in a "Daylight Wall" classroom. Clear glass from sill to ceiling brings in the grass and the trees, the sun and the sky. It helps create an atmosphere of alertness that makes a happy difference in the children's attitude.

Cuts costs, too. Artificial lighting isn't needed so much. Less wall area to paint and maintain. Lower construction costs. In cold climates your daylight walls should be *Thermopane*® insulating glass for maximum comfort and heating economy. Please write for your free copy of "How to Get Nature-Quality Light for School Children". Dept. 4535, Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.

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DAYLIGHT WALLS

. . . THAT LET YOU SEE

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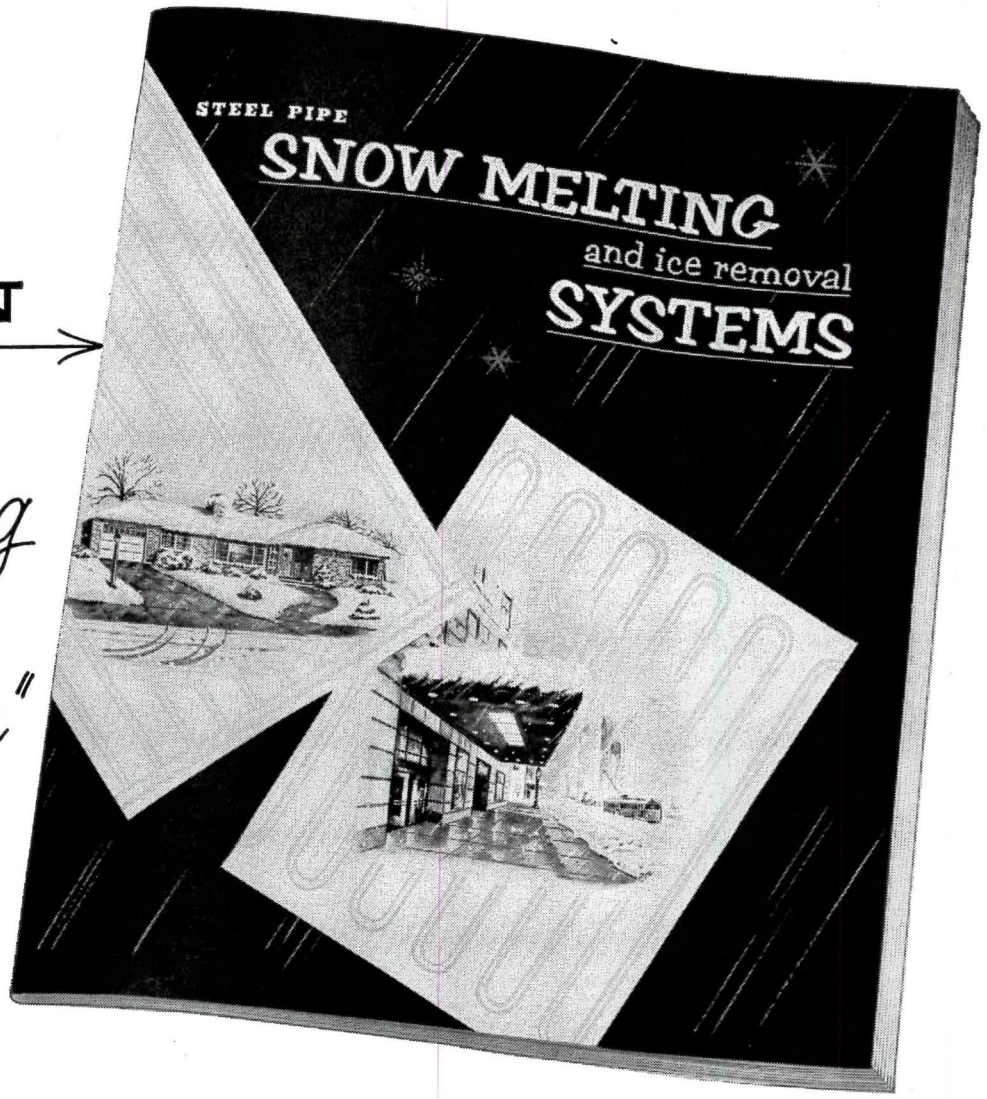
You **CAN** *"do something about the weather"*



CONTROL IT WITH STEEL PIPE SNOW MELTING

When Mark Twain said, "Everybody talks about the weather but nobody ever does anything about it," he was reckoning without the ingenuity of modern science. Today we "seed" the clouds to produce rain, dissipate fog chemically and mechanically, produce sunshine electronically, and *melt snow as soon as it touches ground.*

The use of modern snow melting and ice-removal systems is a sound investment in areas where snow and ice are a detriment to the free, safe, sure movement of people and vehicles. Progressive businesses now make their own weather as far as controlling the all-winter accessibility of their properties is concerned. Sidewalks, driveways, ramps, shipping docks, parking areas, garage and service aprons, airplane hangars, crosswalks, even bridge floors and private spurs and tracks, can and are being made "weather-proof."

For these snow and ice removal systems *steel pipe* is the overwhelming choice for commercial, industrial and domestic installations. Why? Because steel pipe has not only been proved in more than 60 years of hot water and steam heating applications, but has also the advantages of economy and adaptability for the panels, coils and runs of modern snow melting systems. Yes, steel pipe is first choice . . . the most widely used pipe in the world for heating, plumbing, snow melting, fire sprinkler systems, and the transmission of power, steam and air.

Send for a free copy of the 32-page color booklet "Steel Pipe Snow Melting and Ice Removal Systems."

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Please send me without cost or obligation a copy of the 32-page booklet "Steel Pipe Snow Melting and Ice Removal Systems."

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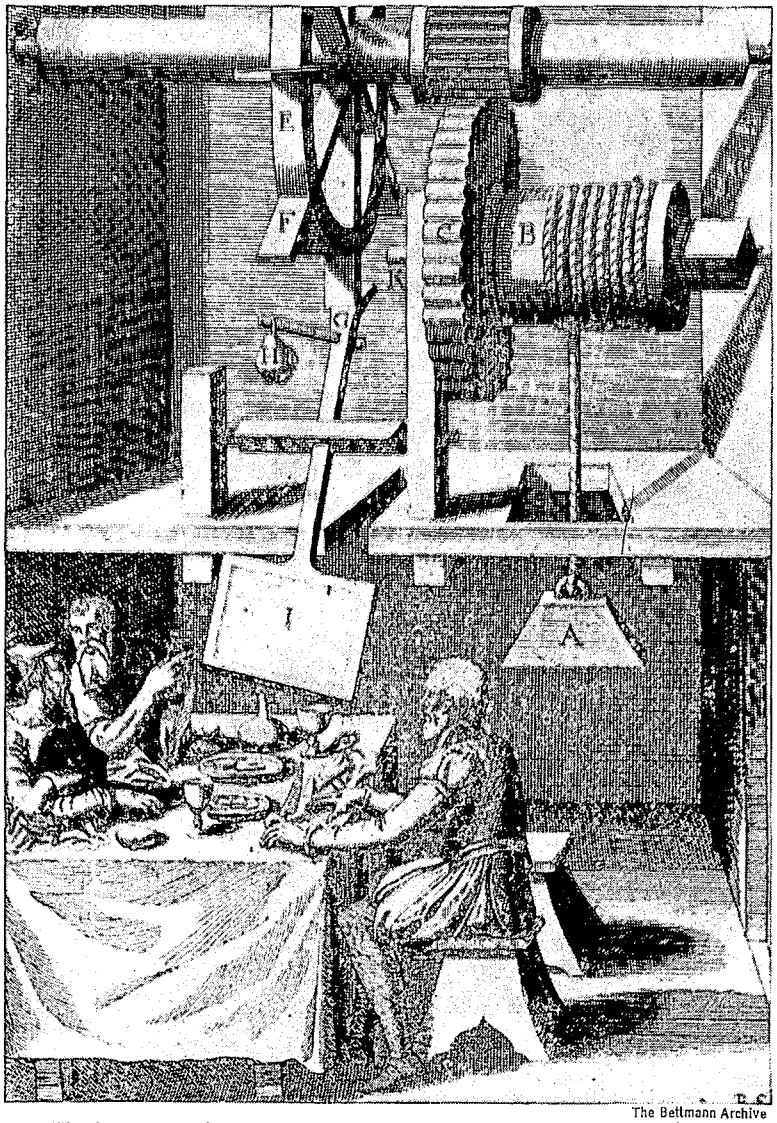
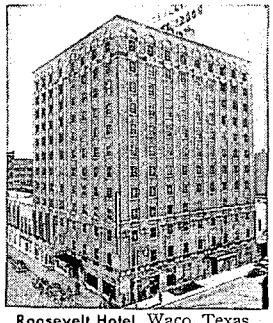


The Bettmann Archive

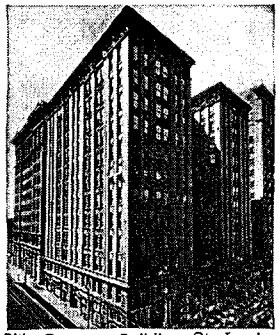
Here's somebody's idea of how to solve the ventilating problem—with a gravity engine—back in 1662. Today Airtemp can help you solve your clients' air conditioning problems.

AIRTEMP SOLVES VARIED INSTALLATION PROBLEMS





Roosevelt Hotel, Waco, Texas, Consulting Engineer: P. N. Vinther, Dallas, Texas.



Title Guaranty Building, St. Louis, Mo. Architect: Raymond E. Maritz; Consulting Engineers: Lec S. Weil and W. B. Moses; Mech. Engineers: Brussel & Viterbo; Air Conditioning Contractors: General Installation.

Ostheimer Building, Philadelphia, Pennsylvania. Owners: Ostheimer Realty Company. Architects and Engineers: The Ballinger Company.

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Airtemp offers these "pluses" to those planning commercial and industrial air conditioning

Airtemp has the Right Equipment
To meet your *every* air conditioning need, Airtemp has a complete line of precision-built equipment—conventional or specially engineered—for a room or a building.

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The Chrysler name is widely known. Over the years, it has gained public confidence for its leadership in quality and engineering.

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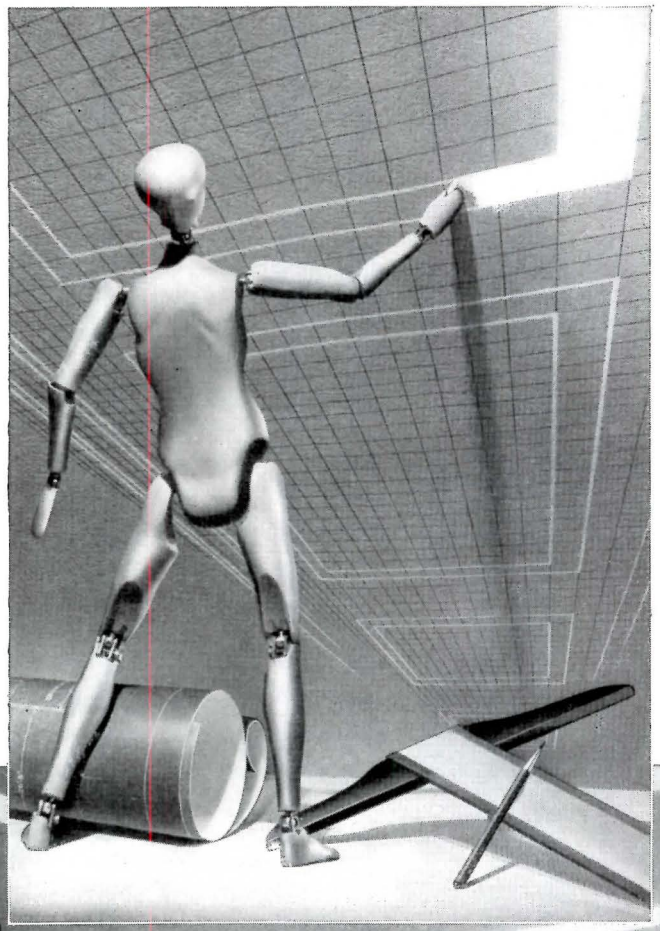
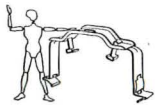
ur ceiling planning comes to li
with the new troffers
by Smithcraft

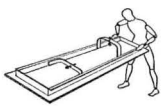


From drawing board to reality is now a simple transition in the creation of architecturally beautiful ceilings with recessed lighting. The new Smithcraft Troffer presents a clean, trim, uncluttered appearance because for the first time in troffer lighting *there are no visible catches, latches, bolts or screws.* Perfectly straight, trim, in-line rows free from light leaks or blemishes are formed with new Smithcraft Troffers which are *architecturally precise modules for exactly 12" openings.* Adaptability to today's ceiling constructions is virtually universal *(a single simple clip adapts the Smithcraft Troffer to most ceiling conditions and simple provisions are made for all others.)* A new flexibility of design is provided through the *widest possible choice of shielding media, pattern lighting methods and accenting troffer boxes.*





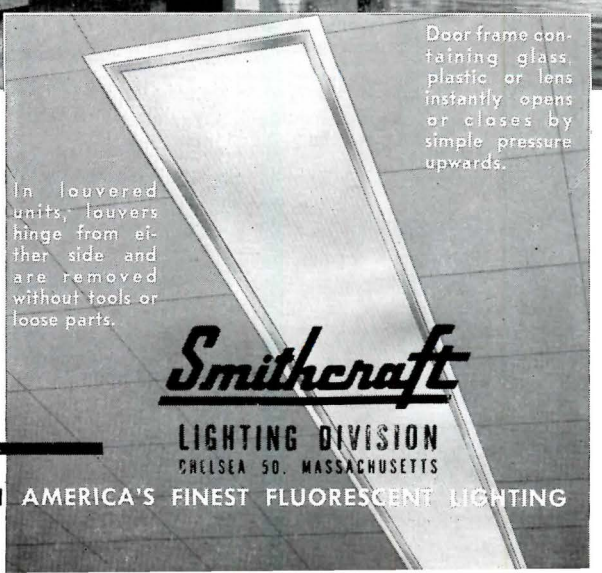
This mounting bracket with simple clip attachments adapts the Smithcraft Troffer to a great majority of the ceilings in use today.



The new Smithcraft troffer-in-plaster frame method assures perfectly square plastered openings and is unbelievably simple to install.

Write today for the new Smithcraft Troffer Book illustrating and describing the new Smithcraft Troffers in detail.





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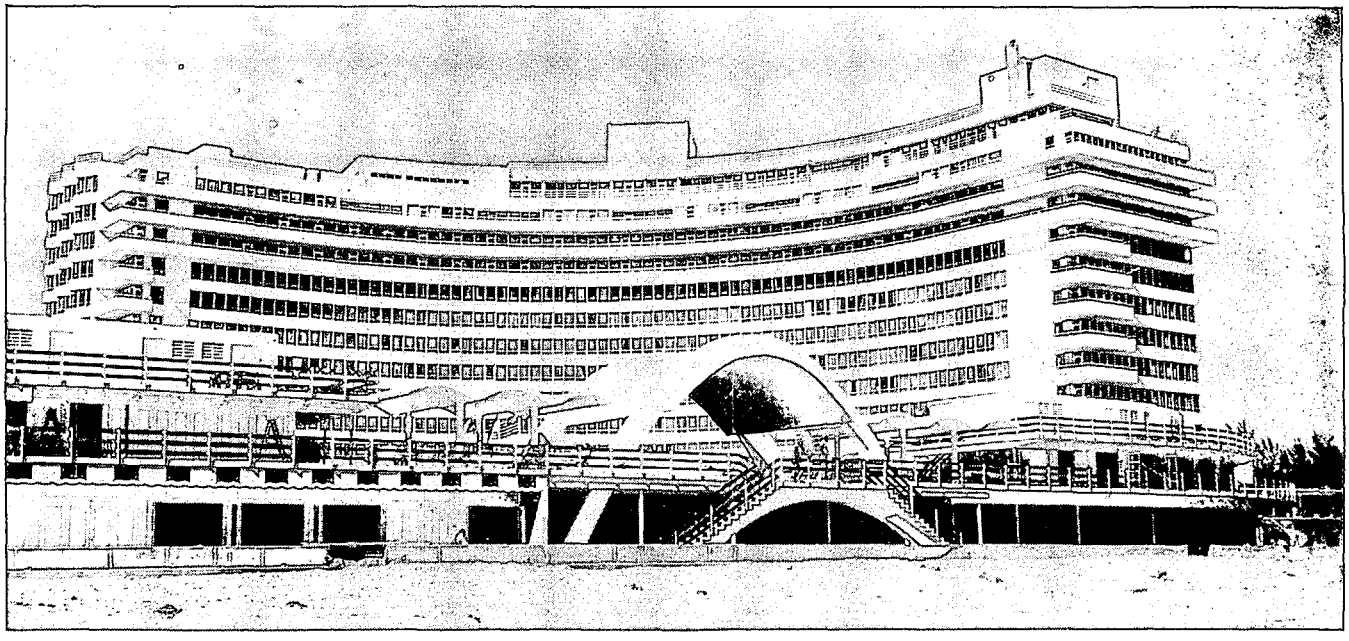
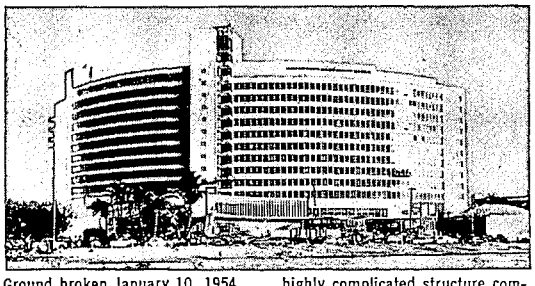
the fabulous Fontainebleau



Miami Beach's Magnificent New Hotel, Luxurious Place in the Sun, Concreted with 'Incor' for Economical Speed



Ground broken January 10, 1954 . . . highly complicated structure completed, hotel furnished, staffed and operating December 20, 1954 . . . Contractor says on-time completion would have been impossible without 'Incor' 24-Hour Cement.

THE FONTAINEBLEAU
BEN NOVACK, President
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Consulting Engineers:
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Architect: MORRIS LAPIDUS
Miami Beach and New York
General Contractor:
TAYLOR CONSTRUCTION CO., Miami
Ready-Mix 'Incor' Concrete:
MAULE INDUSTRIES, INC., Miami Beach

● Magnificent new $14-million Fontainebleau Hotel, on the old Firestone ocean-front estate, 44th to 48th Streets, Miami Beach, opened its hospitable doors precisely on schedule last December.

Called with good reason America's largest and finest resort hotel, The Fontainebleau reflects in its every line and appointment a happy balance of hotel, architectural and construction imagination.

With concaved façade fronting on 950 ft. of private beach, the new 14-story hotel, air-conditioned throughout, has 565 bedrooms and suites, 263 cabanas, and private yacht anchorage.

'Incor' Speeds Completion

Construction is concrete throughout, for utmost stability and fire safety. On the basis of wide and successful experience, Taylor Construction Co., General Contractor, used 'INCOR' 24-HOUR CEMENT, 23,332 bbls., for dependable high early strength so essential in maintaining precise concreting schedules required for top construction speed at rock-bottom concreting cost.

Clock-like, pour-today-strip-tomorrow schedules saved $37,000. in extra forms that would have been needed for equal speed without 'Incor'. And the Contractor says this figure was dwarfed by time and labor economies due to smooth-running, assembly-line concreting schedules.

Match high-early strength economies with high ultimate strength and long-time durability and you see why 'Incor'* "belongs" on outstanding projects such as this.

*Reg. U.S. Pat. Off.



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architects' accounting-2

by Siegmund Spiegel* and Herman Meyer**

In last month's discussion of the essential bookkeeping functions, nothing was said of the problem of keeping overhead records—a subject that was discussed in the February and March 1954 issues of P/A. The various Record Books, Journals, and Ledgers described will not readily show the overhead ratio, but they will provide the proper *basis* for overhead analysis.

While overhead percentages are of importance to the architect, there are different schools of thought on the subject of determining such percentages. The method advocated in *Standardized Accounting for Architects,* as prepared by the American Institute of Architects, varies in detail from the method discussed in the P/A articles referred to above. The AIA system recommends that a partner's indirect time be charged as an overhead expense. Part 1, Chapter 3, of the "Recommended Procedures and Practices" states: "*salaries for principals* should be established at amounts as nearly as possible representing what it would cost to employ someone to perform the services rendered by each principal. This is an orderly way to conduct the business and the only way to obtain proper job costs." Part 6, Chapter 29 states: "*Indirect expense accounts: Salaries, Principals.* Salaries, principals, are actually a partial distribution of profit rather than an expense. It is recommended, however, that definite salaries be established for the principal(s) since the services rendered by the principal(s) are a cost of doing business. See Chapter 3. Unless such salaries are established an accurate statement of operations is not possible. This account is debited from column 30 of the Cash Journal with salaries paid to principal(s) and cash in bank credited from column 2 of the Cash Journal."

The procedure outlined in the above paragraph has been accepted by numerous offices. However, a substantial number of firms polled prefer the system discussed in the articles in P/A, as providing more accurate records and involving less bookkeeping entries. In a great many offices, varying in size, principals' drawings of money vary considerably, and in many instances are not regular or in fixed amounts. This procedure, of course, affects only the partner's or individual's capital account. To translate whatever the proportion of actual drawing account may be into the dollar value of "direct" expense for time spent on a job, and at a senior employe's rate, may therefore become unrealistic. In many instances, principals, active on numerous jobs during the course of a day, will not keep a record of time spent on each job, although memo entries of hours spent *should* be made in the individual's diary as accurately as possible. The principals' hours can then be added to the employes' hours once a job is completed, and this will provide a satisfactory record. Any dollar substitution can then be made for time of the principal(s) should a job of a similar nature require the employment of a senior man to carry out the functions previously performed by the principal(s).

On certain jobs where a principal may bill for his time at a predetermined rate, it is obvious that the record kept by him will be more accurate than on a job where his time is not compensated for on a stipulated basis. On some major-size, cost-plus-fee jobs, the principals' services more often than not are paid for by the "fee," and the reimbursal for "technical salaries" and "__ percent overhead" specifically limits the recognized overhead items, roughly, to the list enumerated in the P/A articles referred to above.

While a principal frequently spends considerable time on "indirect" work, such as contacting potential clients, preparing proposals, preparing budgets, attending professional organizations' functions, etc., it would be out of proportion if such time is excessive to burden the "overhead" account with that portion of his drawing account for time so spent. To use the figures of actual money drawn will tend to overburden the overhead figure. An arbitrarily assumed figure equal to the salary payable to a senior employe, but not representing his actual drawings will be of little value.

A principal's knowledge of costs required to do a job, the number of *his personal hours* spent (should he in the future have to use an employe in his stead) in addition to the hours of his men, plus the percentage of the relative, constant overhead which excludes his indirect time, will present a good picture of costs and time for budget purposes. Compensation for his own "indirect" time—and profit beyond that — can easily be estimated when preparing a budget for a job.

The AIA, realizing the need for a standardized accounting practice for architects, has performed a most useful service to the profession by preparing "Standardized Accounting for Architect." A great deal of thought has been given to developing such a detailed system; the forms used are generally well conceived, and are in conformity with sound accounting procedure.

However, after a close analysis of the AIA's proposed forms it is felt by these authors that some phases are somewhat cumbersome for ease of operation. For instance, the Cash Journal is subdivided into 45 separate columns. It is feared that a secretary in the average office is usually the one who is also in charge of the books, and records may easily become confused when this Cash Journal requires excessive posting. It is felt that Cash Journal entries could be simplified and still serve their purpose, providing a basis for accurate record keeping. The following listing of columns will serve as an illustrative.

Receipts:

Cash
Fee income, Job No.
Expense reimbursal, Job No.
General Column (Exchange, etc.)

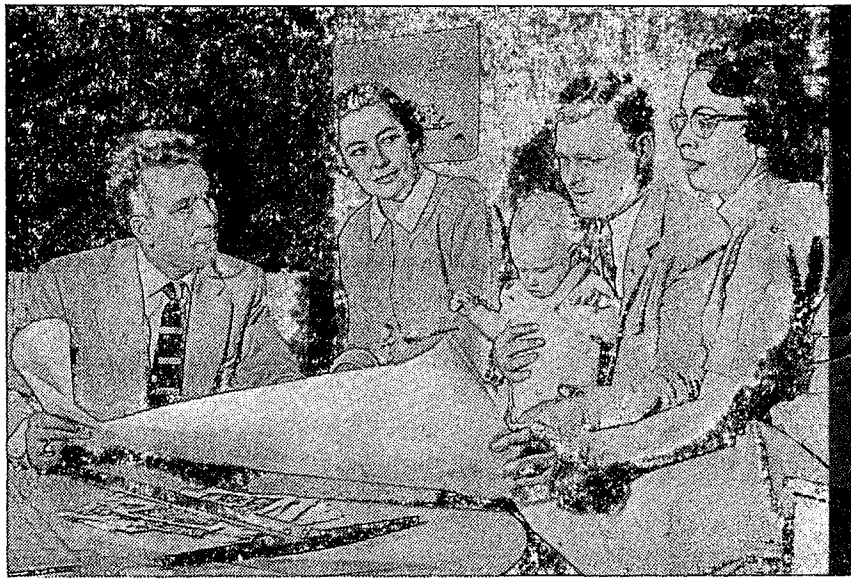
* *Architect, New York, N. Y.*
** *Senior Accountant.*

Disbursements:

Cash
Job Control, Job No.
Payroll Control
Indirect Salaries
Stationery and Office Supplies
Telephone and Telegraph
Miscellaneous Expense
Partners' Drawings
Travelling
General Column (Exchange, Insurance, Taxes, Rent, etc.)

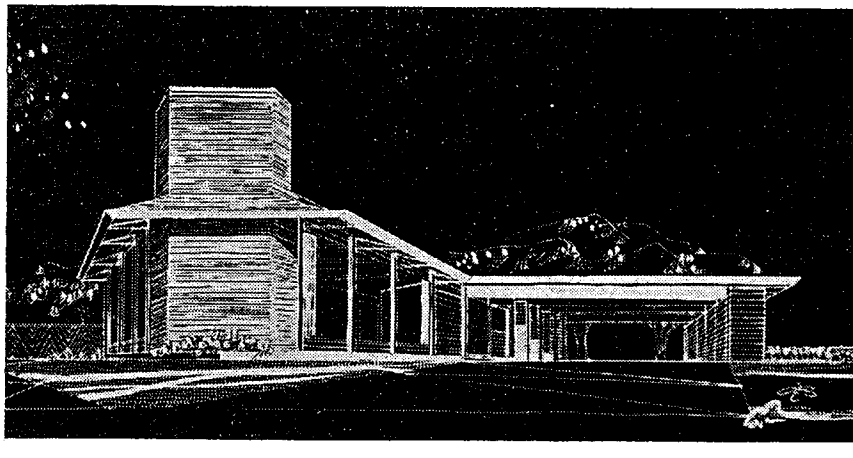
The job control column takes into account all expenses incurred which are directly chargeable to an individual job, while the remaining disbursement columns show general and indirect expenses. Sufficient detail appears on the above list to enable proper transfer of information to the respective job accounts. Such a system of recording cash receipts and disbursements is in a more compact form and will prove less cumbersome from a bookkeeping standpoint. A short itemized word description in each instance, rather than an entry by code number, will minimize the possibility of error. It is felt that where the size of an office warrants the full time employment of a bookkeeper, the AIA type Cash Journal might be advantageous. However, if an individual normally not charged with the bookkeeping wished to consult the Cash Journal, decoding would be time-consuming for him, requiring constant reference to the numbered code chart to identify each item. While there is a word description in this Journal, there is lacking a Job Control column which indicates to which particular job the expense should be allocated. The Payroll Journal and the Job Cost Record could also be condensed in a similar manner.

No doubt each firm of architects may have its own idiosyncrasies regarding the amount of detail it wishes its books to reflect. While one firm may be satisfied with the barest essentials, the next may make innumerable analyses. Basic concepts of accounting as discussed in general above seem to satisfy most average needs.



Left to right: Donald L. Grieb, Milwaukee architect, designer of house planned and built during 40-program TV series; Beulah Donohue, hostess of Woman's World *program on* WTMJ-TV, *The Milwaukee Journal Station; 18-month old Cindy Johnson; Cindy's parents, Phil and Sue Johnson.*

Rendering of house "designed" on TV series: Donald L. Grieb, Architect. The Wisconsin Architects Association, a Chapter of the AIA, furnished a panel for each program, to discuss development of the problem and each stage of design, bidding, and construction.



Wisconsin architects and thousands of kibitzers build home on TV

by Neven J. Russel, Jr.*

The sidewalk engineers' society (residence division, that is) in Milwaukee never had it so good! They're kibitzing from easy chairs!

This comes about through the "TV Builds a House" series on WTMJ-TV, The Milwaukee Journal Station. Brain child of the Wisconsin Architects Association and Station staff member Beulah Donohue, the half-hour weekly program is a case history of the problems of the architect and the individual home builder. It has become, in addition, a forum for architects throughout the state. On most programs a changing panel of architects discusses the board applications and ramifications of the specific owner-architect decisions. No effort is made to promote any particular school of architecture, but each architect is in a position to make a forceful case for his ideas.

Miss Donohue, who has more than a layman's interest in and knowledge of architecture, brings out by searching questions the value of modern materials and the reason for much modern design. Both Miss Donohue and Sprague Vonier, able WTMJ-TV director, are sympathetic with the architect's problems and the need for continuing improvement in residence design.

This "feel" of the program helps viewers understand better the need for the years of education and training which an architect undergoes. The show's followers are shown the detailed work which goes into drawings and specifications and the reasons for this work. They are in on the creation of a home from the inside out and see why the exterior reflects the form of the interior spaces.

The half-hour weekly series opened in March, 1954, with the discussions of the family's needs by Phil and Sue Johnson, the owners of this $17,000 suburban home, and their Milwaukee architect, Donald L. Grieb. Phil is a salesman for International Business Machines. Sue is a commercial artist and paints for pleasure. Their activities seemed to call for a home built around a multipurpose "activities room." This room will be used for Sue's painting and sewing (she makes her own and the children's clothes), for Cindy's and Mark's (ages 18 months and 4 years) indoor play and their toys. Don will use it as a den and, adjacent to the living room, it will act as an additional entertainment area for the "open house" parties the Johnsons enjoy.

The "activities room," as the hub of the home, may also alternately be used as a guest room or to expand the dining area.

The Johnsons need the three bedrooms the home will provide. Since they have only one car, the nearness of shopping areas was an important consideration in the choice of the lot. The grade school, which is across the street, will make things easy for Cindy and Mark. The level lot lends itself to one-story construction.

The home, built on a concrete slab, with radiant floor heating, has unusual exterior wall construction. The vertical 4″ x 4″ columns are exposed on the outside of the "sandwich construction" walls and form a pleasing pattern of shadow.

The 2-⅞″ thick exterior walls are made up of a layer of 2″ x 6″ tongue and groove, red fir, horizontal planking on the exterior. Next comes a 25/32″ rigid asphalt-coated and impregnated insulating layer. The next layer comprises the interior finish and is made up of ⅜″ plywood. Deep slanted eaves control exterior light and give a "ground-hugging" cozy appearance to this suburban home.

As the forty-program series got under way, Miss Donohue, WTMJ-TV, and the architects' group did everything possible to assure their viewers an honest picture of what home builders must face.

Many connected with the program feared the home's requirements could not be met for $17,000 in the Milwaukee market. To assure bids which would really reflect the current price for their services, contractors had to agree not to advertise that they had any connection with the home being built on TV.

The first bids came in above the budget. Grieb sent out for new bids and, on the air, conferred with the Johnsons to see what could be cut out in order to meet the maximum budget. One item cut out was a vanity in the bathroom. Sue solved this loss, though. She had a fund tucked away for furniture, some of which was to be built in. With adroitness, she transferred this item to her "furniture fund" and got the built-in vanity anyway. After some discussion, during which Sue grimly hung on to her automatic dishwasher, reductions were made and bids totaling $17,300 were accepted.

Early concern for realism on the program was unnecessary. Both man and nature co-operated to create temporary delays which so often accompany any construction. An early financing problem held up ground-breaking. After it was solved, extraordinary rains held up progress for three weeks. Then fortune and the weather smiled and construction progressed well.

The series followed the home through all its construction phases until, on the final program, viewers were asked to join the Johnsons, on television, in a housewarming party.

The adventure thus was complete . . except for the grass sowing and watering and cutting by Phil, and a little dusting and dishwashing (with dishwasher) by Sue, which will go on for some years, according to best advice. The sidewalk engineers can now relax with the feeling they've done a good job and, it is believed, with a new understanding of the function and value of the architect and his work.

* *Public Relations Counsel and Executive Director, Wisconsin Architects Association.*

Bernard Tomson **it's the law**

Periodically, this column supplements Tomson's Architectural & Engineering Law *(Reinhold, 1951) by reporting summaries of cases decided and other matters of interest occurring since the publication of his book. A number of cases meriting more than a capsule treatment will continue to be discussed more extensively.*

PART I. LICENSE LAWS FOR THE ARCHITECT, ENGINEER, SURVEYOR, AND GENERAL CONTRACTOR

Chapter 3—Practicing without a License

The failure of an architect, engineer, surveyor, or general contractor to procure a license as required by statute may constitute a misdemeanor subjecting him to criminal prosecution, and render the contracts he has entered into for the performance of professional services illegal and void.

California. *Shields* v. *Shoaff*, 253 P. 2d 102 (1953). A building Contractor's license was suspended by operation of law when his responsible managing employe resigned and no qualified replacement was employed as required by statute. The subsequent acceptance of license fees without disclosure of the Contractor's disqualification did not reinstate the original license. Therefore, the Court held that the Contractor was barred from recovering for work done because he did not possess a valid general contractor's license. The Contractor's assignee, who was not a holder in due course, was likewise barred from recovery.

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California. *Marshall* v. *Von Zumvalt*, 262 P. 2d 363 (1953). In an action by an Owner against a Contractor for monies loaned to the Contractor, the Court held that, although the Contractor could not sue the Owner for compensation without proving that he was licensed as required by statute, the Contractor could, nevertheless, when sued, assert the contract and recover the amount of his compensation which exceeded the amount which the owner sought to recover.

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California. *Lehmann* v. *Dalis*, 269 P. 2d 727 (1953). A licensed Civil Engineer performed work, labor, and services, which included the drawing of plans and sketches for the erection of a bowling alley at the builder's request and sued for the value of his endeavors. The defense was raised that these were architectural services and the Engineer was not a licensed architect, nor had he informed the builder in writing of this fact as provided for by statute. The Court held, however, that the Civil Engineer was entitled to recovery, stating that the Civil Engineering Act permitted some services of an architectural nature, and that the Architectural Practice Act did not preclude recovery.

•

Texas. *M. M. M., Inc.* v. *Mitchell*, 265 S.W. 2d 584 (1954). An action was instituted by an Engineer to recover his compensation for services performed. The Engineer had been issued a certificate under the statute regulating the practice of his profession but had failed to pay an annual renewal fee as required by statute. The Court denied a recovery because the services for which compensation was sought had been rendered during the year in which the renewal fee had not been paid.

•

District of Columbia. *Dunn* v. *Finlayson*, 104 A. 2d 830 (1954). Suit for the balance of compensation due was brought by a person designated in a construction contract as Architect and Supervising Engineer. The Owner counter-claimed for the amount paid under the contract on the ground that the contract was void because the Architect did not have the required certificate. The Court held that the Architects Registration Act of the District of Columbia did not forfeit compensation in the absence of a certificate prior to 1950 when it had been amended and that, therefore, the architect could recover for those services he rendered prior to the 1950 amendment even though the building was not completed until after the amendment.

the elementary school

*"Reaction from standardization [in school design] will require entirely new approaches to the physical environment, which is now distinctly recognized by educators as a major factor in the learning process. Architects . . . may expect radical changes and variety in optimum group sizes, activities, and equipment."**

This third chapter in our year's issues planned around "the production of architecture" discusses and analyzes how eight different architects studied educational needs, worked with administrators and educators, and produced new plans for elementary schools on the basis of modern teaching methods; how, in short, the designers provided the correct "physical environment for the learning process."

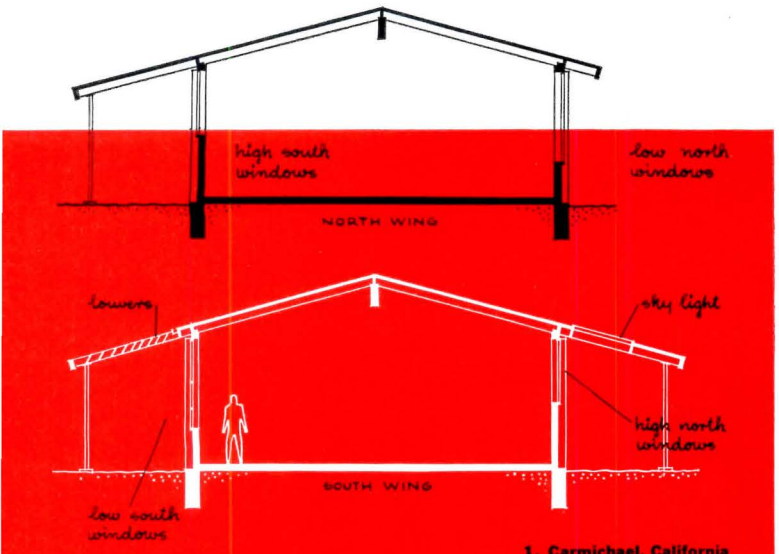
Educational buildings are destined this year to account for more than a fourth of the dollars that are to be spent on architect-designed structures. With a huge backlog of needed classrooms, reasonable economies in construction are of prime importance. Hence, the design thinking and methods that go into the production of schools are of very particular current interest. In this special issue, we concentrate on these factors in regard to the elementary school.

It is useful and instructive to see how eight architects, working under widely divergent conditions, solved the problem common to all—the provision of well lighted, well ventilated, efficient schools for our junior citizens, in an environment and with an amenity that appeals to children and facilitates the teaching and learning process. Because the least common denominator in school design is the classroom, it is remarkable that these eight architects searching for optimum solutions have come up with eight quite different room cross sections *(overpage)*.

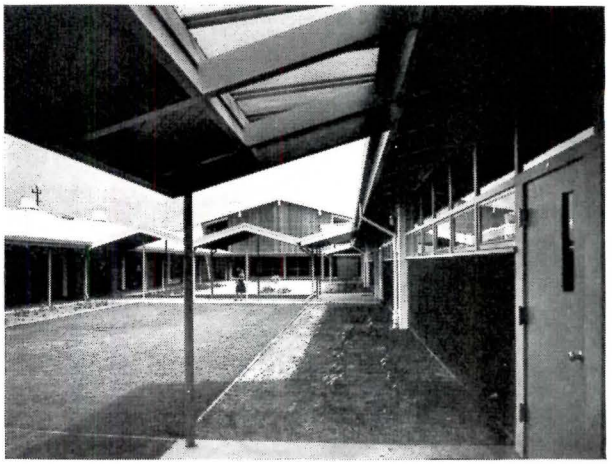
What may one conclude from this? Clearly it demonstrates that production of school architecture is a many-faceted process; that no one solution can be found and universally applied, however common the basic problem. Equally clearly it illustrates the variety of answers that are given when different talents approach the same or a similar problem.

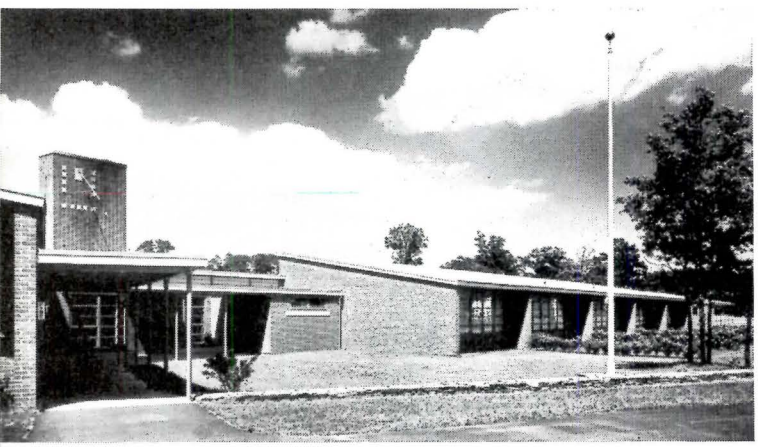
From the Editor's point of view, this is heartening; it would be a sorry day for an architectural magazine if pat solutions to all building-design problems were found. Furthermore, out of the multiplicity of design experiments and methods, we feel that a mature, distinctive, and appropriate expression for our era is slowly emerging.

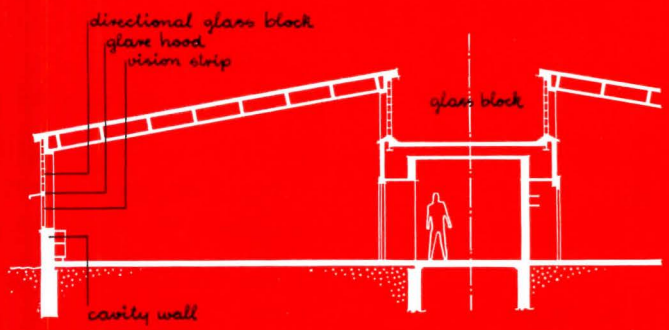
* The Architect at Mid-Century—Conversations Across the Nation. *Volume II of the Report of the Commission for the Survey of Education and Registration of the American Institute of Architects (Reinhold, 1954).*



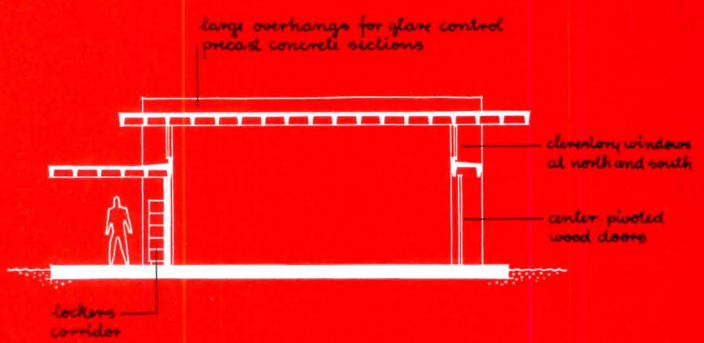
1. Carmichael, California



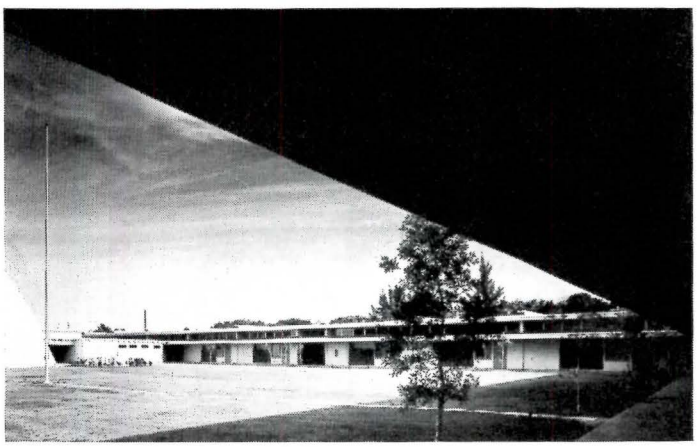


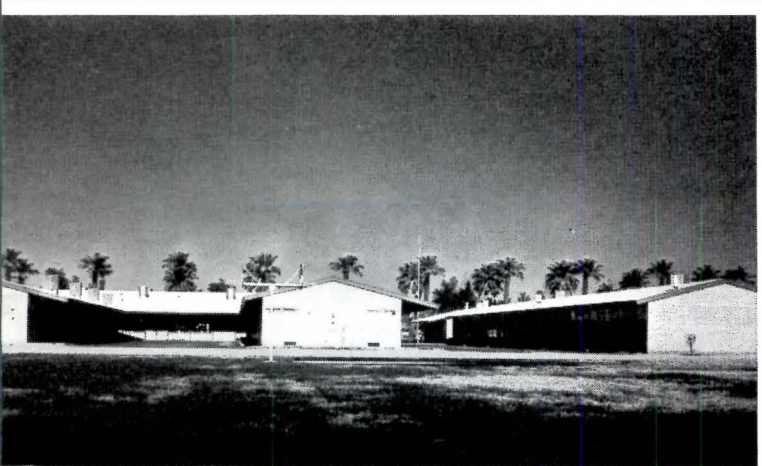


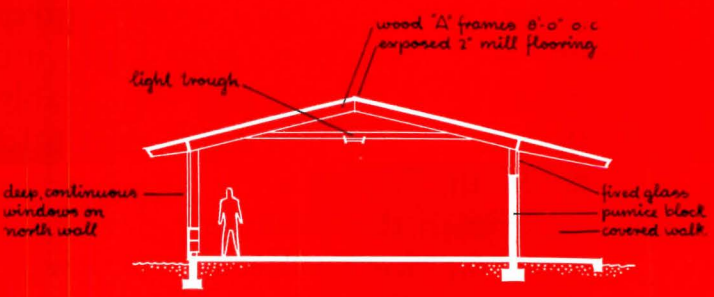
2. Warwick, Rhode Island



3. Miami, Florida







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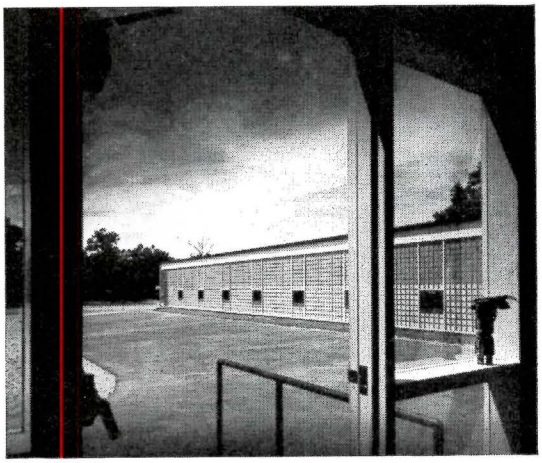
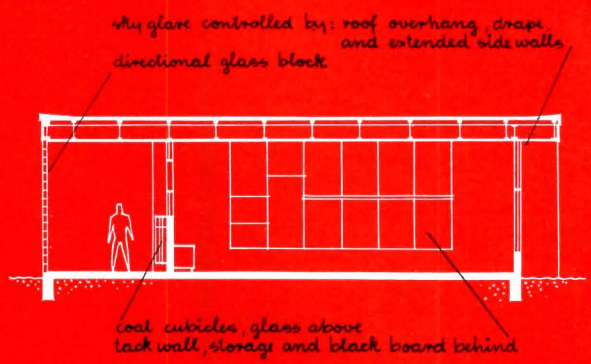
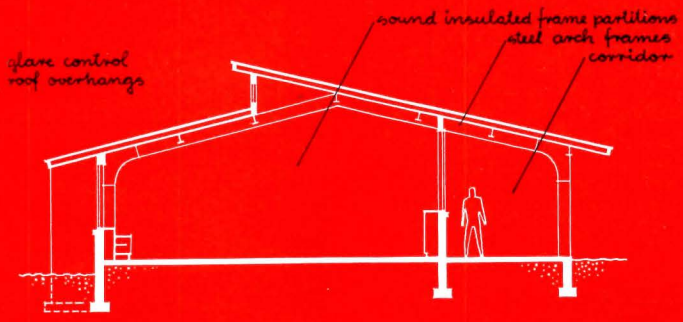
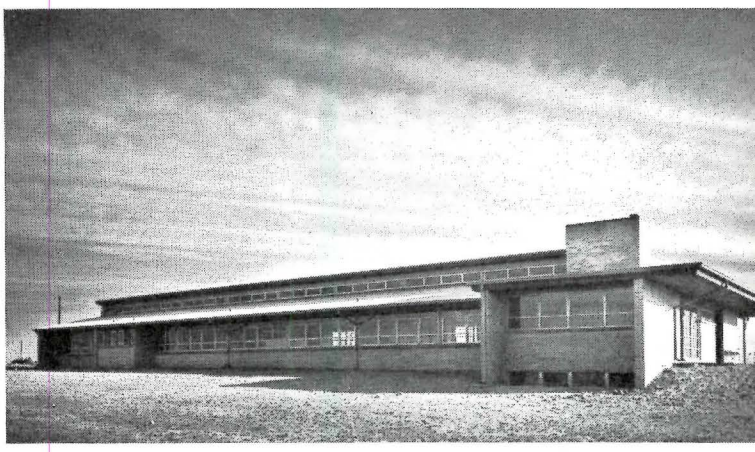


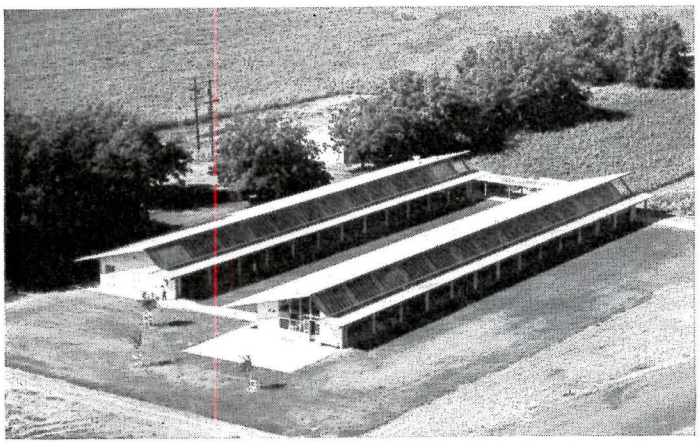


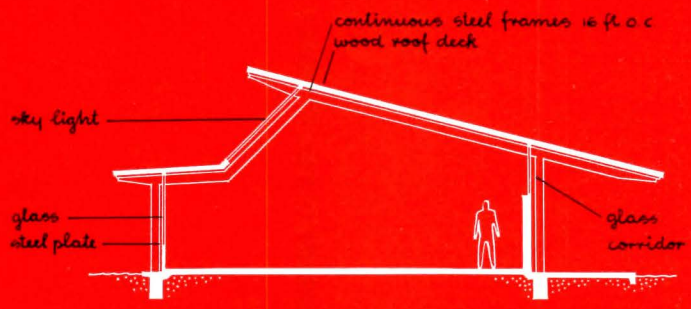
5. Darien, Connecticut



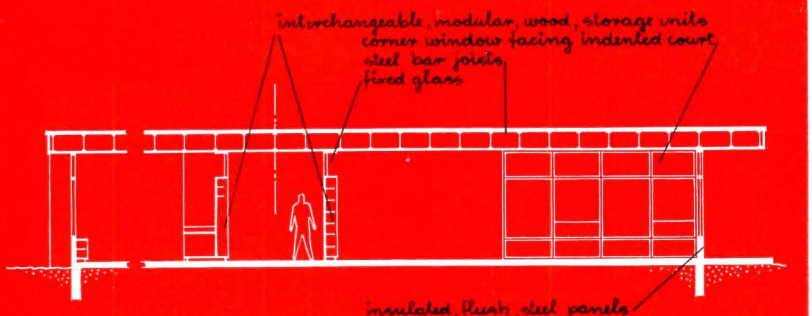
6. Wichita, Kansas



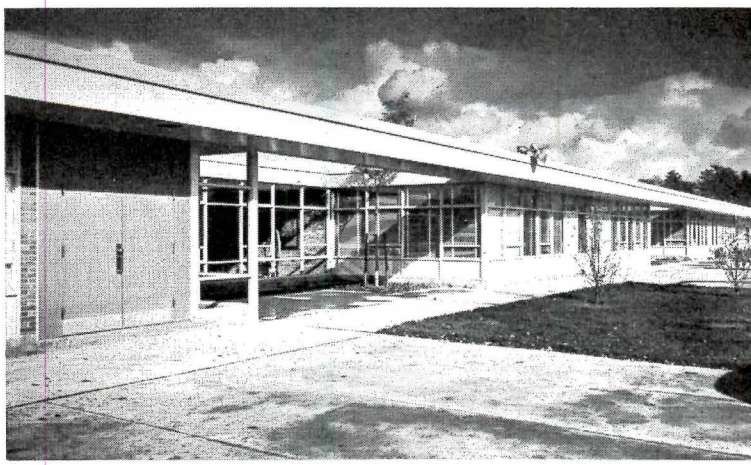


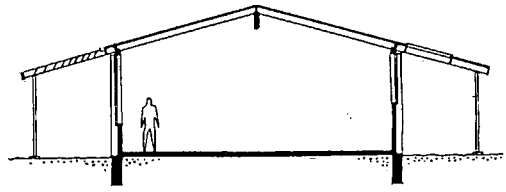


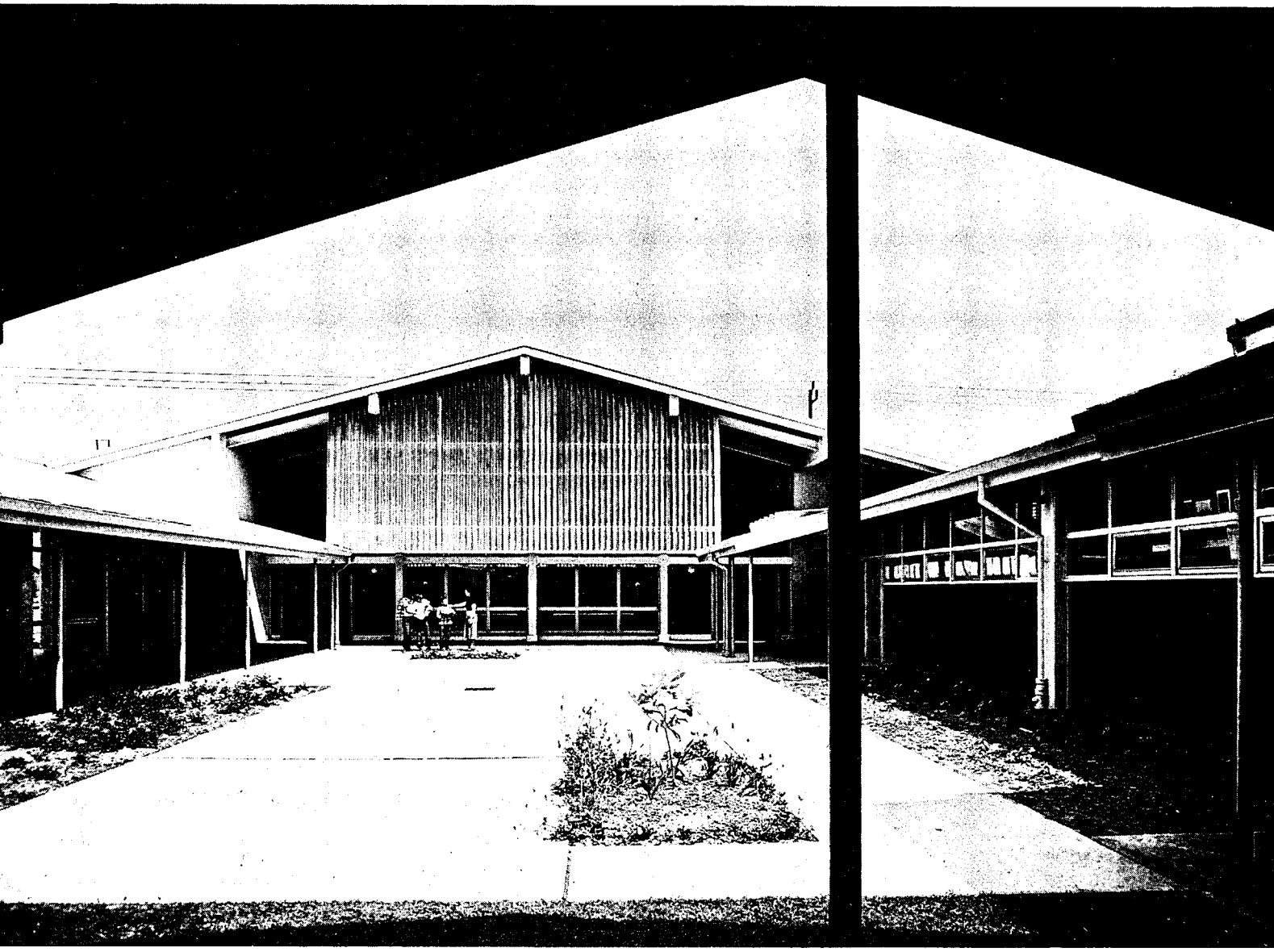
7. Porterville, California



8. Schenectady, New York







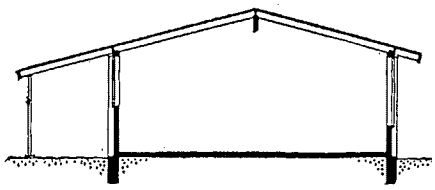
1. Carmichael, California

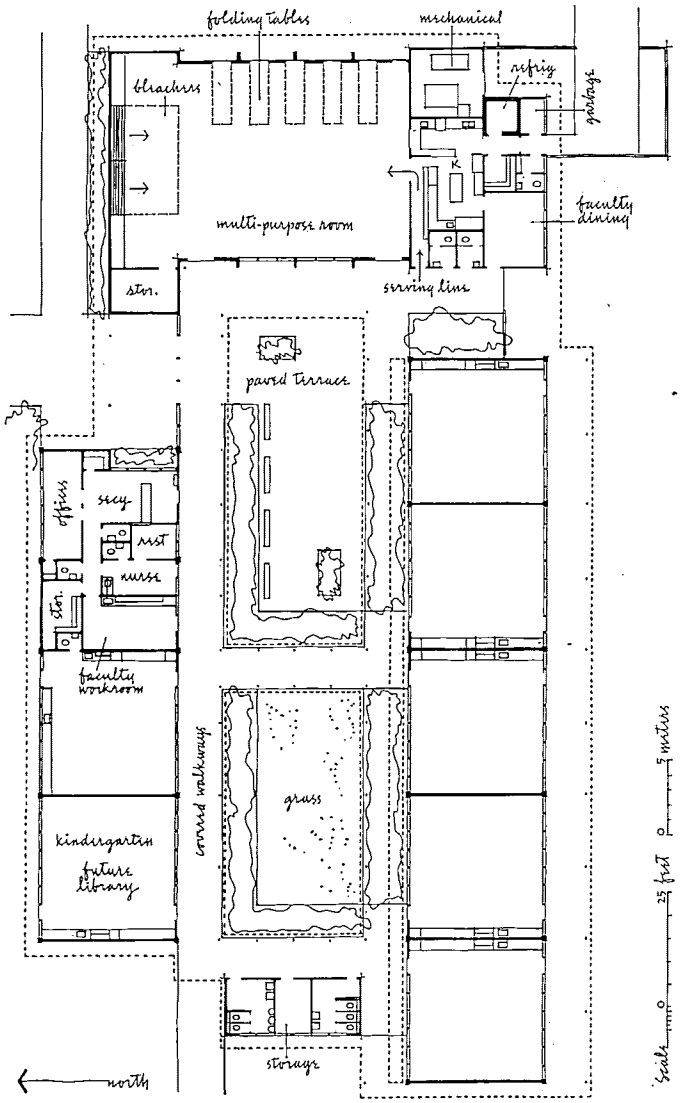
architects	John Lyon Reid & Partners
electrical engineer	Alvin V. Norberg
mechanical engineer	Lester A. O'Meara
general contractor	Arthur J. Odman

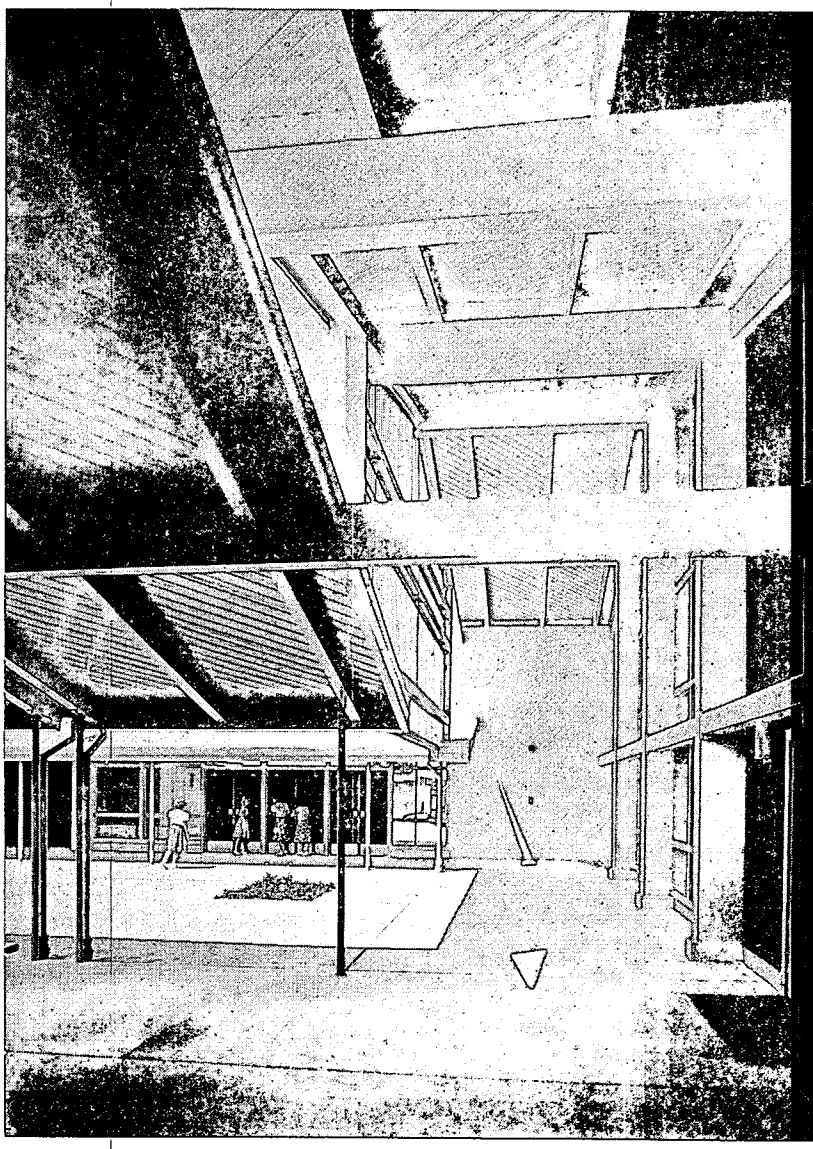
Accorded an Award of Merit at the AIA Convention in Boston last June, the Garfield Elementary School, built with State funds for the Arden-Carmichael Union Elementary School District, is a notable accomplishment in a number of ways. From its pleasingly appropriate child scale, with low eaves and a strong sense of shelter; from its development around a paved, planted courtyard; from its handsome detail and lively use of color (merely suggested in black-and-white pictures), one would hardly suspect that the school was built under a strict program of austerity. Yet so it was. For when (as in this case) California State money is extended to fast-growing districts which do not have funds for required school-housing, the architect must work to minima, within an array of regulations.

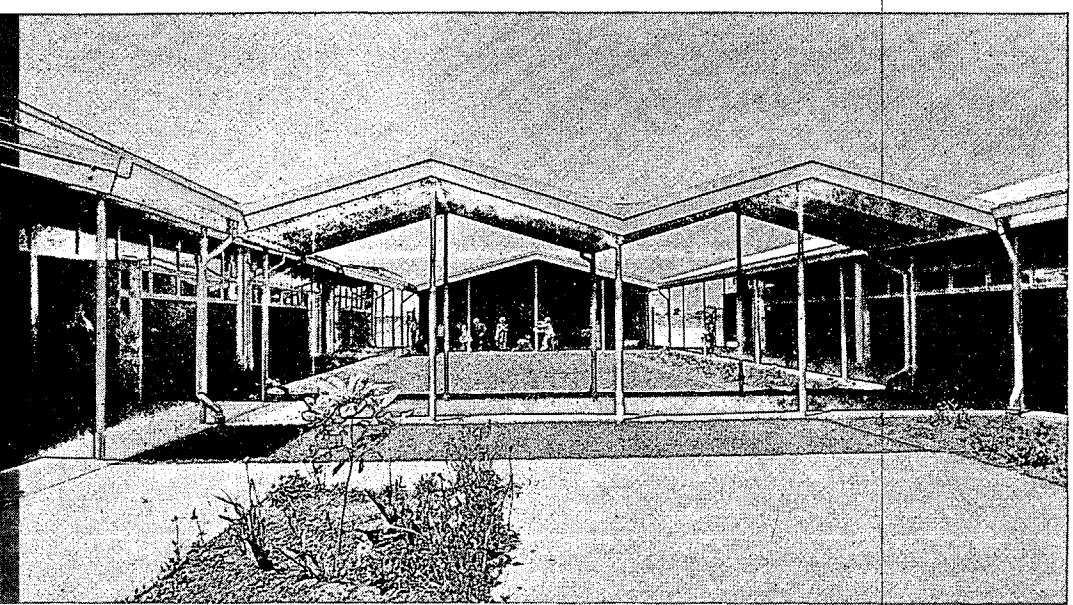
For an elementary school, *exactly* 55 sq ft must be provided per child, with corridors counted as ½ area; roofed space without paving is not counted; roofed corridors flanked by two walls less than 20 ft apart are counted as full area; and all enclosed areas require full count. No State funds can be used for either outdoor classrooms or landscaping.

The new school serves a burgeoning





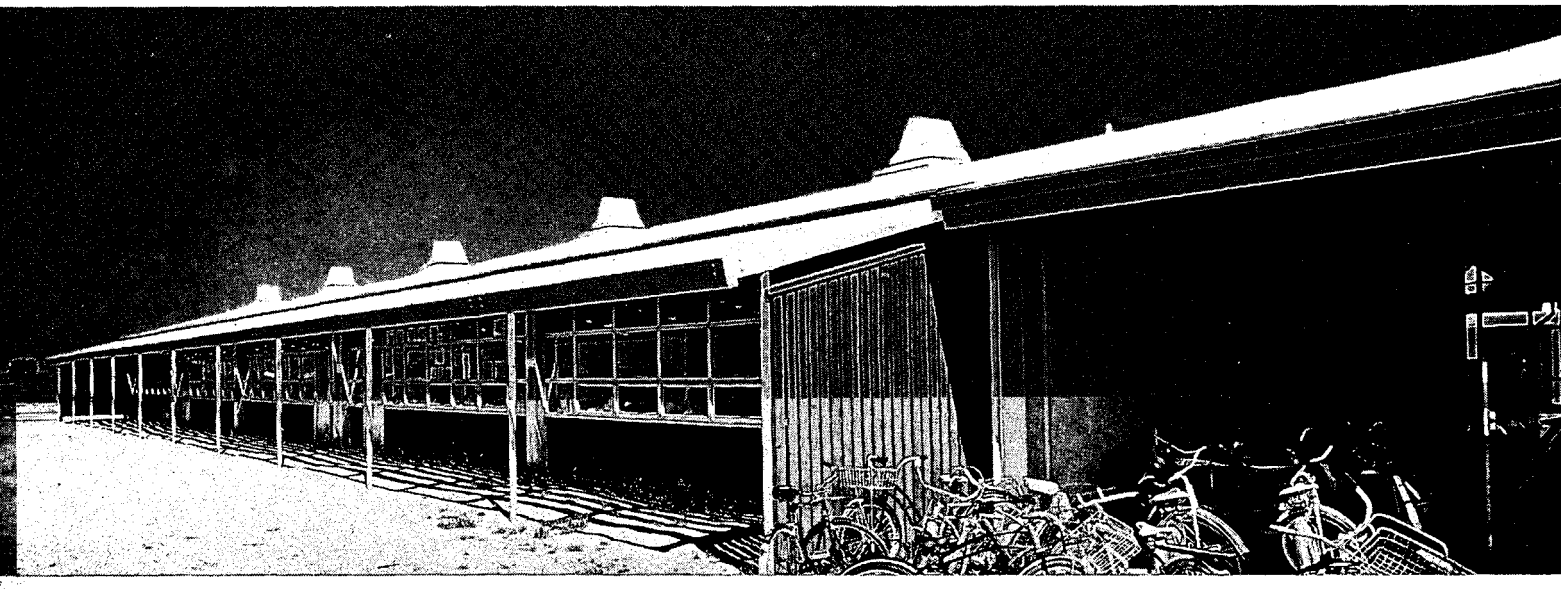




At the east end of the court (acrosspage), *a deep aluminum, louver screen, standing well out from the wall of the multiuse room* (above) *shields windowed areas from western sun. Landscaping is being done gradually with funds provided by the local P-TA and other interested groups.*

Looking west (left), *a playful roofed walk joins the two classroom wings. Notice high windows bordering the court in both wings. Future expansion may add one classroom to the north wing (present kindergarten becoming the library); a separate kindergarten unit, north of the present group; and a third classroom wing (paralleling present wings), to the south.*

Photos: Roger Sturtevant



residential area east of Sacramento, and a conscious design wish was to achieve related scale. Perhaps the main secret of the school's success, however, lies in the courtyard scheme. At once, this provides protected circulation (in a region where winds blow almost constantly); it also means a limited area to keep "manicured" (in a location where summers are hot and natural growth, sparse).

In developing the sections for the two classroom wings, a major consideration —in addition to providing good light and ventilation—was to protect against brightness contrast from strong sky glare. Thus, even along north walls, a 3-ft overhang is provided. Note, in the two sections, that precisely opposite fenestration solutions are used, with high windows on the south (court) side of the north wing, and on the north (also court) side of the south wing, thus shielding all rooms from the distraction of courtyard traffic. In both cases, deep overhangs protect southern windows, with a very deep, louvered roof above the tall windows along the south side of the southern wing.

Materials & Methods

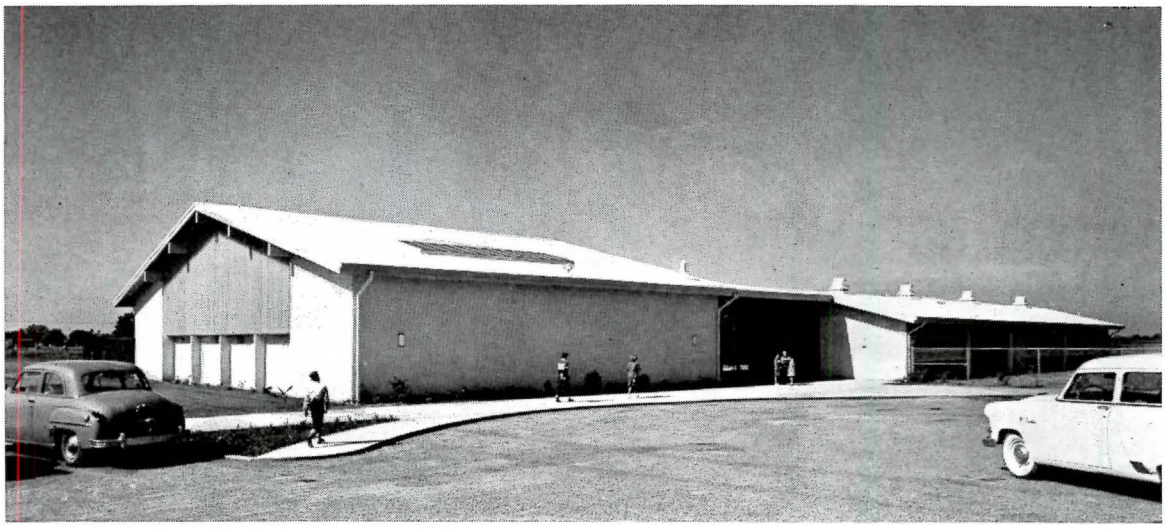
construction

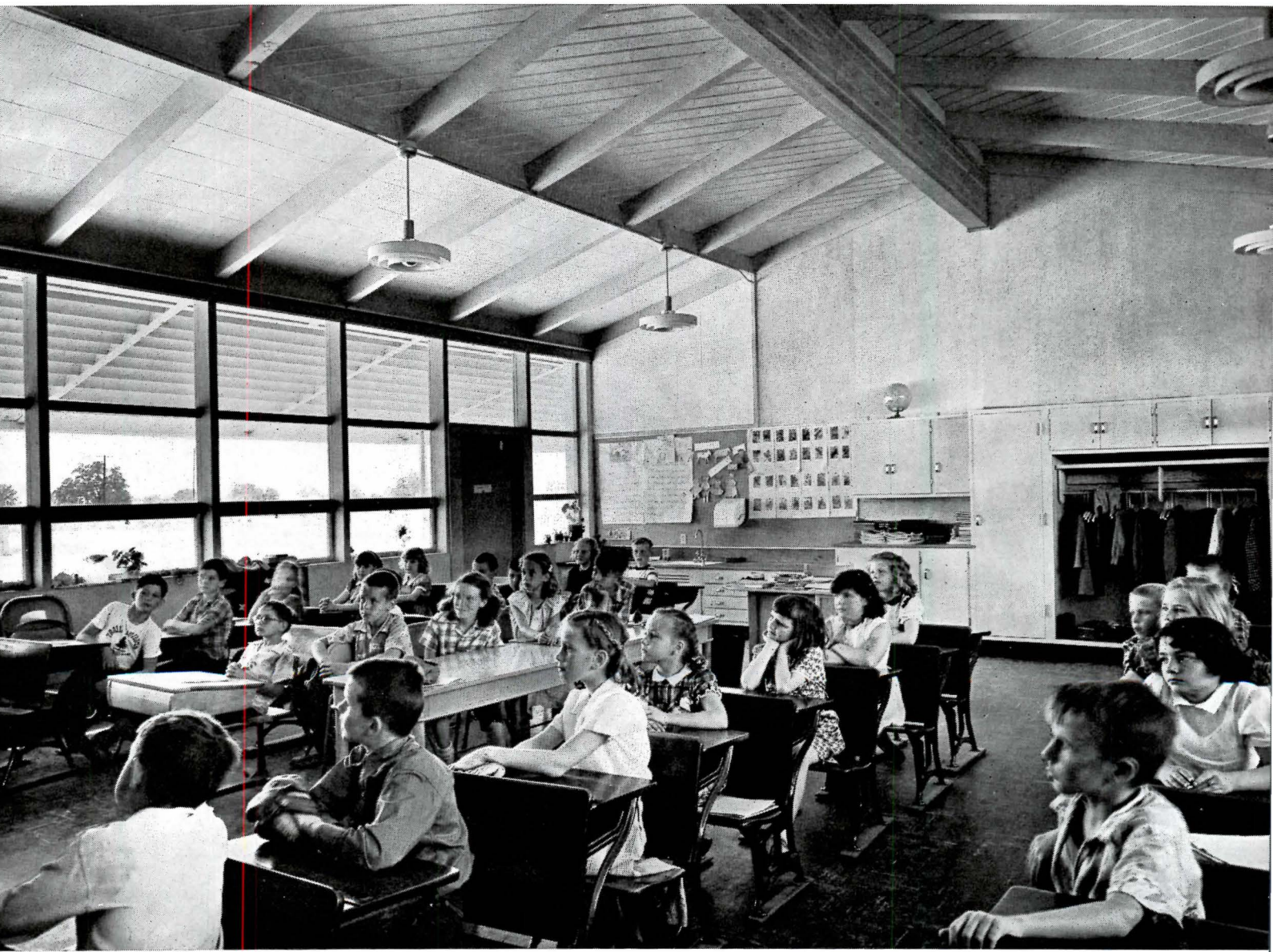
Foundation, frame, floors, walls, roof: reinforced-concrete foundation and floors; wood frame on reinforced-concrete shear piers: reinforcing steel—Palm Iron and Bridge Works, cement—Permanente Cement Company; roof: wood joists, glue-laminated beams—Standard Structures, steel bents—Kyle and Company. Wall surfacing: exterior: redwood siding, stucco—California Stucco Company; interior: plywood; rest rooms, toilets: ceramic tile wainscot—Gladding McBean and Company, plaster—California Stucco Company. Floor surfacing: asphalt tile—Tile-Tex Division, The Flintkote Company. Ceiling and roof surfacing: cane-fiber acoustical tile and built-up composition roofing with mineral surfacing—Pioneer Division, The Flintkote Company. Roof drainage: galvanized iron gutter with galvanized steel pipe. Partitions: interior: wood stud; toilet: metal stalls—Price Building Specialities Company. Windows: aluminum sash—Gettins Steel Company; glass—Glass Division, Pittsburgh Plate Glass Company; aluminum skylights and louvers—Loyl Peterson. Doors: interior and entrance: flush wood; aluminum overhead door—Acme Central Metal Products, Inc. Hardware: lock sets—Schlage Lock Company; door closers—LCN Closers, Inc.; hinges—Lawrence Brothers, Inc.; panic exit—Von Duprin Division, Vonnegut Hardware Company. Paint and stain: exterior: thinned lead and oil on redwood—W. P. Fuller and Company; interior: stain wax on plywood—Samuel Cabot, Inc.

equipment

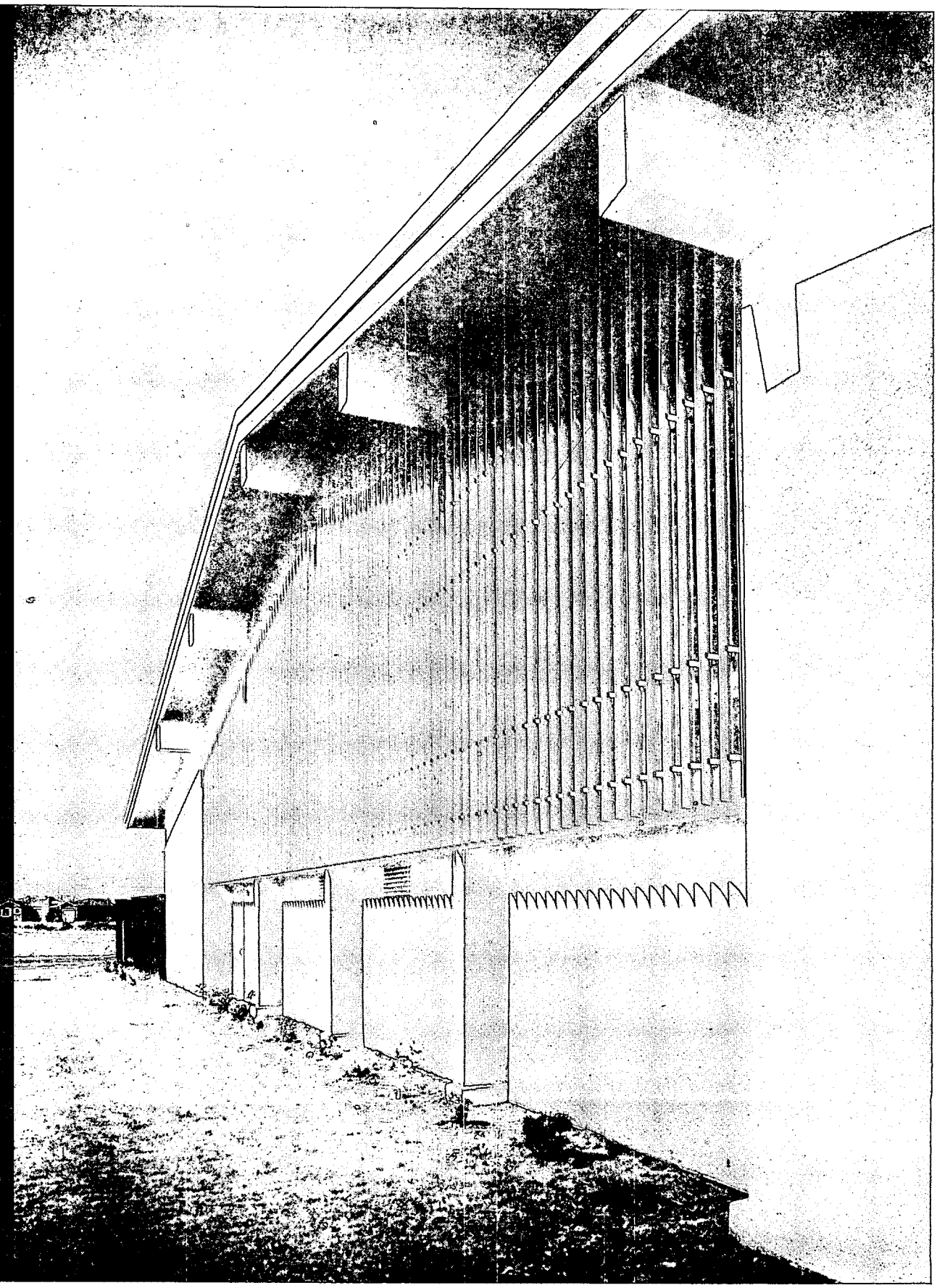
Special equipment: chalkboards—Fred E. Turner Company; folding stage—Horn Brothers Division, Brunswick-Balke-Collender Company. Lighting fixtures: classroom and auditorium areas: concentric ring—Sunbeam Corporation; lobby area: bullet—Smoot-Holman Company. Electric distribution: service entrance switch and panelboards—Westinghouse Electric Corporation; clocks and fire alarm—International Business Machines Corporation. Plumbing and sanitary: water closets and lavatories—American Radiator and Standard Sanitary Corporation; toilet seat—C. F. Church Manufacturing Company; flush valves —Sloan Valve Company; drinking fountain—Haws Drinking Faucet Company. Heating: type: radiant floor panel in classrooms, forced hot air in multiuse room; fuel: gas; ventilators: roof exhaust units—Alladin; controls—Minneapolis-Honeywell Regulator Company.

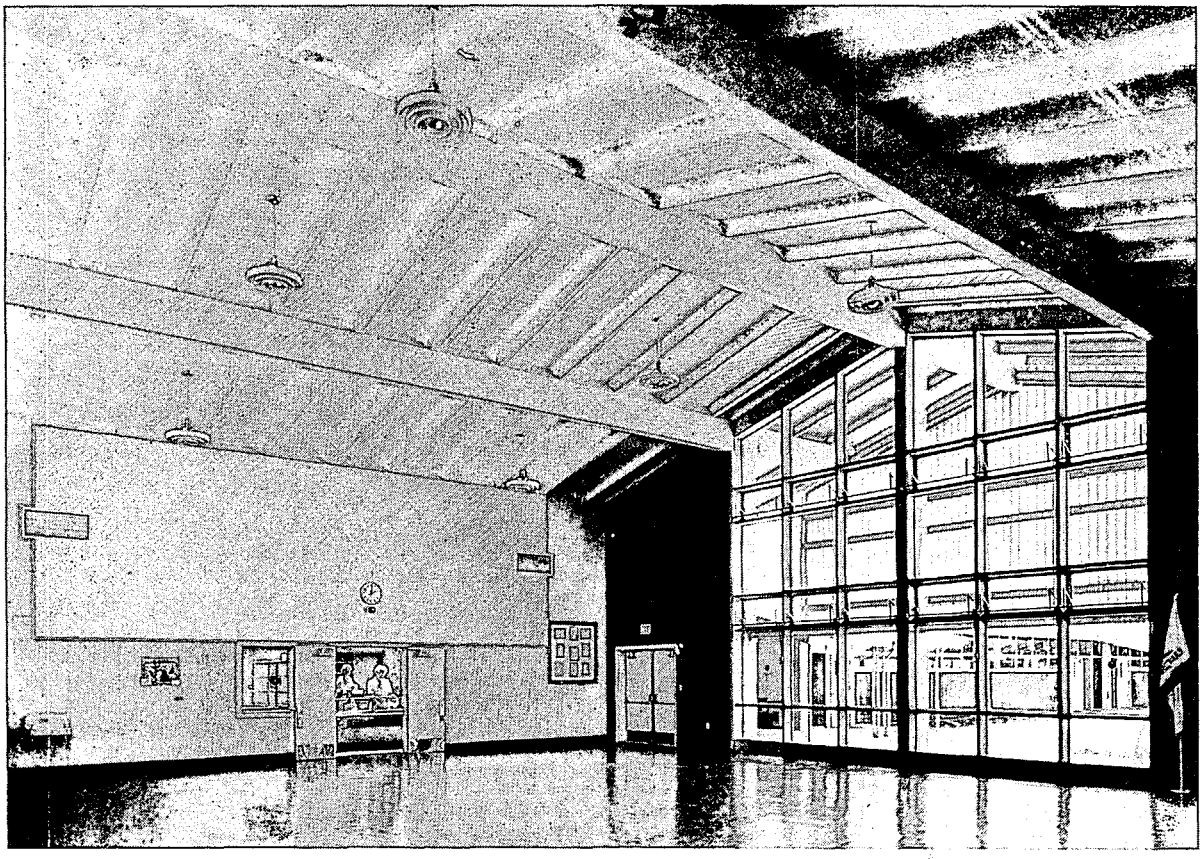
Classroom wings are framed with exposed concrete shear piers (to take all lateral forces) 32 ft o.c.; the multiuse room (left of photo below) is framed with steel bents. The exposed wood roof frame (bottom) *is supported at the ridge on a 7" x 19½" glue-laminated beam. A deep, roof overhang and slatted end panels protect southern windows of south wing* (acrosspage) *from direct sun and sky glare.*



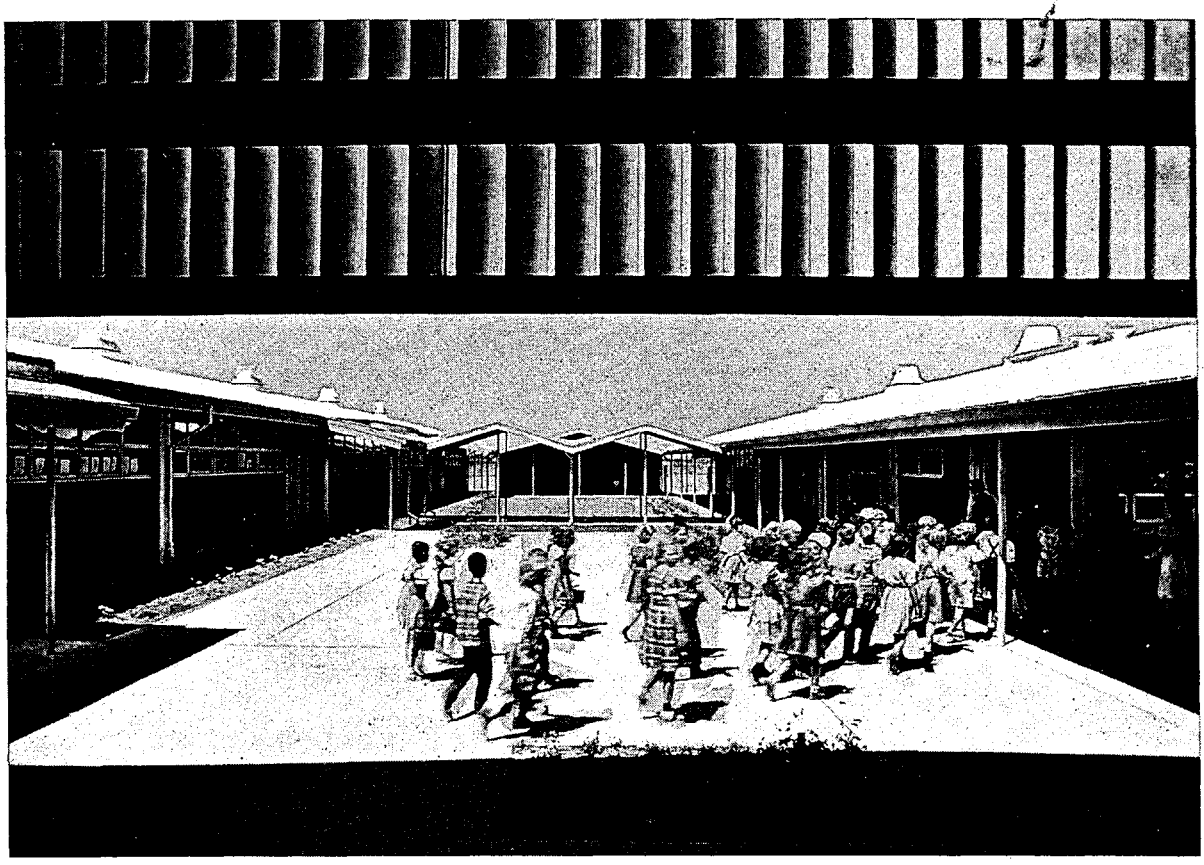


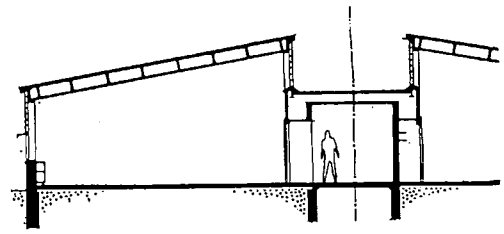
the elementary school: 1. Carmichael, California

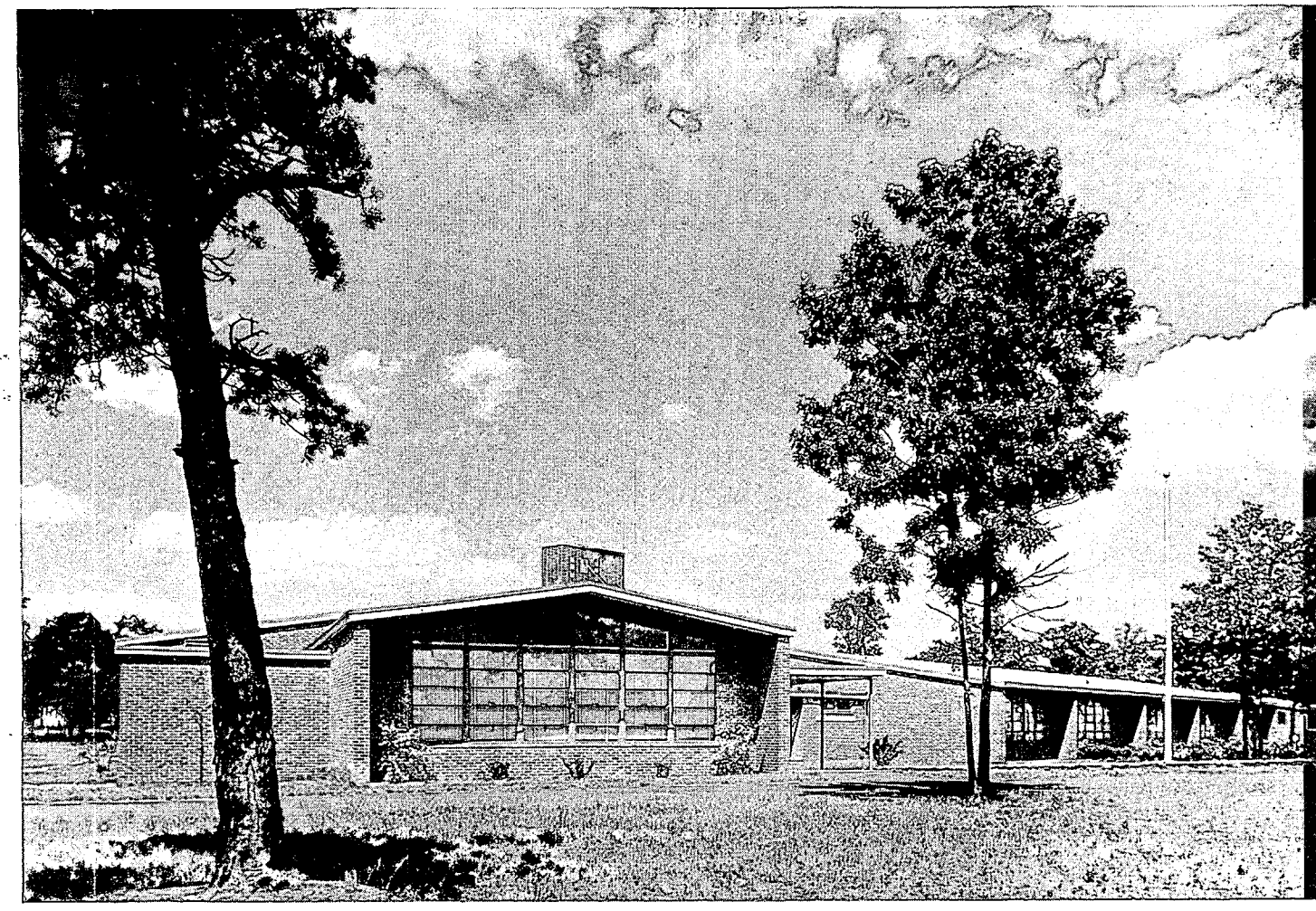




Both east and west windows of the multiuse room are light-conditioned with aluminum louvers. Though the room is steel framed, roof construction, as in classroom wings, is of wood. Cost of project, exclusive of site-development work, came to $14.88 a sq. ft.







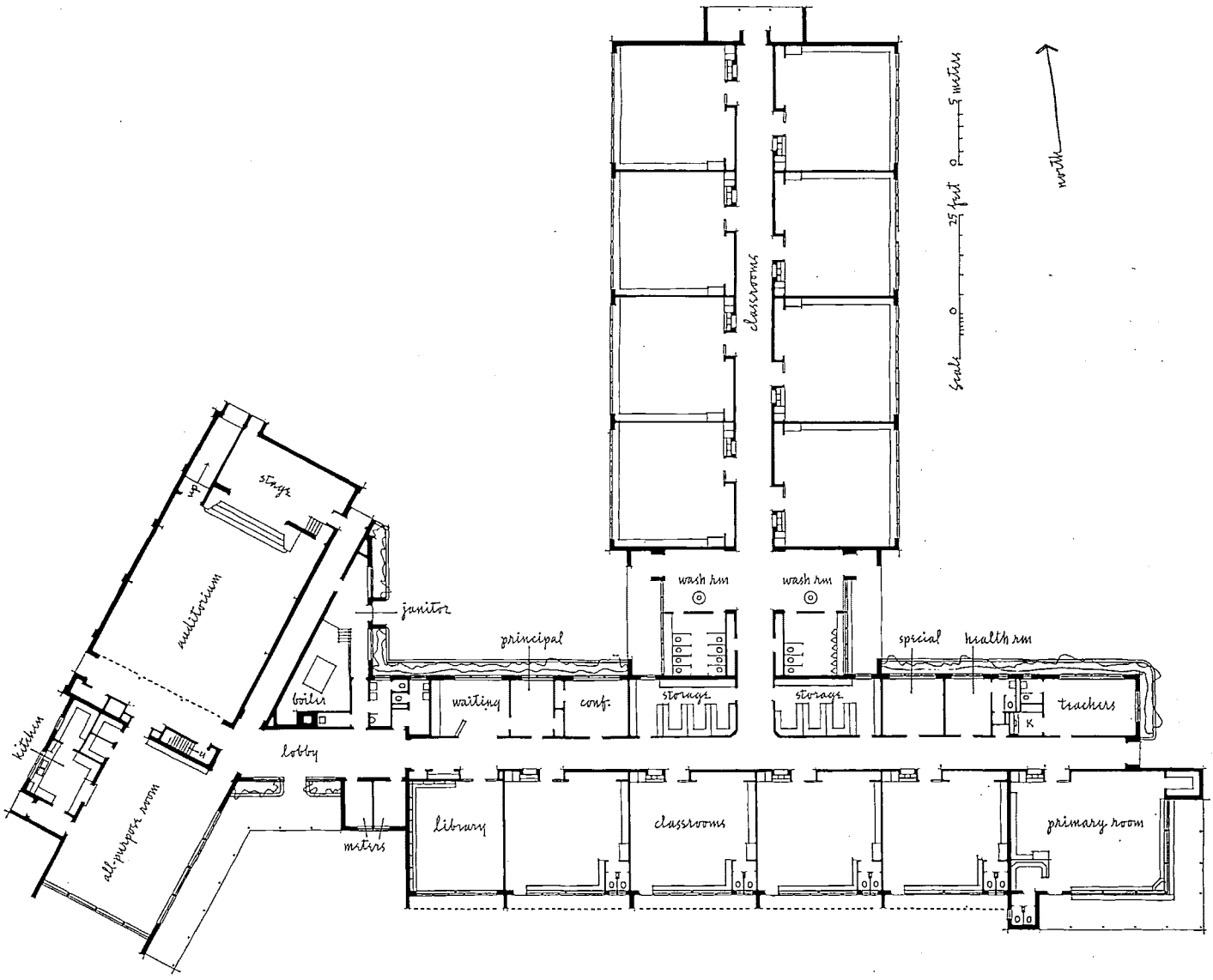
2. Warwick, Rhode Island

architects	MacConnell & Walker
structural engineer	William Carpenter
heating engineer	A. Ehrenzeller
general contractor	A. F. Smiley Construction Company

The architects described the John Brown Francis School as "one in a series of neighborhood schools of similar size" that they have designed in recent years. Because it is located in a rather conservative residential development, a major design goal was to achieve harmonious character. Because it is an elementary school, a parallel wish was to keep the building intimate in scale.

The classrooms are arranged in two wings — the kindergarten and four primary rooms facing south; the eight rooms for older children in the north wing, with exterior window areas facing east and west. In the former, all of the glass is clear, protected by a roof overhang; in the latter, directional glass block occurs above clear vision strips. In all rooms, bilateral lighting comes from clerestories of directional glass block. Incidental light is controlled by venetian blinds.

Structurally, the building is divided longitudinally into 16-ft bays spanned with WF steel beams supported on lally columns (except in the auditorium, where rigid frames are used). Between the beams are bar joists spaced 4 ft on centers, supporting the roof deck and finished ceilings. Exterior walls are cavity type, with outer wythe of 4-in. select common brick and inner wythe of 8-in. cinder block, separated by a 2-in. air space.


classrooms
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teachers
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kitchen
lobby
all-purpose room
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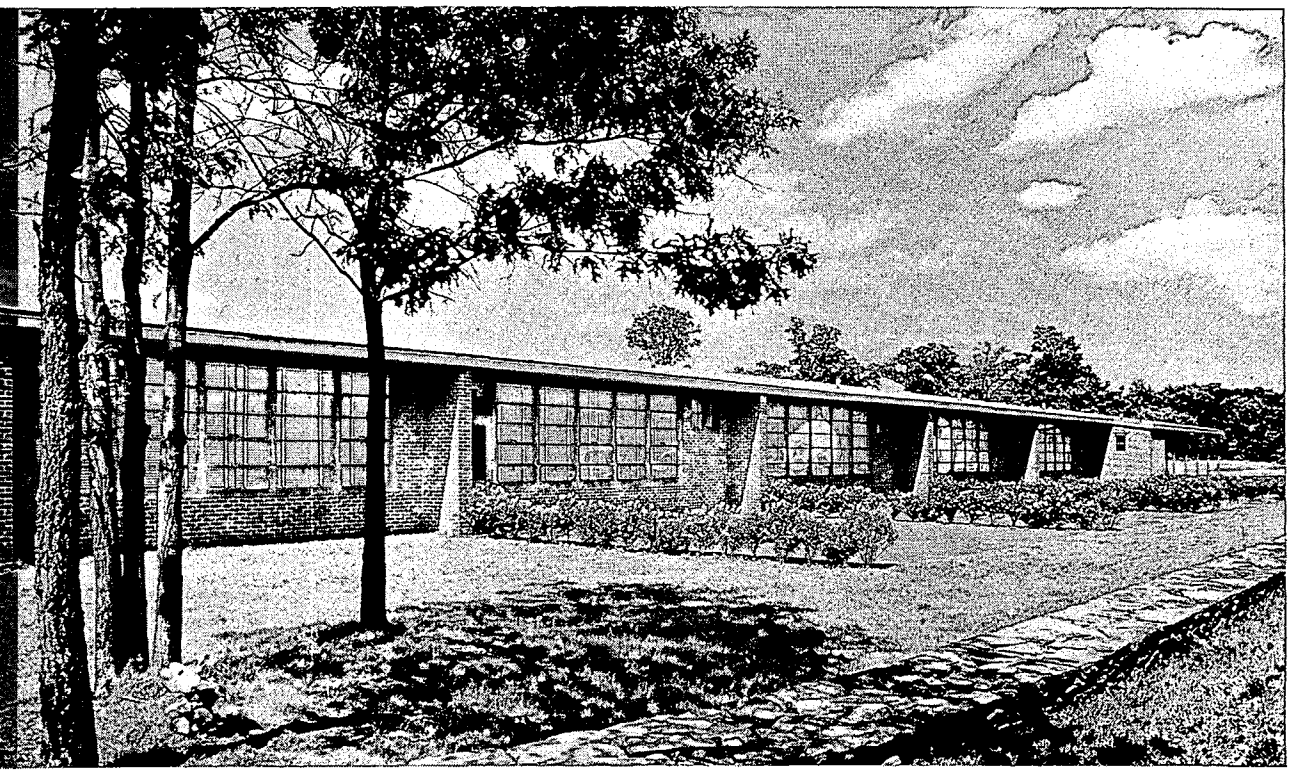
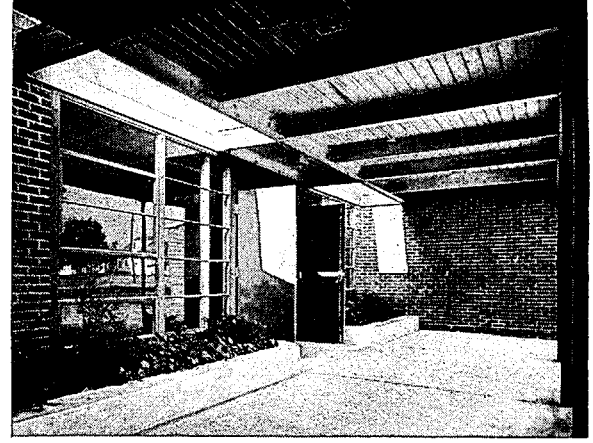
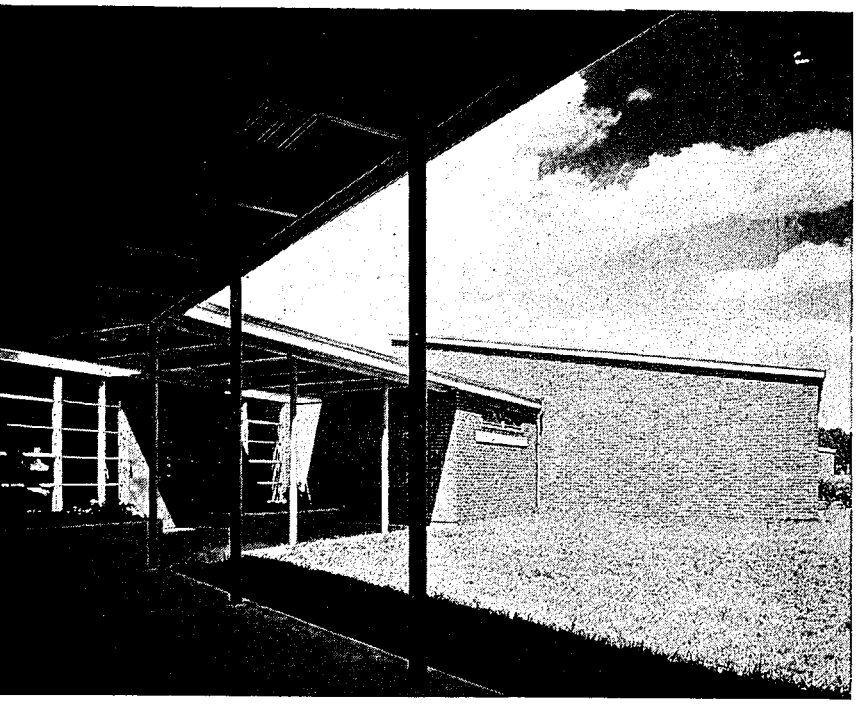
library
classrooms
primary room



the elementary school: 2. Warwick, Rhode Island



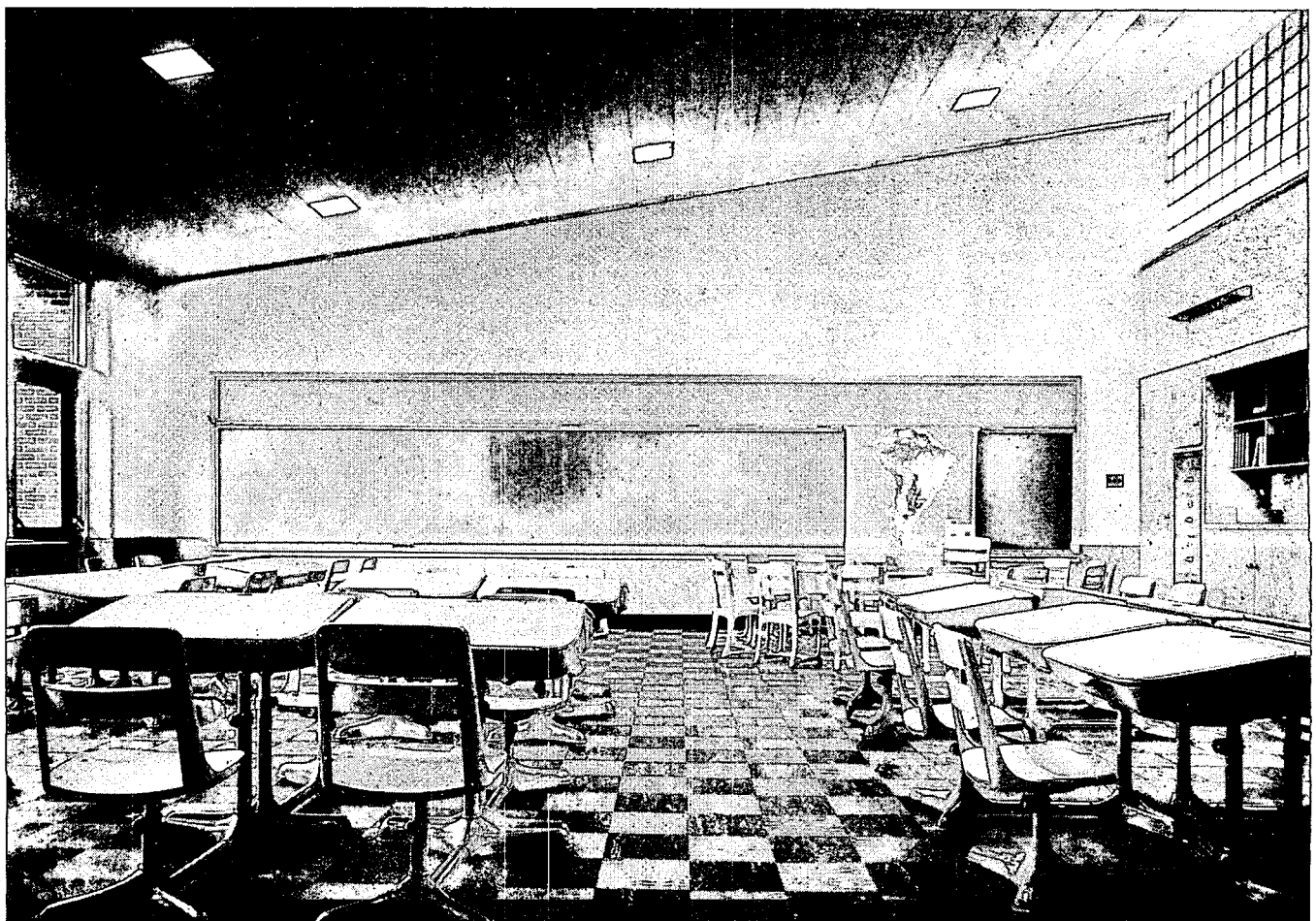


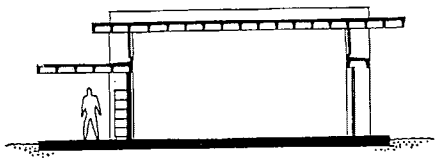
Daylighted plant pockets occur either side of the main entrance (top), *which is reached by a covered walk* (left).

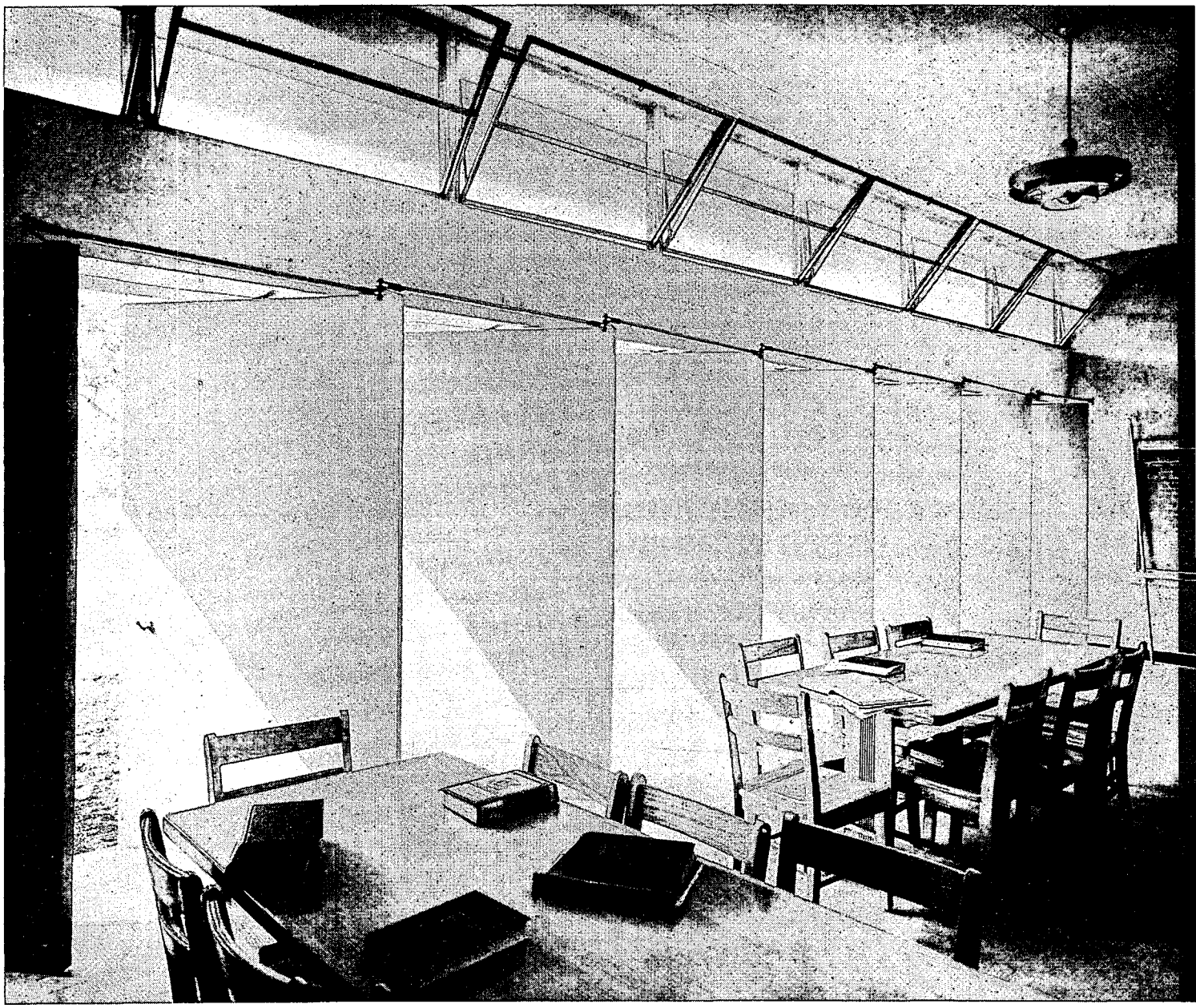
The typical bilaterally-lighted classroom (below) *has painted cinder-block walls and asphalt-tile floors. The periphery of the ceiling is of acoustic tile, while plain tile is used in the center.*

The building is heated by radiant hot water coils in the concrete floor slab; an air-tempering unit serves the auditorium. Cost per sq ft, including driveways, landscaping, and fencing (but not including architects' fees or site drainage) came to $13.44.

Photos: Richard Garrison

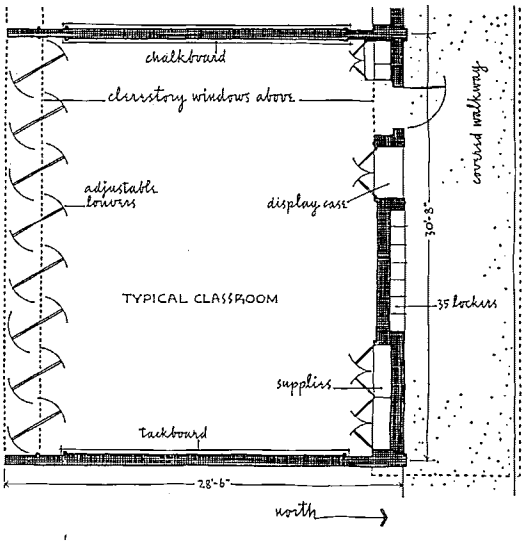






3. Miami, Florida

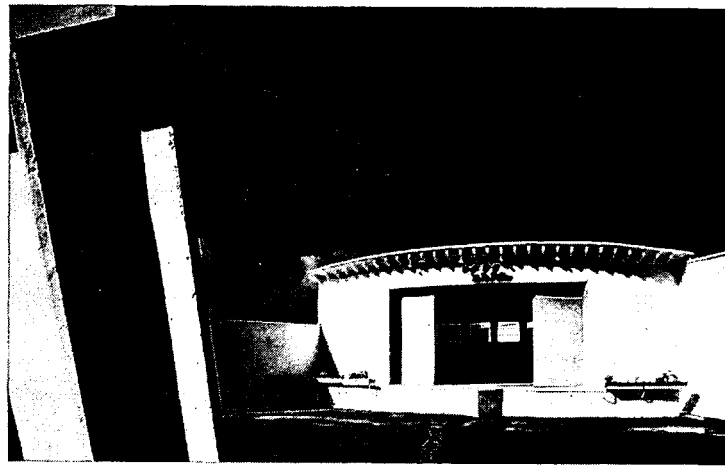
architect	Afred Browning Parker
supervising architect	James E. Garland
structural-supervising engineer	L. G. Farrant
mechanical-electrical engineer	Earle M. Rader
general contractor	Bradford Builders, Inc.

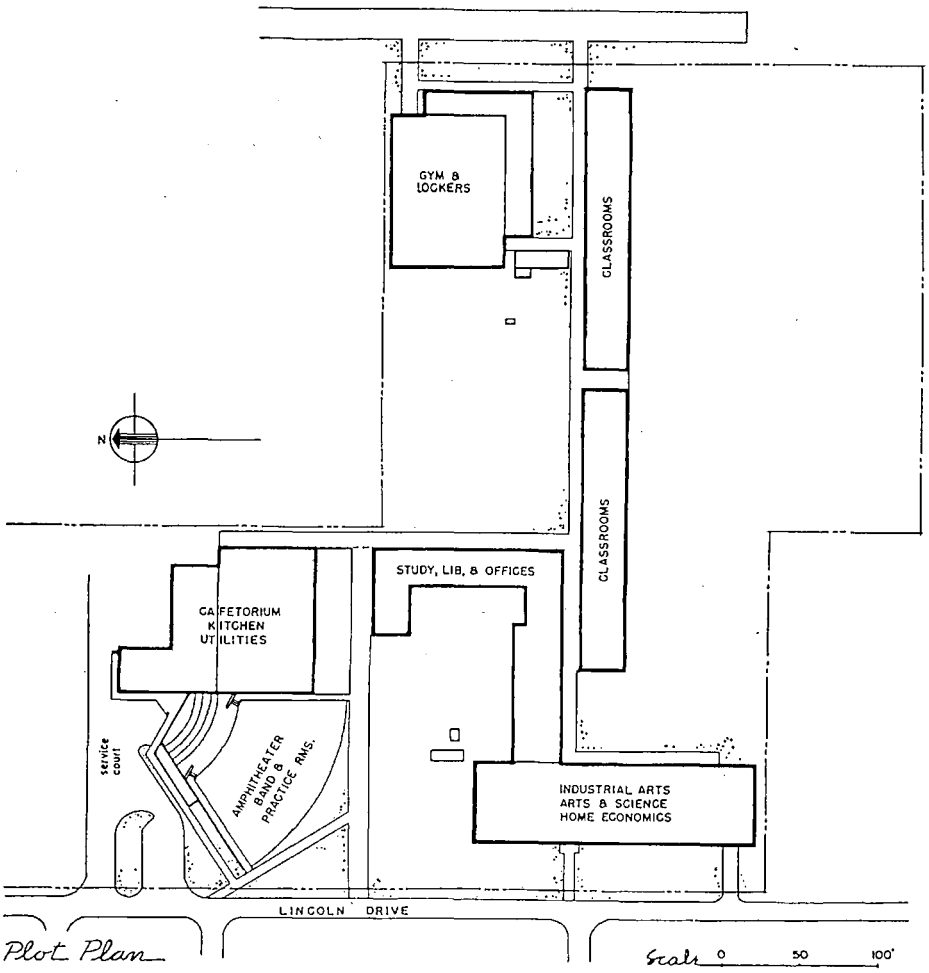


the elementary school: 3. Miami, Florida

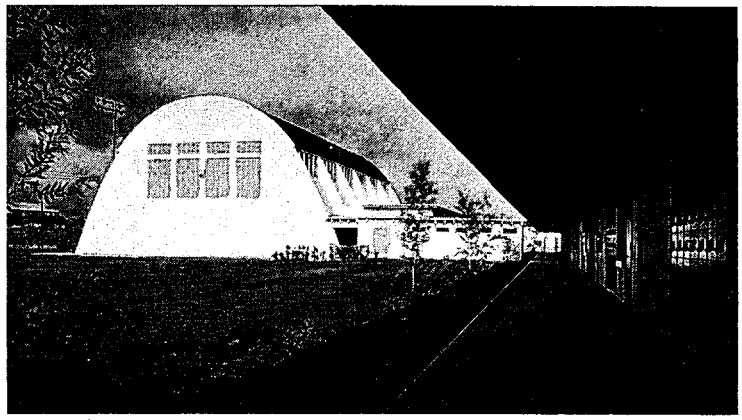
The main approach to the George Washington Carver school leads past the amphitheater (*photo below*) into a pleasant entrance court bordered by classrooms, offices, and cafeteria. A second spacious court features as a focal point the parabola-shaped gymnasium. Full use is being made of this school plant by all the members of this Miami Negro community. Seven hundred elementary school pupils use the school along with an equal number of high school students. In the evenings adult education courses are being offered, and for large functions, the gymnasium, cafeteria-auditorium, and outdoor theater serve the needs of the school and community. Careful planning is also apparent in the design features which take into account local climatic conditions. Cross ventilation is achieved through clerestory windows on opposite sides of all classrooms. Roof overhangs are wide, to keep out direct sunlight, sky glare, and rain. Vertical wood louvers serving as

The outdoor theater (right) *serves for large school assemblies and community meetings. Rows of seats will be installed later across the slope of the amphitheater. The stage doubles as band practice room. Structure in foreground serves as projection canopy.*
Photos: Ezra Stoller

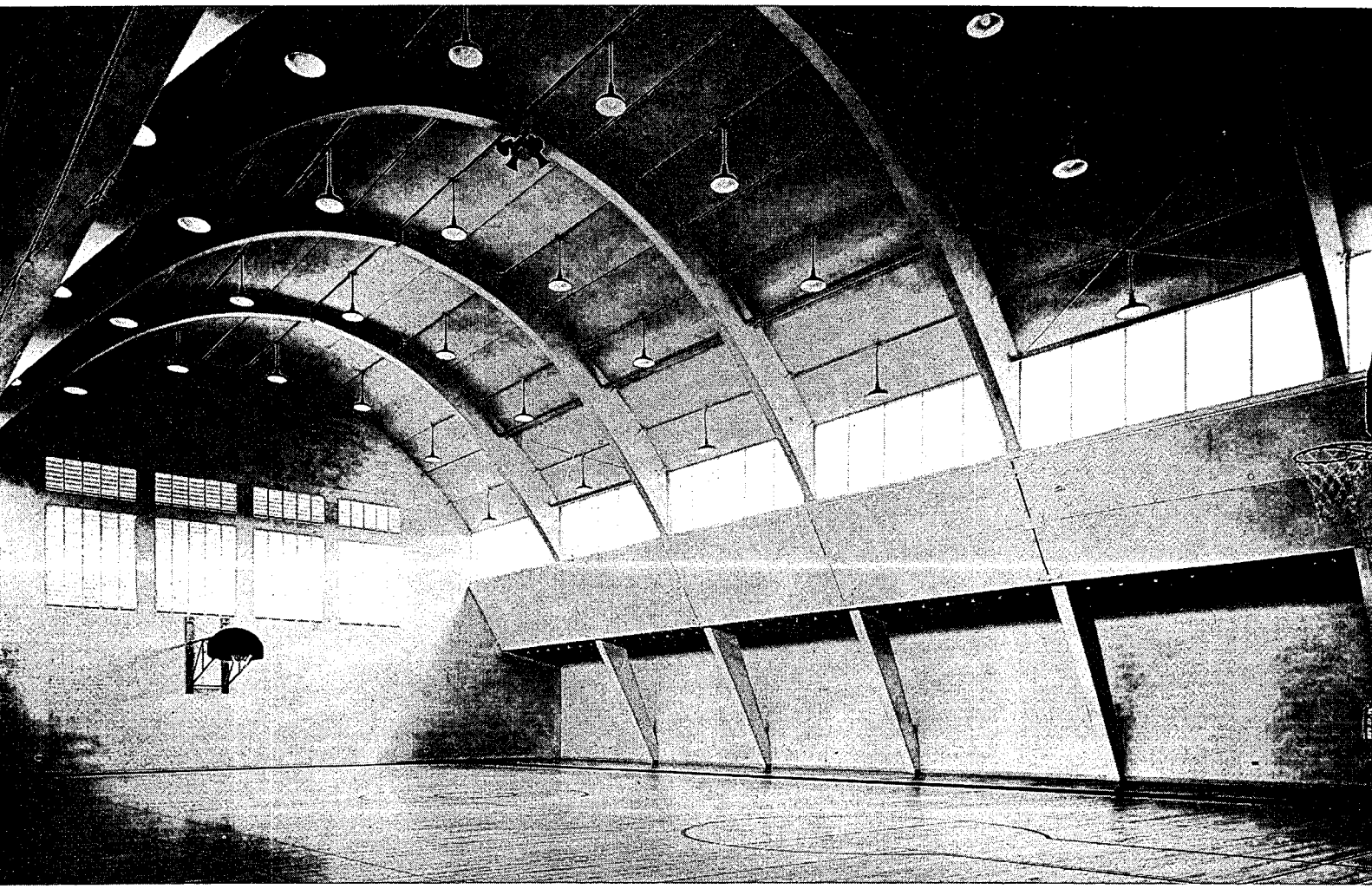


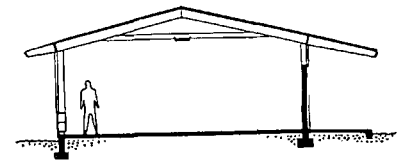


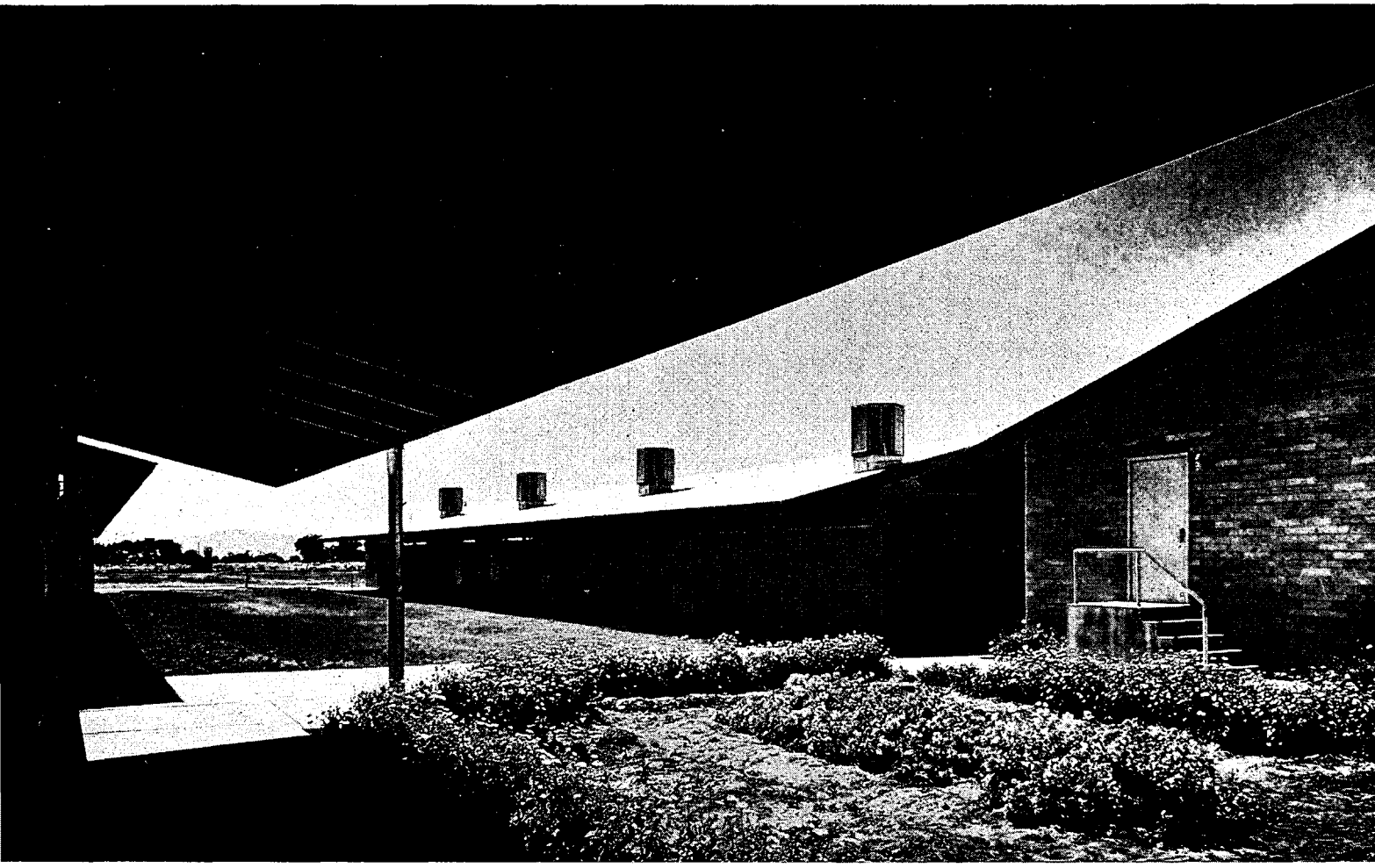
doors (*see plan, photo, and section opening page*) were originally intended for all south walls, although these were approved for only one classroom. These louvered doors are suitable as: (a) air deflectors; (b) light reflectors and baffles (room darkeners) for audio-visual work; (c) entrances to the garden; (d) storm shutters for hurricane protection. Lighting can be controlled with precision by adjusting the louvers to any angle. The wood panels overlap when closed, and may be locked in this position. The structure is assembled of predominantly precast concrete parts, devised for this building and manufactured locally.



Gymnasium (right *and* below) *is also assembled from prefabricated parts. Precast concrete arches, hinged at the top, span a total of 72'-8". Stressed skin panels (¼" plywood nailed and glued on both faces to 2" x 8" frame) form the roof and side baffles of the gymnasium. Concrete and ventilator blocks fill the voids between tie beams at the end walls. Stucco surfaces the end walls on the exterior.*







4. Glendale, Arizona

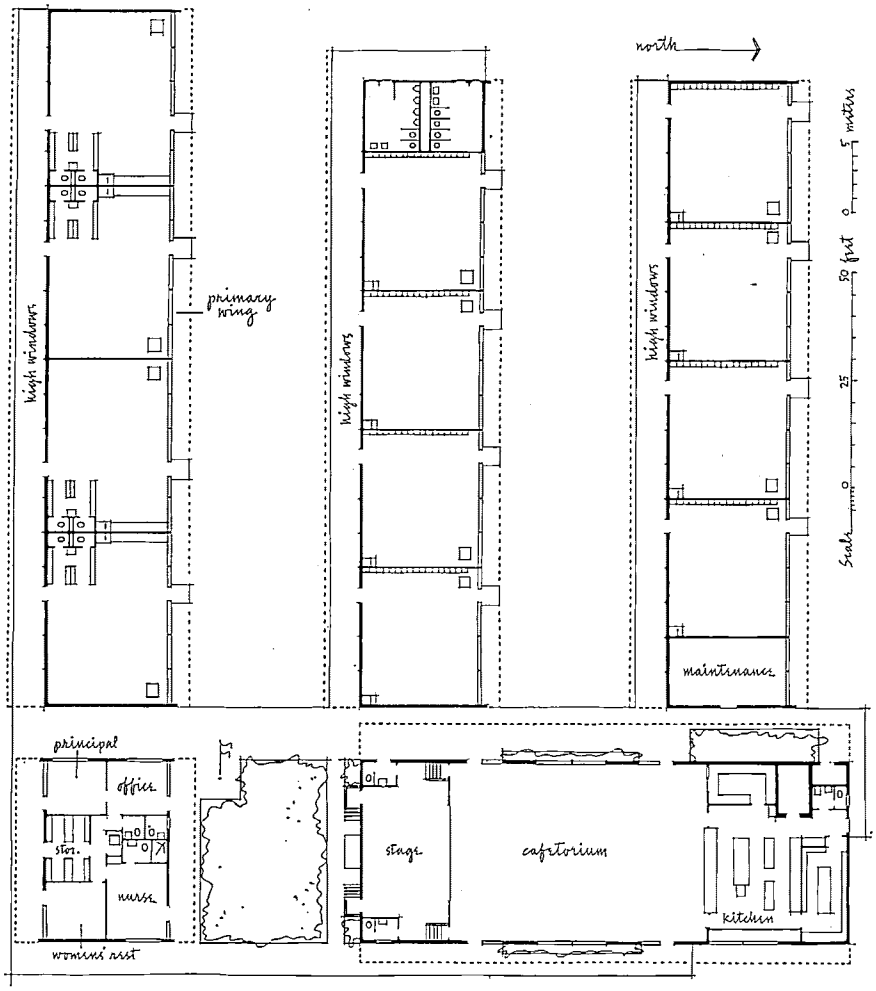
Requirements for this school, developed in its section to cope with and take full advantage of the bright, clear Arizona climate, were that it should have 12 classrooms for Grades 1 through 5; a small administration building; and a "cafetorium."

Behind the basic organization of the school was the wish to achieve a plant that would be chiefly lighted from the north, with classroom buildings adjacent to playground areas, and offices and cafetorium adjoining off-street parking. Both client and architects wanted the group to be residential, rather than institutional, in character. Their success is evident.

The solution consists of three parallel wings of classrooms, the four primary rooms being larger than the others and containing their own toilets; long walls of the wings face north and south. East of these, bordering the street, are the administration building (including nurse's office) and the multipurpose cafetorium which is used by the public as well as by the school.

The deep roof overhang along south walls of classroom wings provides shelter for access walks; and the high windows on this side provide bilateral lighting but do not admit direct sunlight. The roof overhang above the deep north windows assists sky-glare control.

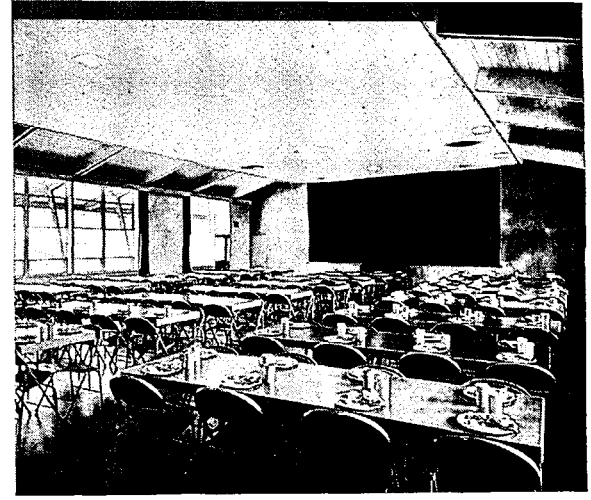
Construction consists of wood bents in the form of "A" frames at 8-ft centers supporting a roof deck of mill flooring 2 in. thick. The pumice-block filler walls act as spandrels in short sections to minimize cracking; frame cross partitions act as transverse sway bracing. According to the *architects*, "*the* system was inexpensive, easy to fabricate and erect, and it lent itself admirably to the desired residential aspect." The roof decking, left exposed, serves as both structure and finished ceiling. Cost was $7.40 per sq ft, with covered walks figured at ½ floor area.

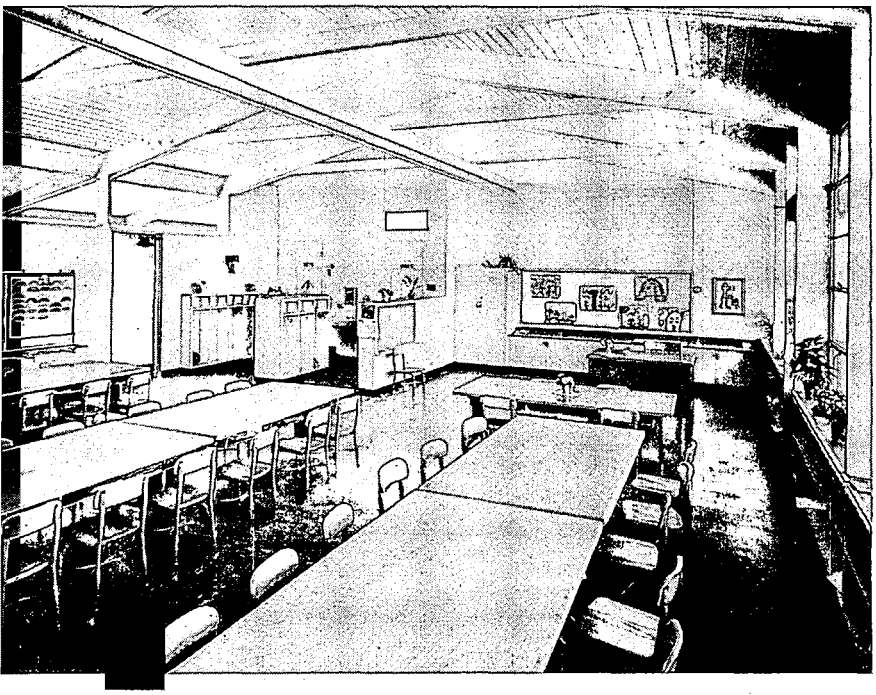


architects	Fred M. Guirey and Ralph Haver
structural engineer	W. T. Hamlyn
mechanical engineers	Lowry & Sorensen
color consultant	Mary Louise McLeod
general contractor	Farmer & Godfrey



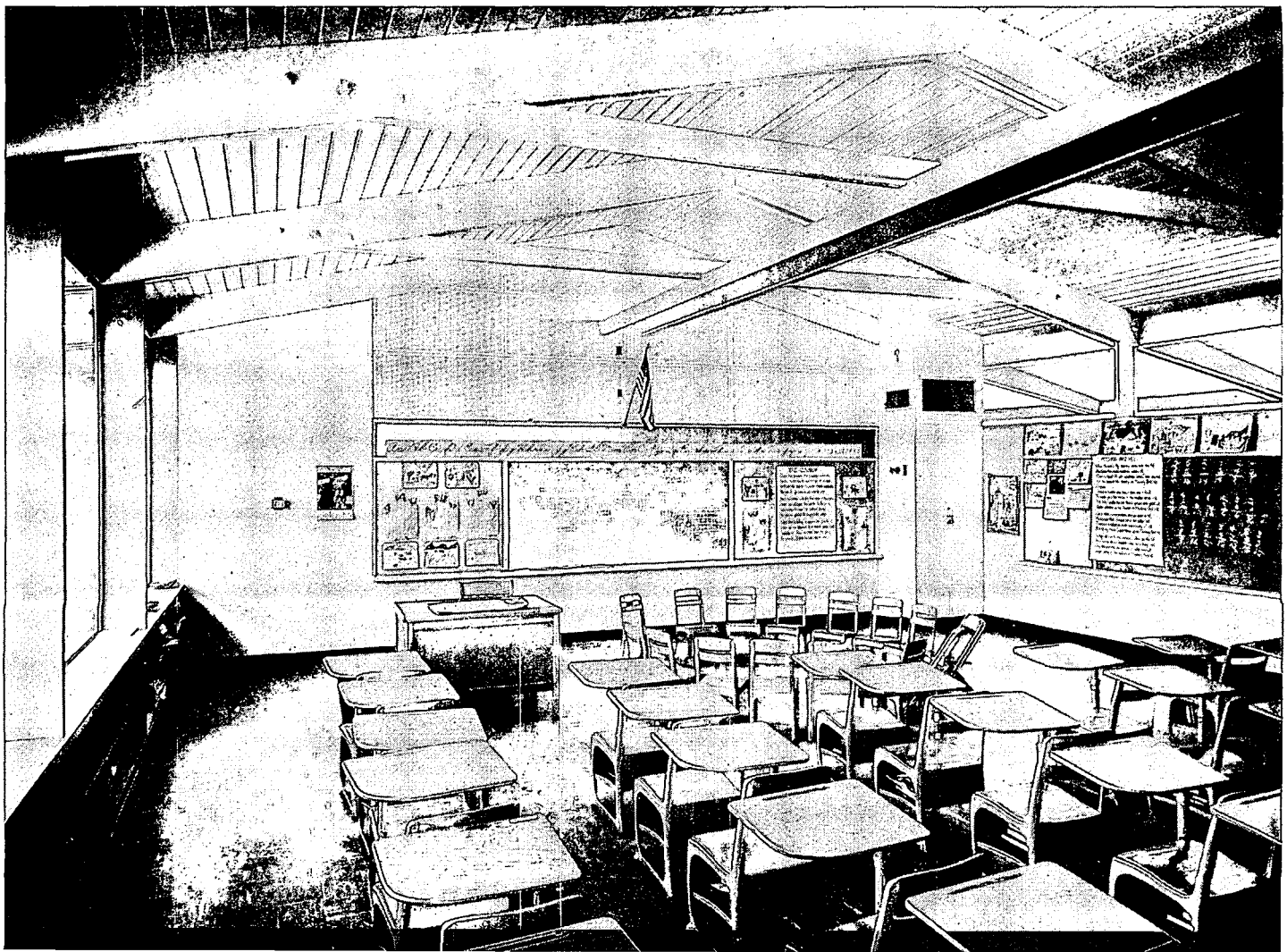
the elementary school: 4. Glendale, Arizona

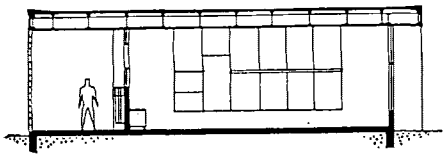


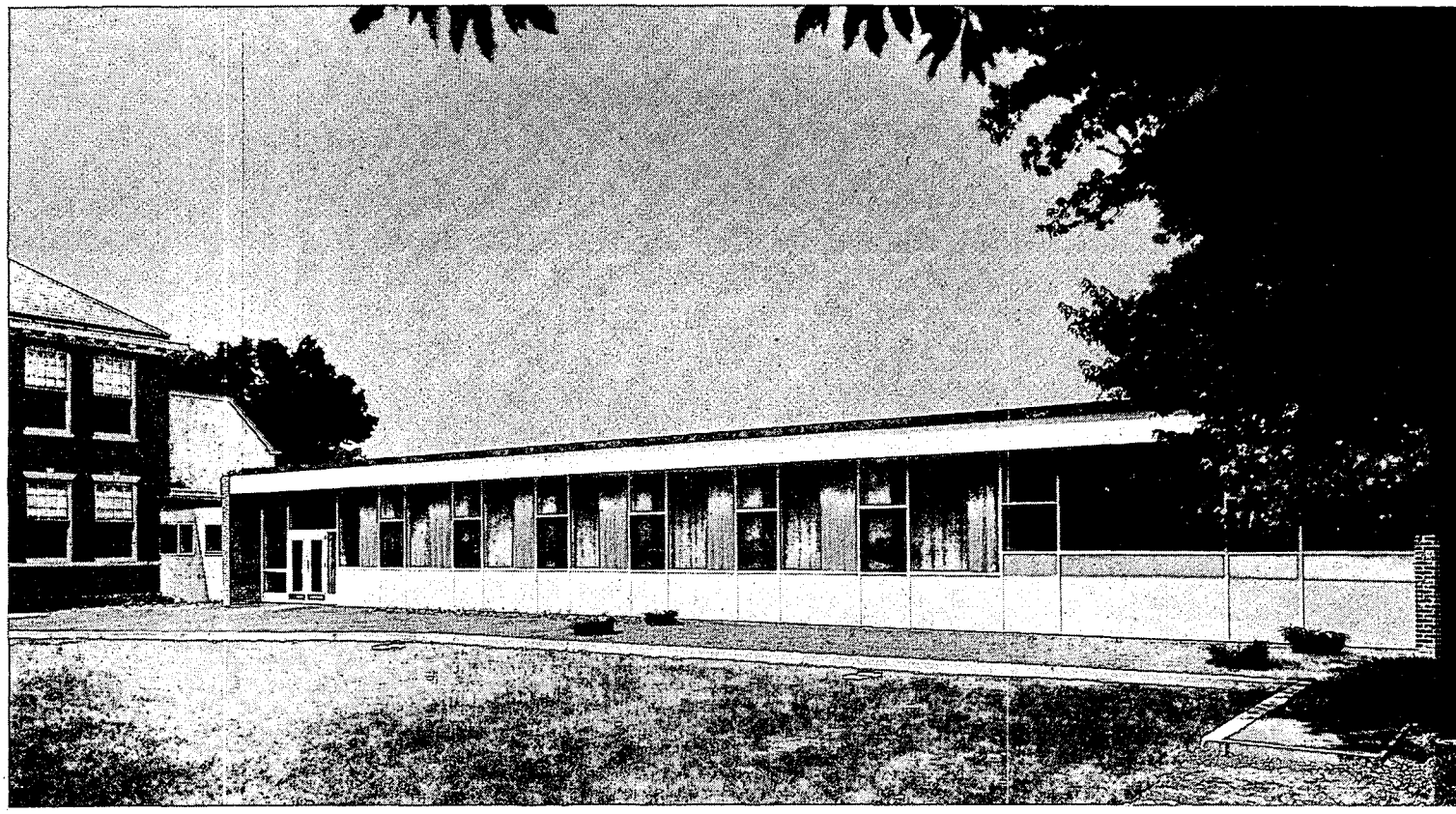


The frame end partitions of both the cafetorium (above) *and classrooms* (left *and* below) *are surfaced with either glazed plywood or (above chalk and tack boards) acoustical tile. Cafetorium and Administration Building have acousticized ceilings. The plant is heated with gas-fired floor furnaces. An evaporative cooling unit, controlled by the teacher, is provided for each classroom.*

Artificial lighting in both primary (left) *and upper-grade classrooms* (below) *is by means of incandescent lamps in porcelain bases, shielded in a light trough attached to exposed "A" frames* (see SELECTED DETAILS, page 136). *Asphalt tile is the flooring.* Photos: Stuart Weiner

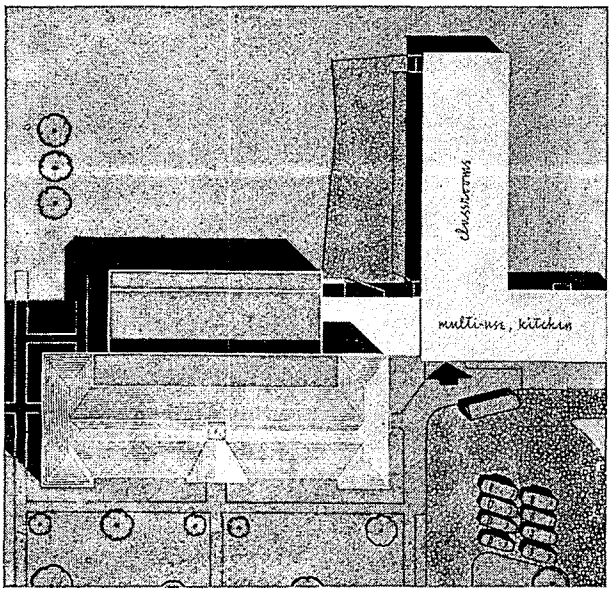


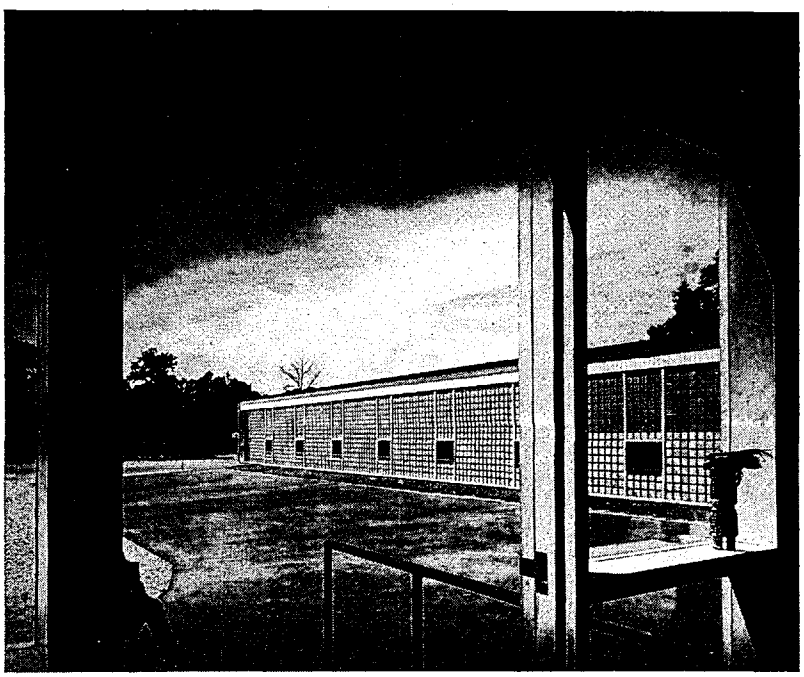




5. Darien, Connecticut

architects	Ketchum, Giná & Sharp
consulting architects	Moore & Hutchins
mechanical engineers	Syska & Hennessy, Inc.
structural engineers	Severud-Elstad-Krueger
general contractor	Sam Grasso Company, Inc.

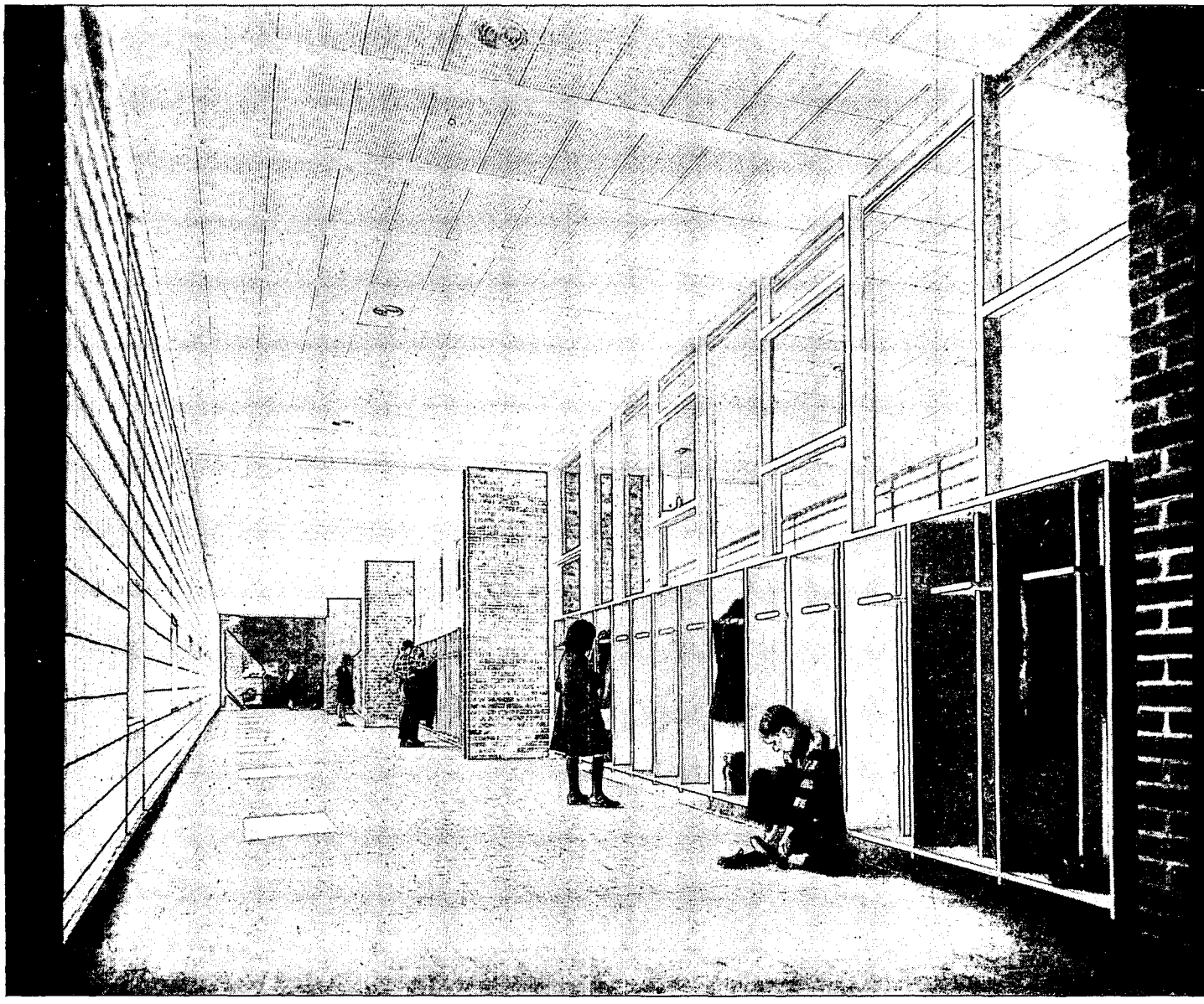




New wing preserves most of original play area without sacrificing maximum daylight for four new classrooms and multiuse room with kitchen. South, façade of classroom wing (above) *faces playing field.*

Photos: Lionel Freedman

the elementary school: 5. Darien, Connecticut



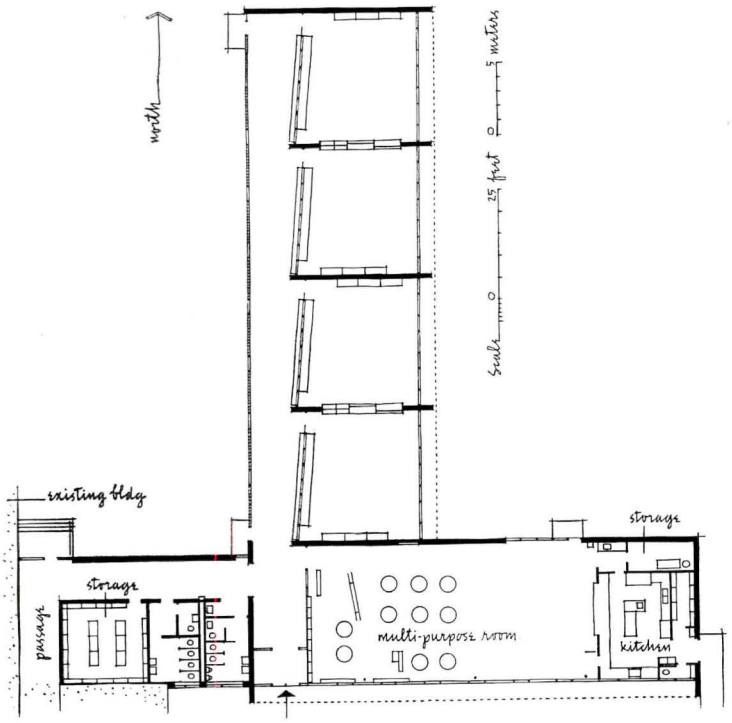
Four classrooms, a multipurpose room, and kitchen constitute the new additions to the original Holmes Elementary School. Excellent planning has resulted in a structure well related in mass, scale, and color to the older building. Classrooms are oriented for best daylighting and, though no new ground was available for this project, the architects have managed to preserve most of the original play area.

Comparative cost analyses of various systems decided in favor of a steel frame structure with bar joists and wood roof deck. The most important materials are brick, exposed on interior and exterior, asbestos panels, plastic fabric-covered plywood, and laminated plastic on plywood — all chosen for their minimum maintenance costs. Directional glass blocks on south side of corridor (*photo above*) regulate daylight, protect against breakage due to playground activities, and muffle outside noise. Staggered classroom partitions on the opposite side of the corridor make a pleasant hallway, aid circulation, and improve acoustics. Daylight through north windows, plus light borrowed from the corridor through clear glass over the coat cubicles, provides an even level of light throughout the classrooms. This design was based on data obtained from pretesting of a model at the Texas Engineering Experiment Station. To facilitate access to back-ceiling space, a ceiling suspension system using 12″ x 24″ acoustical tile was employed. Strong colors have been used liberally throughout the interior.



Multipurpose room (above) *and kitchen at far end of room serve both the original school and the new classrooms. The new addition is heated by radiant panels in slab on grade. Flooring is asphalt tile. Panels under window sills are of 3/4" natural finish plywood.*

Photo: Lionel Freedman

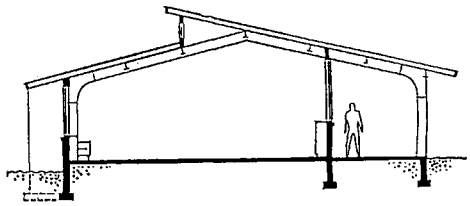


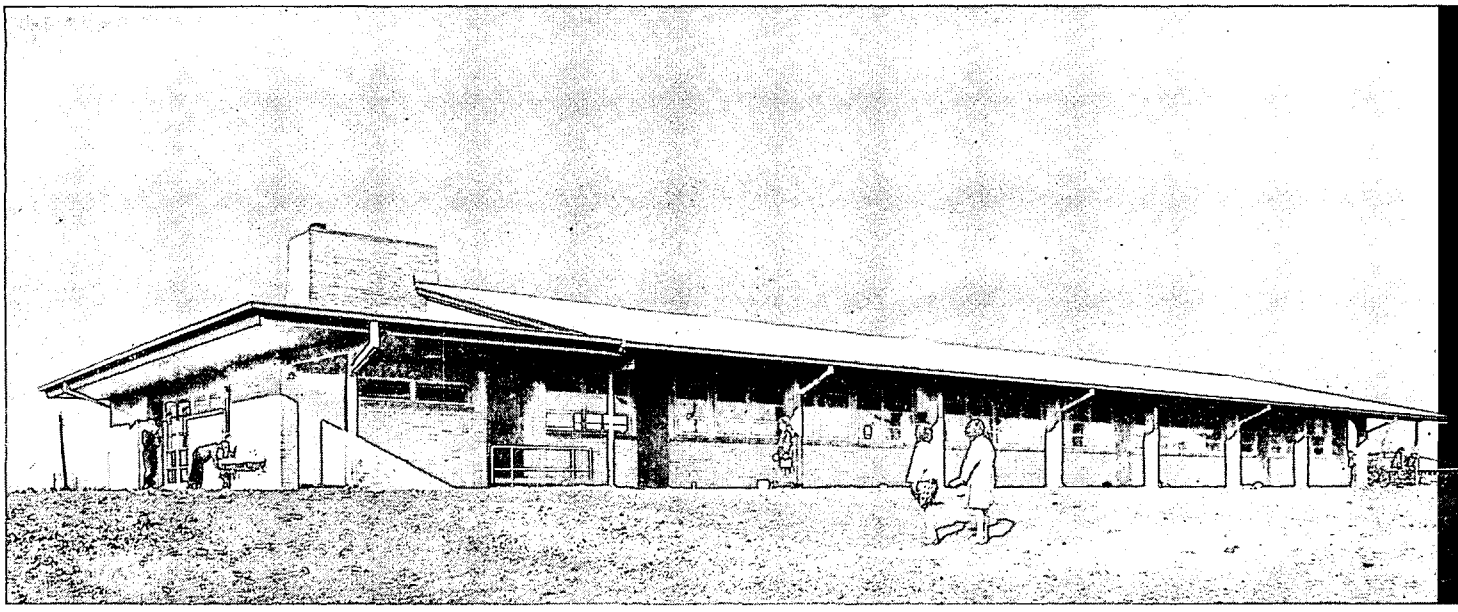




Rows of paired coat cubicles (above) *are designed for easy access and cleaning and serve as separation between corridor and classrooms. Glass overhead permits daylight to enter classrooms. Sky glare on the north side of the classrooms is controlled by a roof overhang, extended side walls, and a translucent drape. Tackwall* (left) *is surfaced with washable plastic fabric and conceals chalkboard, heating controls, teacher's closet, and active storage.*

Photos (except as noted): Ezra Stoller





6. Wichita, Kansas

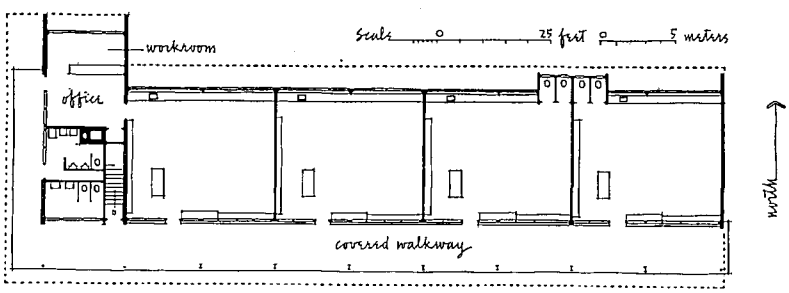
architects	Ramey & Himes
associates	Schirmer & Schaefer
electrical engineer	Carl Green
mechanical engineer	Oakle Bullock
interior consultant	Erma Bamesberger
general contractor	Clarence E. Vollmer Construction Company

Built for a group of six Lutheran Congregations, this four-classroom unit is the first wing of a parochial school of twice this size. The second wing, parallel to the one shown, occurs to the north, across a generous courtyard. The two wings are joined along their west ends by an all-purpose room, covered playshed, offices, teachers' lounge, and health room.

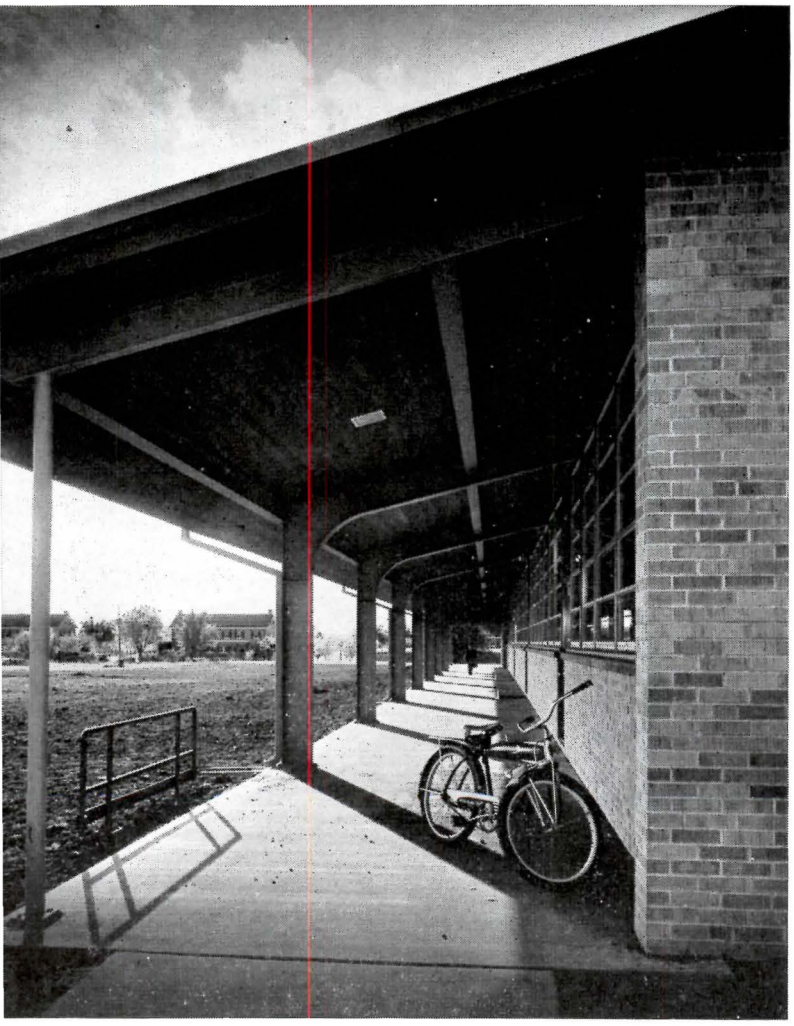
This first wing, for primary grades, includes toilet rooms off the first- and second-grade rooms. Oriented to receive north and south light, the section is developed to introduce north light both from wall windows and a clerestory. The resultant trilateral lighting varies less than 20 footcandles across the room.

In general, the theory was to make each classroom a school in itself, complete with storage cabinets, counter for work projects, sink, and drinking fountain. To provide utmost flexibility, a "teaching unit" on casters, with chalkboard on one side, tackboard on the other, is included in each room and may be used wherever needed.

Hot-water heating, served by a gas-fired boiler, combines convectors and radiant floor coils; convectors are used exclusively in the second wing.

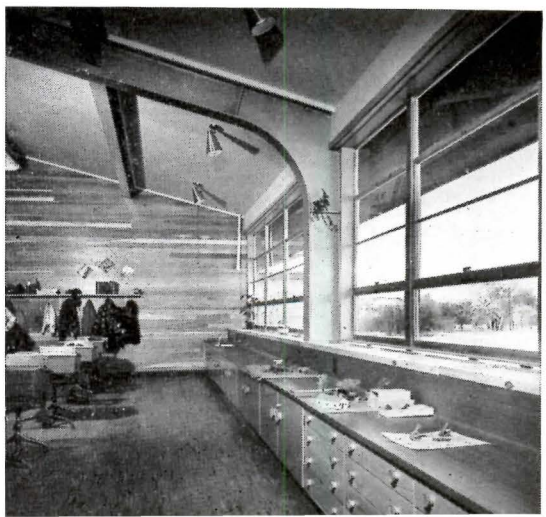


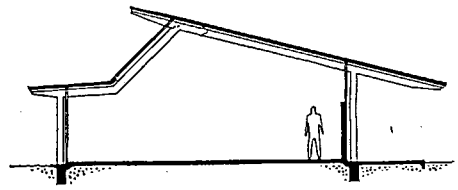


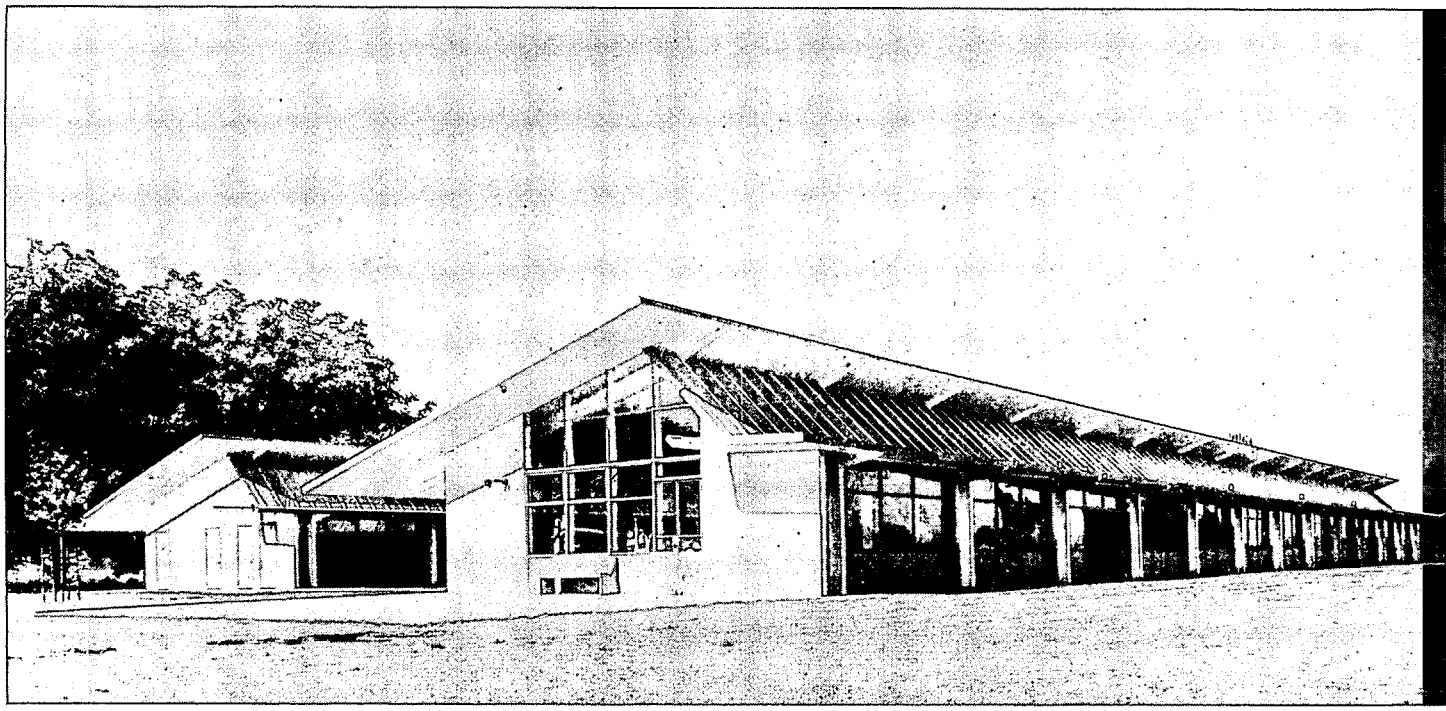


The southern windows face a porch corridor (left), *which shields the rooms from direct sunlight. Steel arches frame the building* (see SELECTED DETAIL, page 135) *from outer edge of porch to north wall. Partitions are nonbearing and can be relocated if desired. Redwood surfaces of the sound-insulated partitions serve as tackboard as well as wall finish.*

Photos: Julius Shulman





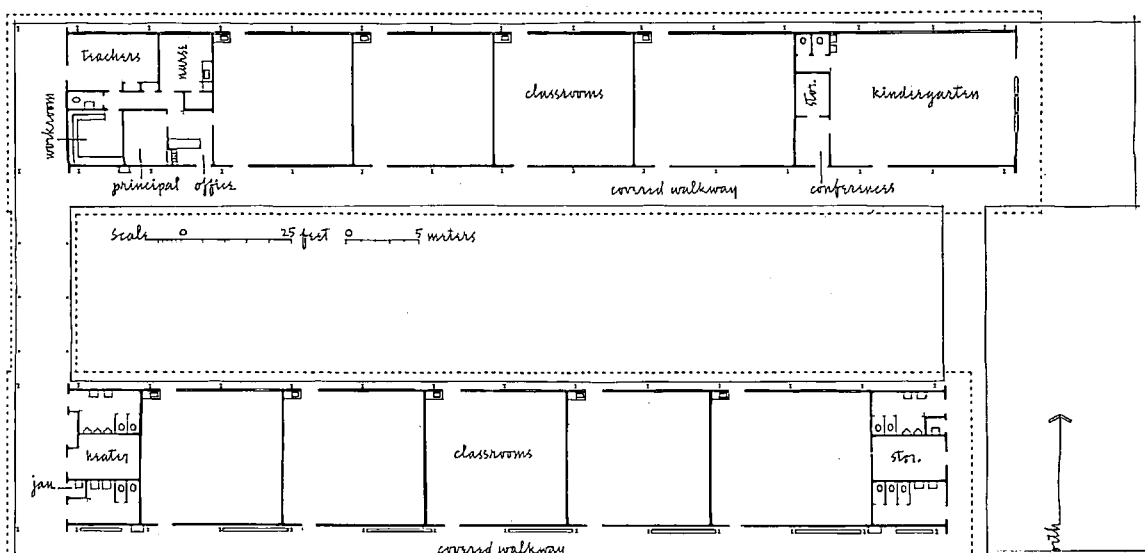


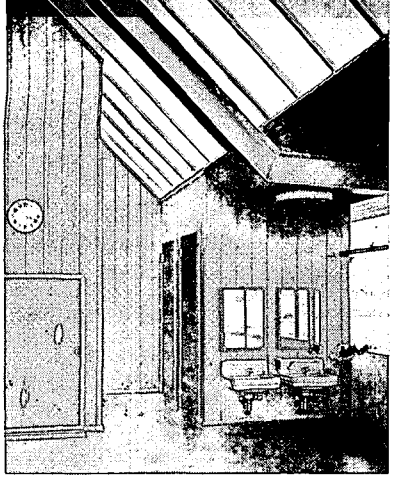
architects	Kaestner Associates*
mechanical engineer	J. M. Thomas
electrical engineer	Edward Lowe
general contractors	L. H. Hansen & Sons

*Robert C. Kaestner, Kenneth K. Kaestner, A. W. Young

7. Porterville, California

When expansion of the local school facilities became necessary, the Board of Trustees and the School Administration thought it logical and economical to duplicate an earlier school, completed in the previous year by Kaestner Associates. However, owing to increased building costs, bids far exceeded the available budget of $225,000 and a new design was proposed by the architects. A simpler structural system and economical, yet durable, materials assisted greatly in reducing costs for this new and straightforward solution. Two wings are constructed of welded-steel frames, spaced 16 ft o.c., and spanning 32 ft. A 2″ x 4″ laminated white-pine roof deck forms the lateral bracing and provides insulation. Walls are nonstructural. Natural-redwood boards and batts were used on the exterior for economy and ease of maintenance. An optimum level of natural lighting has been achieved by placing windows on both sides of the classroom and introducing a continuous skylight. No direct sun penetrates into the classrooms during school hours, except through the east window wall of the kindergarten. The building is heated by radiant panels in the floor slab.



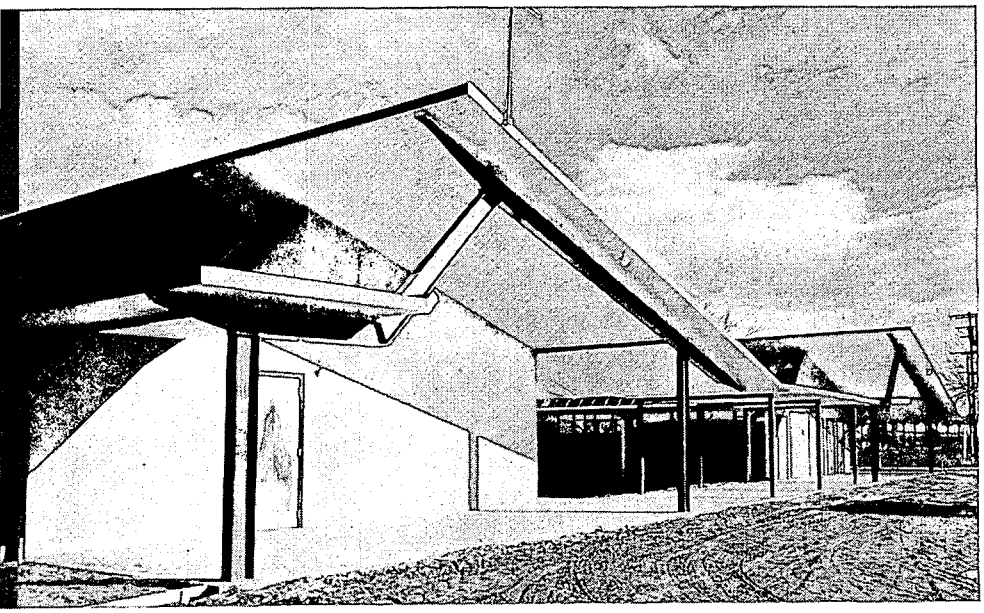


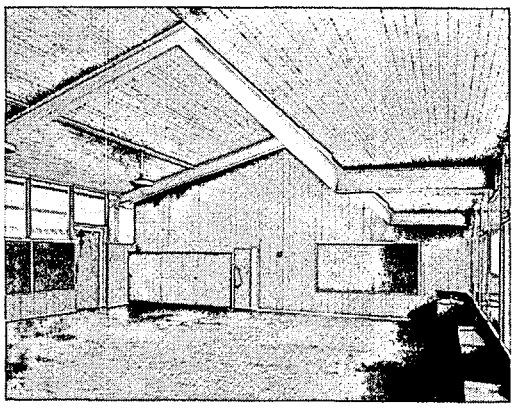
Kindergarten (right) *is located at far end of north wing. East exposure was especially requested by the school administration. Kindergarten has its own washroom facilities* (above).

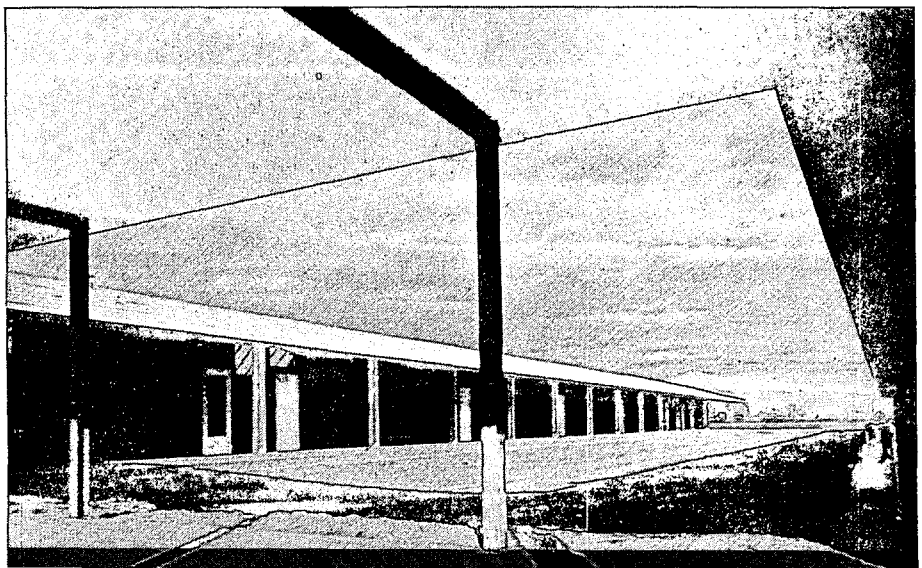


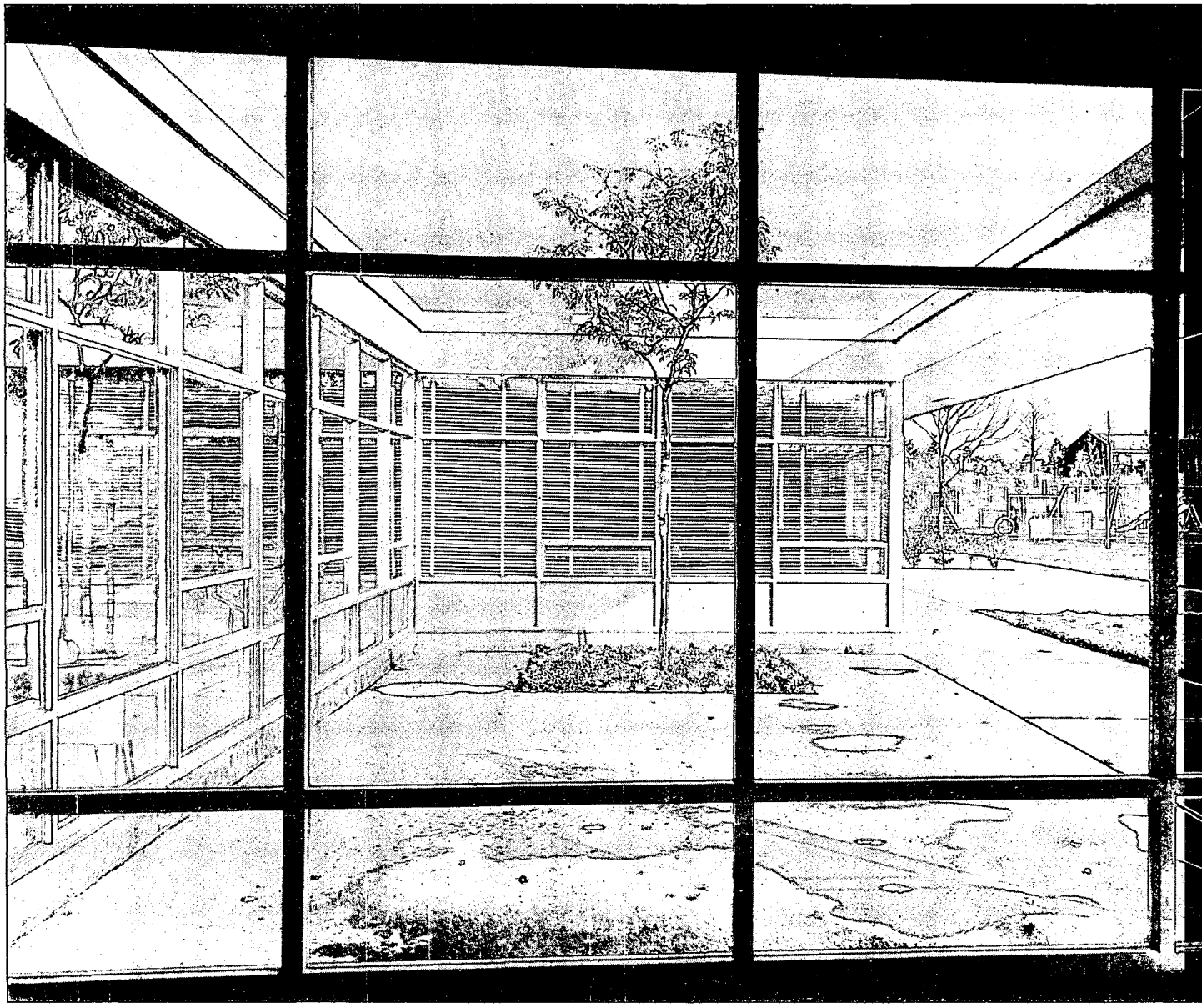
Continuous steel frames (below) *are spaced 16 ft apart throughout the two wings and painted in cheerful colors* (see SELECTED DETAILS, page 137). *Classrooms* (center right) *allow flexible teaching space. Walls are 1" x 6" white-pine shiplap.*

Photos: Jim Lusk



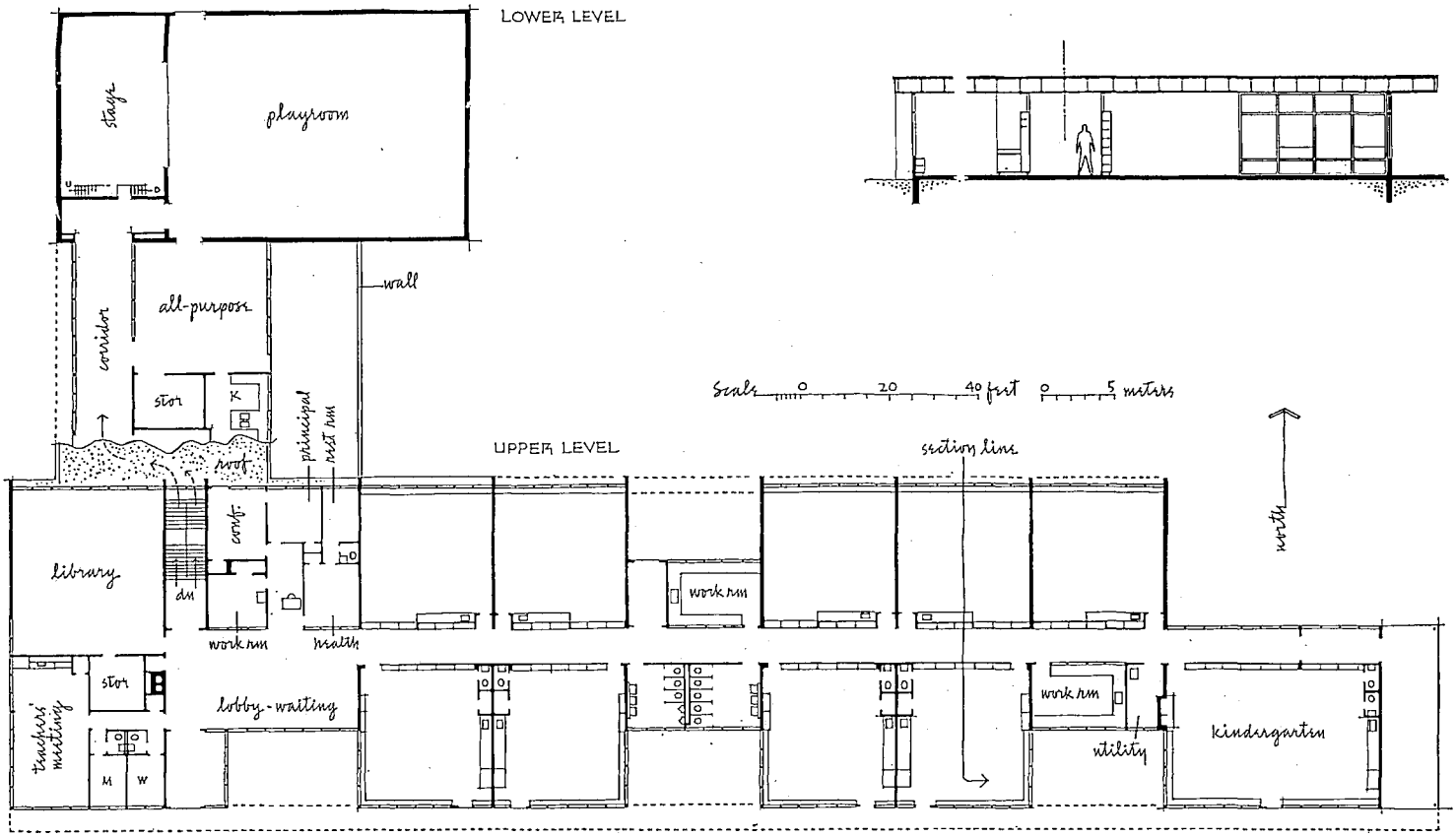


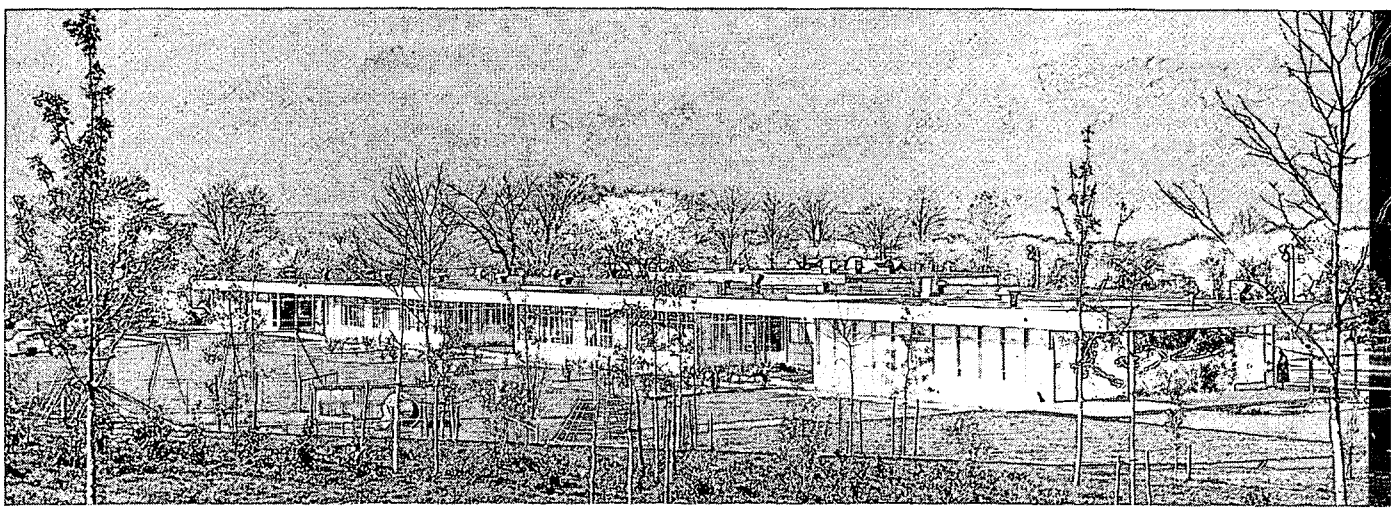


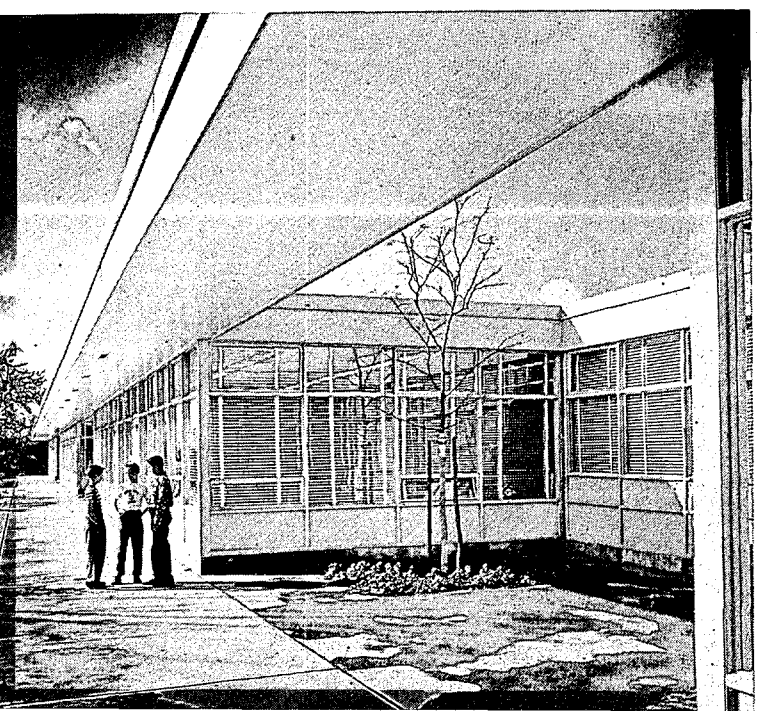


8. Schenectady, New York

architects-engineers	Skidmore, Owings & Merrill
partner-in-charge	William S. Brown
partner-in-charge of design	Gordon Bunshaft
project manager	Kenneth M. Young
mechanical engineers	Syska & Hennessy, Inc.
general contractor	Modern Construction Company, Inc.



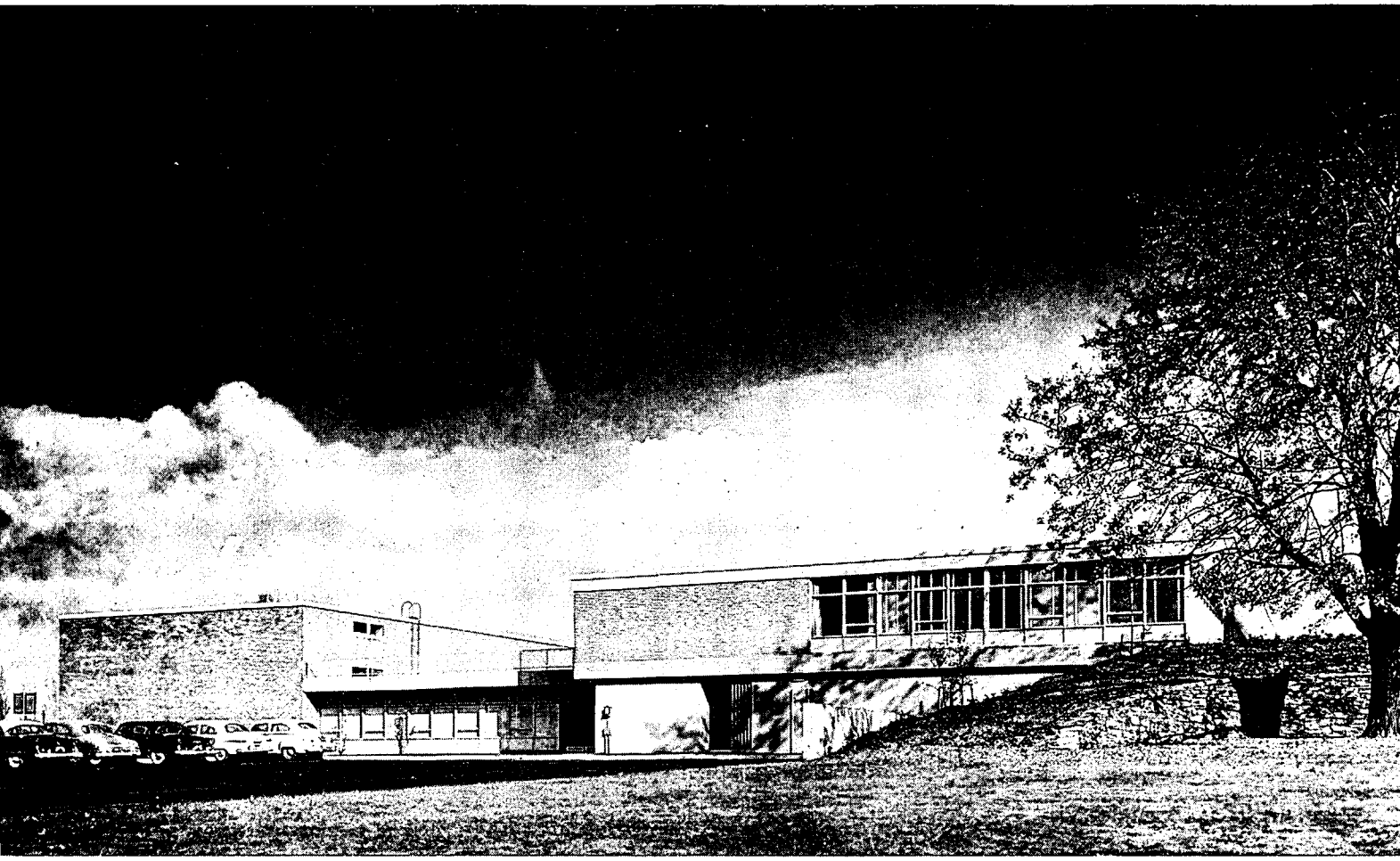




Window walls of the Grout Park Elementary School border indented courts (left *and* acrosspage) *on the south side of the building. They consist of architectural, projected, steel sash in hollow-metal frames, with insulated, flush, steel panels below sills.*

Photos: Gottscho-Schleisner

the elementary school: 8. Schenectady, New York



The initial program for Grout Park Elementary School called for ten classrooms and a kindergarten, with the thought in mind that four more classrooms would be added when the budget allowed. Other required facilities: a gym-auditorium; two work rooms; library; administrative suite; teachers' room; health suite; and an all-purpose room, with an adjoining kitchen (twice residential size) that could be used for teaching domestic economy or to serve meettings. Boiler room, janitor's space, and storage areas were also "musts." The ten-acre site slopes away to the north toward Grout Park, a city playground across a bordering street.

The solution placed the classroom wing on the high, level ground, with the long axis east-west; the slope to the north was used to drop the gym-auditorium, all-purpose room, and service rooms to a lower level. The classroom wing is planned as a double-loaded corridor scheme, but recessed courts on the south side (where the primary grades are housed) provide two exposures per room, supply borrowed light to the center of the building, and break up the apparent length of the wing. The 30′ x 30′ classroom size both minimizes the building length and provides a practical span for the bar joists that frame the roof between the common-brick bearing walls at right angles to the long axis. A poured-gypsum slab over insulated form-board rests on the joists and provides good insulating qualities, while acoustic material is applied to bottom flanges of joists.

Since the building qualifies by local code as a one-story structure, the partitions between classrooms and corridor could be nonfireproof, so advantage was taken of this to construct them of demountable, interchangeable, modular storage units of birch and birch veneer.

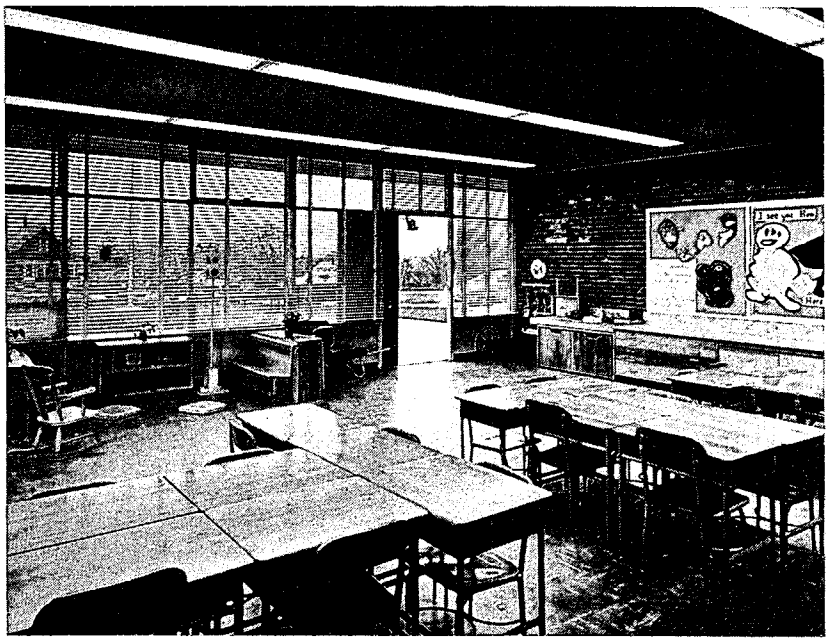
Heating is predominantly a radiant-panel system, but at exposed locations there are supplementary convectors. Fresh air, except in the gym-auditorium, is introduced by infiltration, with fans for exhaust only. The boiler room is equipped to provide for the four additional future classrooms and a separate auditorium, when more funds make these possible.



The school steps down the site slope (acrosspage) *to gym-auditorium, all-purpose room, and service rooms at the lower (parking) level.*

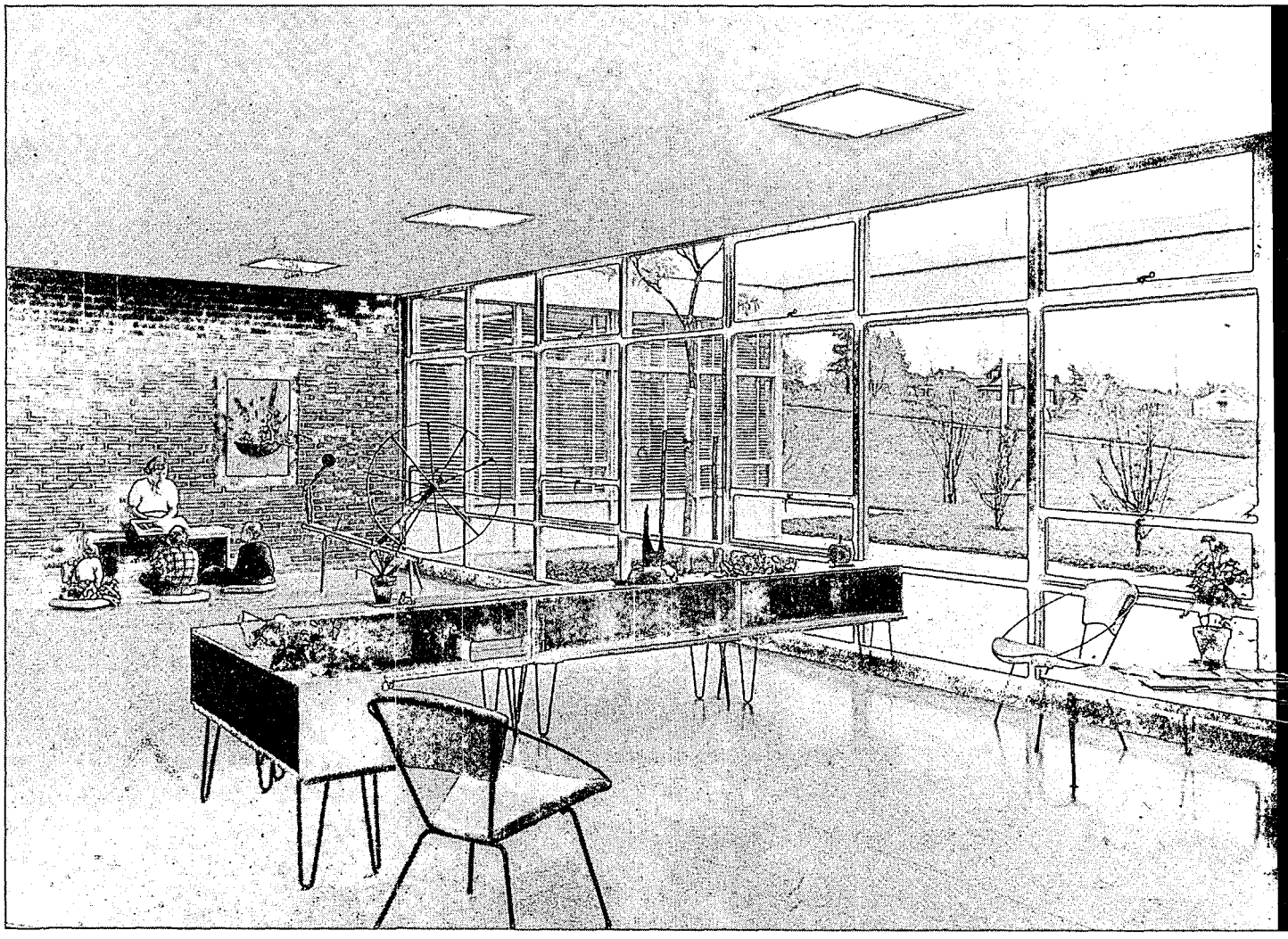
Interchangeable, modular, birch storage units (left) *serve as partitions between corridor and classrooms.*

All classrooms (below) *have wall-to-wall windows; those on the south have additional windows on an adjoining wall, and doors out to grade. Partitions between rooms are bearing walls of common brick.*





the elementary school: 8. Schenectady, New York



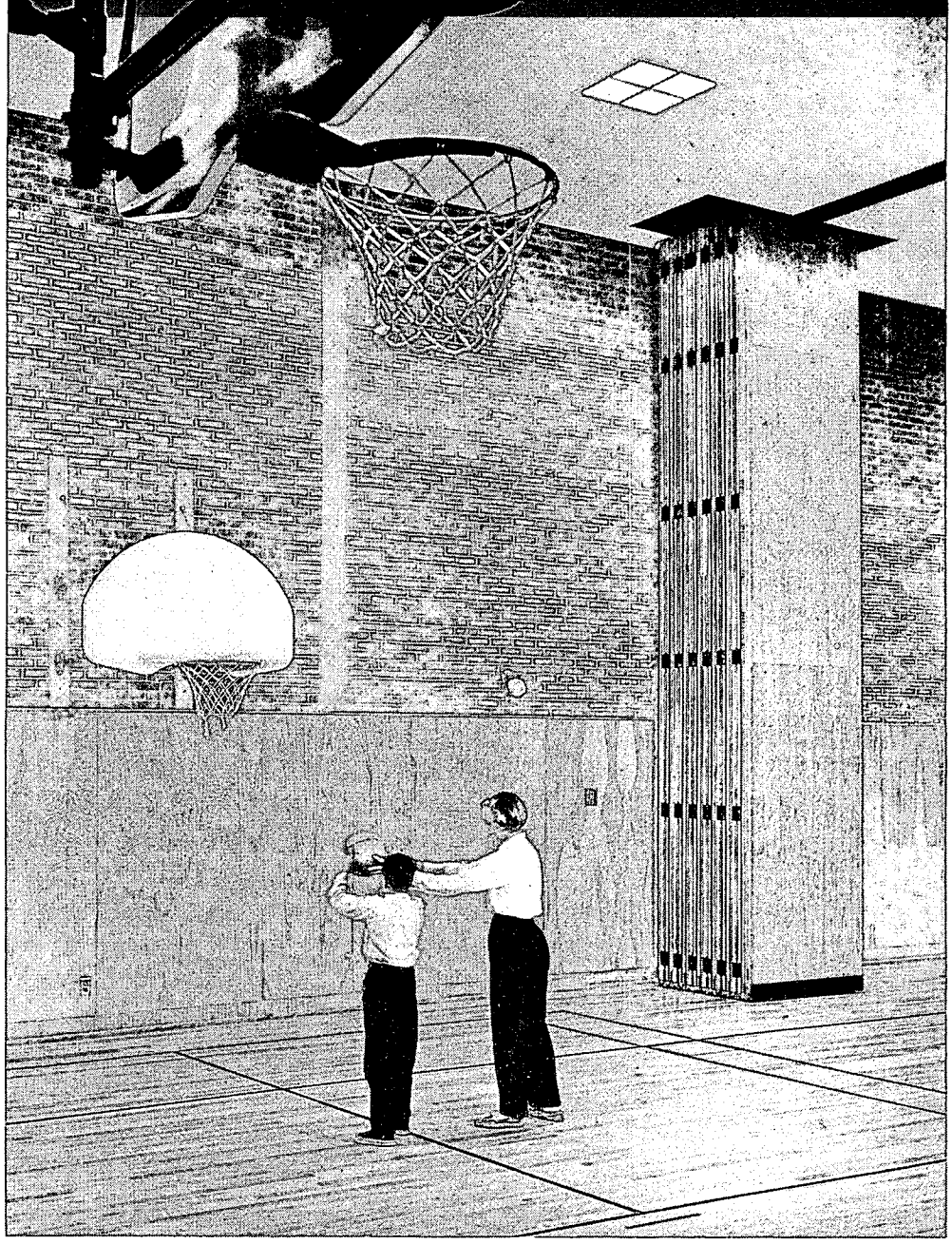
Materials & Methods

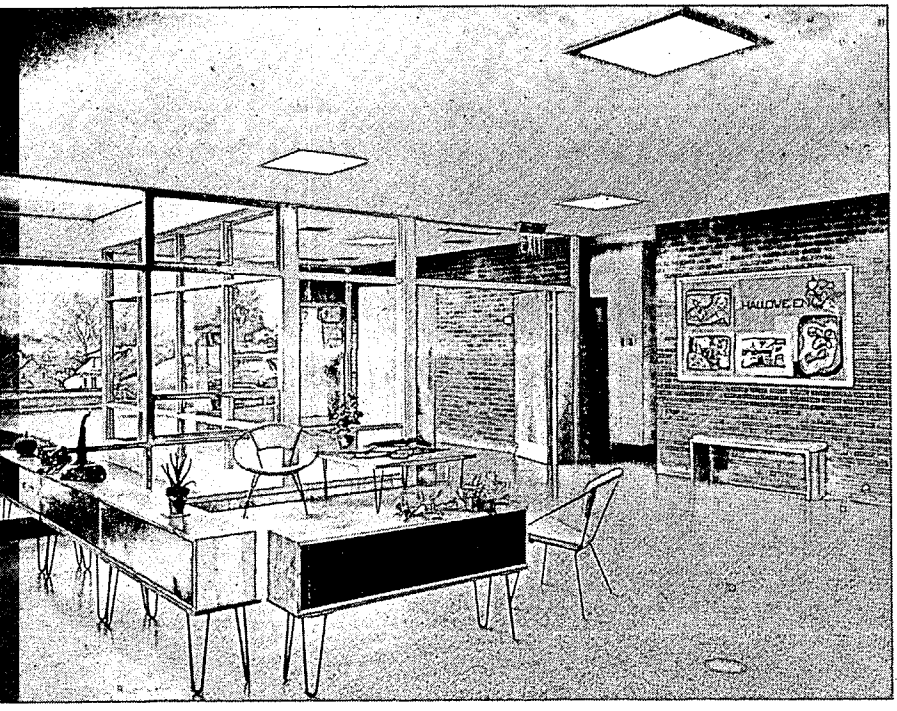
construction

Foundation, frame, floors, walls, roof: reinforced-concrete foundation and floors: reinforcing steel—Albany Steel and Iron Supply Company; frame: steel lally columns and girders—Schenectady Steel Company; brick and concrete-block bearing walls; roof: poured-in-place gypsum slab—National Gypsum Company. Wall surfacing: exterior: brick—Champlain Brick Company, concrete block, sash walls—Hope's Windows, Inc.; interior: brick, concrete block, birch-veneer plywood; rest rooms, toilets: ceramic tile wainscot—The Mosaic Tile Company, plastered concrete block. Floor surfacing: asphalt tile—The B. F. Goodrich Company, terrazzo, maple, ceramic tile—The Mosaic Tile Company. Ceiling surfacing: mineral-fiber acoustical tile—National Gypsum Company. Roof surfacing: five-ply built-up roofing, quarry tile terrace off library—Carlyle Tile Company. Waterproofing and dampproofing: semi-mastic asphalt behind gym wainscot and under gym floor. Roof drainage: drains with interior leaders—Josam Manufacturing Company. Partitions: interior: brick, concrete block; toilet: flush-panel steel—American Radiator and Standard Sanitary Corporation. Windows: steel architectural-projected sash—Hope's Windows, Inc. Doors: interior and entrance: flush wood—W. D. Crooks and Sons. Hardware: lock sets, door closers, and panic exit—P. F. Corbin Division, The Stanley Works. Paint and stain: exterior and interior—F. J. Carlson and Sons.

equipment

Special equipment: kitchen: wood cabinets—J. C. Dearstine Lumber Company; folding partitions—A. C. Horn Company, Inc.; gymnasium equipment—The Medart Company. Lighting fixtures: office, lobby, and stage areas: flush-type incandescent—Holophane Company, Inc.; classroom area: flush-type fluorescent—Eastern Fixture Company. Electric distribution: service entrance switch and multibreaker—I-T-E Circuit Breaker Company; fire-alarm system—Acme Fire Alarm Company, Inc. Plumbing and sanitary: water closets and lavatories—Crane Company; toilet seat—C. F. Church Manufacturing Company; water heater—Patterson-Kelly Company, Inc.; flush valves—Sloan Company; disposal unit—General Electric Company; incinerator—Washburn and Granger, Inc.; shower cabinet—Fiat Metal Manufacturing Company; shower controls—Speakman Company. Heating: type: radiant panel with supplementary convectors; boilers—York-Shipley, Inc. and Pacific Steel Boiler Division, United States Radiator Corporation; fuel: oil; convectors and radiators—The Vulcan Radiator Company; piping—Bethlehem Steel Company; ducts—Joyce and Kramer, Inc.; unit heaters—Modine Manufacturing Company; ventilators: roof fans—Century Fan and Ventilator Company; controls—Minneapolis-Honeywell Regulator Company.





The main lobby and waiting room (left *and* acrosspage) *adjoins one of the indented courts on the south side of the classroom wing. It has terrazzo floor; exposed brick bearing wall; acoustical ceiling.*

A folding wall in the gym-auditorium (above) *divides the room into two smaller gyms. Birch plywood dado; maple flooring.*

production practice

This year, P/A plans to report more fully on the operation of the offices whose work we present. Herewith are thumbnail sketches of the firms that produced the eight schools shown in this issue:

John Lyon Reid & Partners

John Reid says that, while the firm specializes "almost exclusively" on school design, he is anxious to broaden the field if opportunity allows. As it is, out of last year's total volume of work of about $7 millions, everything was in the school category except for one $46,000 job.

The Reid office has a current force of 30, with Reid "the nominal head of the firm" and four partners. Each architect partner in the office is in direct charge of school work stemming from several districts. "I work with each partner as a collaborator," Reid reports. One partner, Dr. Alexander G. Tarics, "heads up the engineering for all of the work, and all five partners act together to form a board of review for all projects."

In designing public schools in the State of California, there are numerous rules and regulations within which one must work. All design must conform to the Field Act, which establishes structural standards to resist earthquake stresses. In addition, all buildings must meet their local codes or the uniform building code of the Pacific Coast, as well as a great many other, specialized, departmental requirements.

In most California school districts, local funds must be supplemented by State grants-in-aid for new school building. And, Reid comments, "this means that the State Department of Finance exercises a profound influence on school buildings." Among the influences, definite area and cost limitations are imposed, and these cannot be exceeded by one square foot or one red cent. Reid finds the Department "not at all easy to work with, since their interest is *solely* to make schools cost as little as possible. . . . The Office of School Planning, on the other hand, is interested in providing the best educational facilities possible for the money, and you can surmise that there are many conflicts in policy between these two Offices."

As to clients (the School Districts) Reid finds them in most cases "enlightened, open-minded, and progressive as far as architecture is concerned. There are a few who have been cautious in considering experimental designs, but we have generally been able to convince them that the aspects of school planning which are experimental in nature will be of value in their educational programs. I do not feel that the converting of clients to contemporary design has been any problem at all."

In discussing ethics of practice, Reid comments: "In order to practice successfully, we feel that we must present a service to our clients which is 'perfect.' We feel that our clients are entitled to service of this quality.

"If we have made mistakes in our drawings which would require our client's money to rectify, we pay out of our own pockets for the correction of such mistakes."

MacConnell & Walker

A good proportion of the work done by this Apponaug, Rhode Island, firm is in the field of educational building—from 75 to 80 percent. The remainder, James Walker tells us, consists of "residential work, and some commercial and industrial commissions." The small office consists of the two partners and two key men. "Our drafting force, in addition, has varied from none to four extra."

Local codes and rules, the architects report, are very liberal and "have not proved too constricting in developing our schemes. MacConnell did the first modern school in this area, and at that time (1946) had some problem in convincing the school and building committees. But since that time, we have almost no limiting prejudices." One of the prime reasons for this, Walker feels, is that most committees today are cost-conscious and "realize the trappings of traditional architecture have no place in present-day architecture." Actually, he contends that their biggest problem is to keep their own minds open and to avoid getting into the ruts of repetition and staleness "that has been the curse of so much previous school architecture."

Alfred Browning Parker

In Parker's case, the school shown is the only one he has designed. Most of his Miami practice is in the residential field —"approximately 35 percent, custom; 20 percent, speculative." The remainder is chiefly commercial or industrial. The entire office force numbers five.

In working on the school, Parker, unlike some of the other architects whose work appears in this issue, can report: "I did not find that the local or state rules, codes, or general prejudices of the School Board constituted any particular limitation on my design work." Surely a comment that any school architect would like to be able to make, especially when he can go on to say that he found his clients to be "progressive minded."

Fred M. Guirey and Ralph Haver

Guirey and Haver conduct independent practices in Phoenix, Arizona, "though on occasion have collaborated successfully, when required to do so by School Boards that desire to employ the services of more than one architect." The work of Guirey's firm (three draftsmen and a secretary) is 75 percent in the educational field, 15 percent residential, and 10 percent commercial. Haver's office (two draftsmen and a secretary) does chiefly residential work (90 percent), with schools accounting for the remainder.

Both architects find School Boards generally receptive to forward-looking design, "particularly," as Guirey comments, "since it usually reflects lower costs of construction with a better finished product."

Most school districts have either reached or are near their bonding capacity. Therefore, Haver points out,

"low cost buildings are essential." Gurrey has found the Boards with which he has worked "amenable to almost anything provided the architect can justify it by horse-sense explanation and a sincere statement that it will not be an unnecessarily heavy burden on the taxpayer."

Ketchum, Gina & Sharp

Interestingly enough, this New York City firm, which has been known for many years for its design of shops, stores, and shopping centers, recently has acquired so many school commissions that these currently account for about 40 percent of the practice. Commercial work still runs about 50 percent; while the remainder is institutional. There are 31 on the staff, in addition to the three partners.

In general, the architects tell us, "most codes and rules that affect our school work are not detrimental. A few which call for specific dimensions or quantitative measurements rather than for actual performance do not achieve the most desirable result, however." Philosophizing a bit on the ingredients that go into the design of the school, Stanley Sharp comments: "A school can seldom be much better than the thinking of the people who develop it and, of course, this includes the School Board, citizens' committees, educators, and others within the community, as well as the architect."

To explain new possibilities to groups that might tend to be conservative, the firm conducts an intensive and continuous campaign to demonstrate what the higher standards can be and why they are more desirable. "We present several schemes to each client group, showing advantages and disadvantages of each and hope that they will agree on the most advanced idea among the presentations."

In promoting new commissions in the educational field, the firm works in a number of ways—writing articles for publication; making talks to parent-teacher groups or educator groups; participation in workshop discussions; and by obtaining interviews with architect-selection committees in communities that are contemplating a school building program.

Ramey & Himes

This Wichita firm's general practice consists of about 30 percent in both the educational and religious categories; 20 percent, in residential work; and 10 percent each in public buildings and commercial-industrial categories. The staff consists of the two partners, two associates, three draftsmen, a color consultant, and a secretary.

The architects find that the National Building Code does not impose too many serious restrictions on their work. Local codes, however, can be limiting. "In the City of Wichita," they comment, "it is a combination of code and School Board. Since the Wichita School System is a large one, it is less inclined to experiment than a small board erecting only one or two buildings." But, they go on to emphasize, "the Wichita Board of Education has been very progressive in many ways."

In fact, the architects attest that they have never found a School Board that was "conservative" as far as architecture is concerned. "When our designs are logical, economical, and provide better facilities for the education of their children, they go along."

Robert C. Kaestner & Associates

Kaestner conducts two offices—one in Visalia, California, which he heads, consisting of 10 persons, including two architects, an engineer, and a secretary, and a smaller one, in Modesto, that is managed by his brother and has a staff of five, including a landscape architect. The firm specializes in school work—about 95 percent on the average, Kaestner estimates.

One of the difficulties of working in a small town, he tells us, is that it is difficult to obtain men for the office. "It seems that we are always understaffed," he observes, "because when we need men, we can't find any; so our clients wait." Kaestner mentions the earthquake law, enforced by the California State Division of Architecture, as something that from time to time "gets in our hair." However, he continues, "it isn't a bad law and usually just seems to add more zest to our problems." As to School Board prejudices, the only one he finds is "that of no money."

He recounts an example of how the firm persuaded a School Board to build something better than it had originally demanded: "One of our clients asked us to design a 'Spanish type' school, because it had so many advantages, looks, etc. We designed a school practically like an old Spanish Mission, and the Board thought it was fine." Then the firm went to work on its own on a thoroughly contemporary scheme. "At the next meeting, we showed our design and how we solved this problem and the reasons why we did as we did, and then we made an unbiased comparison between the two designs." The school was built as the architects wished.

Skidmore, Owings & Merrill

By far the largest of the firms represented in this issue, the combined SOM organization (offices in New York, Chicago, San Francisco, and Portland, Oregon) currently comprises some 250 persons. These include 56 registered architects, 9 registered structural engineers, and 12 professional engineers. There are 10 general partners, 15 associate partners, and 20 participating associates.

Each project is headed by a partner. Under him, a project manager, usually a participating associate, maintains active control of policy, client contracts, and general project administration. Under the project manager, a job captain heads up the squad for the project, co-ordinates the structural work and mechanical trades with construction work, whether with outside consultants or with the corresponding department within the firm.

Programming of work is usually done by or under the supervision of the project manager. When the program requirements are established and listed, the design department starts sketches. After a selection from alternate solutions has been made by the designers in conference with the partner-in-charge, the project manager, and (frequently) the client, completely developed sketches, perspectives, and/or a model are prepared for submission for formal approval by the client. Over a period of years, the educational field has comprised "about 7 percent" of the work done by SOM.

In designing schools, "the local New York City standards and practices are the most inflexible and confining. Statewise, where cities are larger than 75,000 population, the city school districts are fiscally independent, and local codes and prejudices vary. In smaller communities in New York State, plans for schools are subject to review by state officials, where a degree of conformity is required." The biggest prejudice is overcome, or established, "by the Board's action in the selection of an architect. If the Board is progressive and open minded, it selects an architect of like caliber. If not, its selection will most often be a conservative, traditional type of architect."

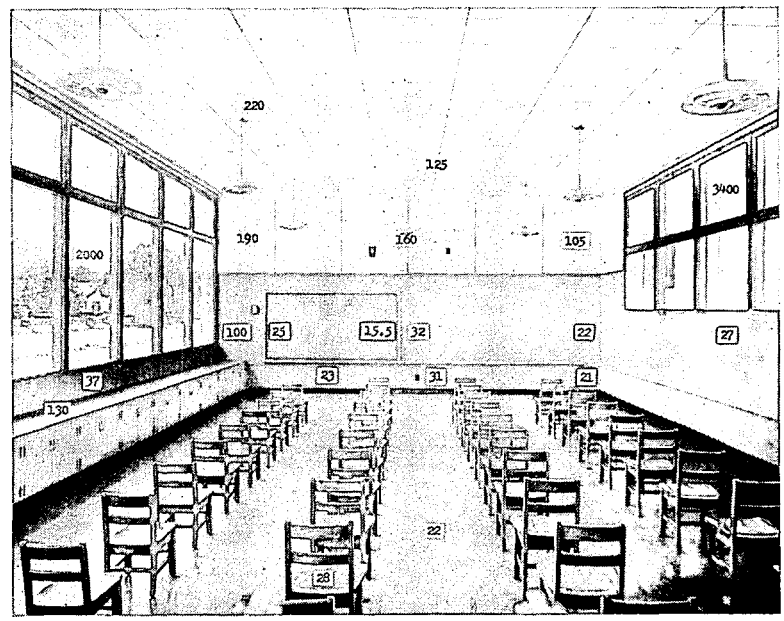


Figure 1—in this classroom it is impossible to escape high sky brightness while performing a task. (Readings are in footlamberts.)
Photo: courtesy of Pacific Gas and Electric Company

glare control in schools

by Doyt Early*

All of us have experienced the awkwardness of recognizing a friend encountered in the brightness of a building entry while his face is poorly lighted, or the uneasiness of driving into the brightness of the setting sun with objects that we wish to see in darkness. Such wide extremes of light are easy to recognize and have been suffered by all; some of these conditions are found in our classrooms. In older ones, chalkboards were often installed on panels between windows. The same difficulty experienced in identifying the friend surrounded by bright light with his face in darkness occurs again, because of the low illumination on the chalkboard and the brightness of the windows at either side. In the well-remembered, lighted-from-one-side classroom, unwanted light in pupils' eyes, when facing tasks, was frequently avoided by turning seats away from the windows and allowing the light to fall over their left shoulders—an arrangement similar to the use of blinders on a horse. In the modern school it is desirable to have the children arranged in groups with satisfactory viewing of tasks in any direction—360 degree facing. Most of the schools built in the last few years somewhat self-consciously have aimed at providing good light, well distributed for seeing; yet architects and school men have concerned themselves principally with footcandle levels and not brightness balance nor contrasts in the viewing field. The availability of inexpensive footcandle meters and the relative recency and expense of brightness meters have insured this situation. In the search for higher footcandles and better distribution of illumination, nearly all available walls have become filled with continuous glass and it becomes almost impossible to view a task without facing into a window. We even see chalkboards located below windows through which unrelieved sky brightness glares. Let's examine one example where the ambition for more and more footcandles produced a situation wherein it is impossible to escape the high brightness of the sky (*Figure 1*). The readings are in footlamberts; there are about 100 ft-c at the chairs in the center of the room reflecting 70 ft-L to the eye. The brightness of 3400 ft-L visible in the south sky at right is nearly 50 times the task described. Louvers which admit ground brightness and shut out that of the sky should improve the seeing conditions. Eventually, trees may get high enough to help. (*Compare this brightness with the view through the windows into the trees of Figure 2.*)

Because reflection factors of paint and other interior surfaces are important to footcandle levels, most of the classrooms currently built have light-colored finishes. They permit enormously better seeeing than the old-time standard. The use of light-colored finishes is so necessary that, if money is limited, the first step taken in the improvement of seeing conditions should be the elimination of dark areas that prevent the proper inter-reflection of light in the classroom. This means blond furniture and light floor finishes, as well as light wall colors. If light were admitted into a sphere with its interior surface painted white, the light level throughout would be the same because of the reflection of light from point to point. While a classroom's interior is not spherical, the same principle applies. In the unilaterally lighted classroom, the interior wall is extremely important for reflection while the end walls are less so because of the strong directional light across the classroom. Many efforts have been made to use louvers, diffusing baffles, directional glass blocks, and so on to increase light on the classroom ceiling, which is the best reflecting surface in the room and, because it is so necessary to the indirect electric-lighting system, is almost universally white. A classroom before and after improvement by color conditioning

* *Architect, State of California, Department of Education, Sacramento, Calif.*

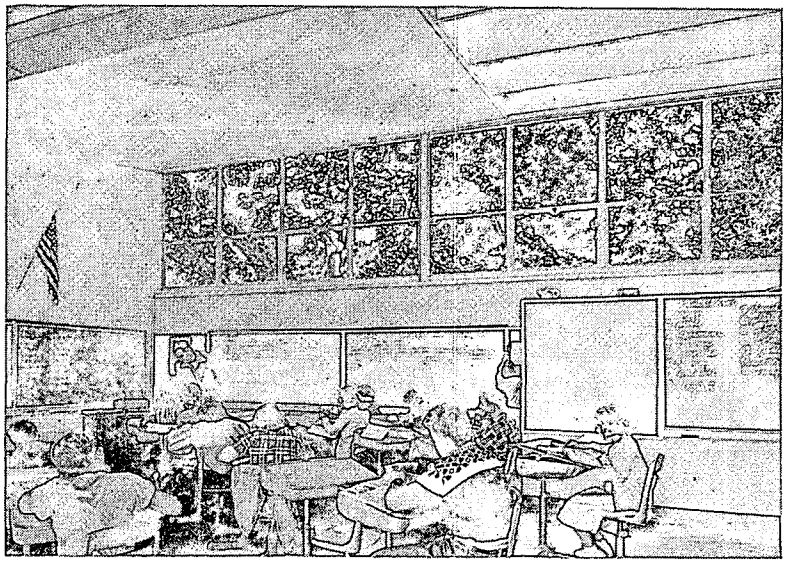
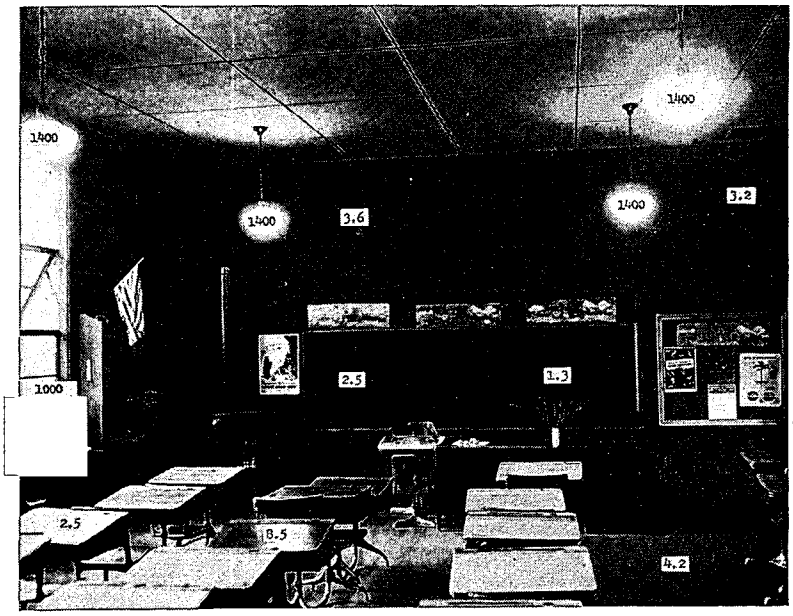
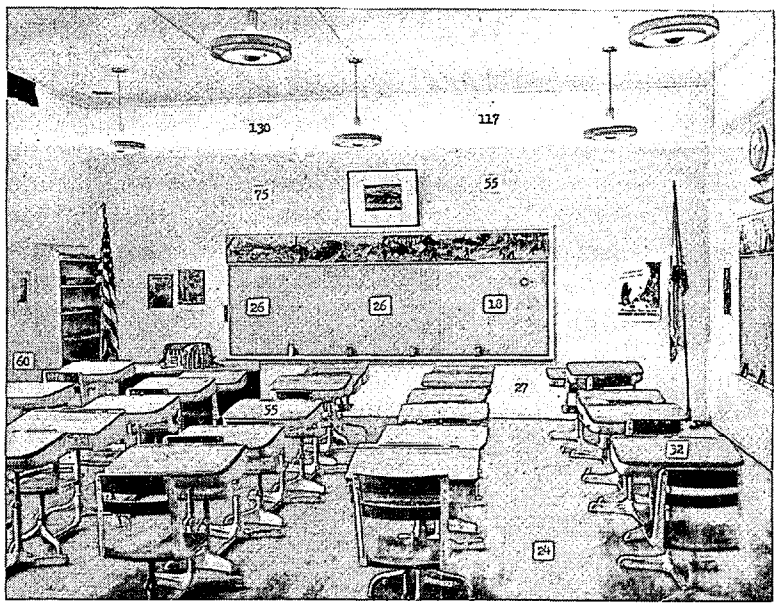


Figure 2—sky brightness is controlled here by light-tempering trees. Deer Park School; John Lyon Reid, Architect. Photo: Roger Sturtevant



Figures 3 and 4—color conditioning and new lighting system vastly improve seeing conditions in this modernized classroom.

Before and after photos: courtesy of Northern California Electric Bureau



and a new lighting system is compared (*figures 3 and 4*). In the old unilaterally lighted classroom the light level on the row of seats nearest the window was often 150 ft-c while rarely were there as many as 10 ft-c beyond the center of the classroom. The placement of the task on the front wall required the children along the inner rows of seats to face into the sky. The chalkboard was always black and all surfaces were good, practical, dark colors that wouldn't show dirt.

There are many authorities that may be consulted on the relationship of task brightness to the surround and relationship of light level to acuity. The American Standard Practice for School Lighting of the American Standards Association is valuable. In the chapter "Visual Comfort and Efficiency" of the *Guide to Schoolplant Planning* of the National Council of Schoolhouse Construction, 1949 edition, may be found a clear, readable, and easily understandable explanation of the complex problem of classroom lighting. Footlamberts, reflection factors, brightness ratios, peripheral field, and so forth are adequately described. Detailed recommendations are also given for color conditioning and other aspects of brightness control. Our problem, however, is not the creation of a few experts, but the familiarization of architects, school planners, and educators with the problem.

In the older classrooms, the task is supposedly fixed. All areas outside of the 30-degree cone from the sight line are peripheral and higher brightness ratios are permitted than in the "surrounding" or 30-degree cone of sight from the central line of sight. In our classrooms of 360-degree seeing, all areas may be "surrounding" areas rather than "peripheral." Seeing tasks are anything that pupils have to see: a painting or diagram on the floor; a book on a desk; or something on the chalkboard. From the same chapter of the Guide referred to above comes the following: "The brightness of any surface in the surrounding field should not exceed 50 to 1 between the brightest and darkest surfaces as follows:

"A. The brightness of any surface in this field should not be more than 10 times that of the task.

"B. The brightness of any surface in this field should not be less than one-fifth that of the task."

As to desirable footcandle levels, the chapter offers: "Some research results indicate that there are visual tasks which require 100 ft-c and above for optimum visual efficiency. However, for tasks common to schoolroom lighting, levels of from 20 to 40 ft-c are . . . considered to satisfy visual requirements in a balance of brightness environment." There is ample evidence to support this objective. Researchers have shown there is loss of acuity when the surround is either brighter than the task or much less than the task. The problem of correction is double-headed: how to do it and recognition of the need to do it. The second part of the problem is the stopper; wit to accomplish a better seeing environment has been available, but conviction of necessity is only commencing.

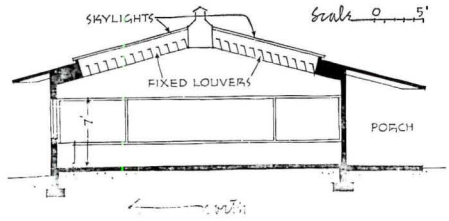
Perhaps an unconscious desire for better seeing conditions suggests turning on the lights. If the electric lights produce anywhere near 25 ft-c and are of indirect type, and if the room surfaces are color treated for effective use, seeing conditions are almost without exception better. In fact, the duller the day, the better the seeing conditions are. In many of our new schools where the footcandles of natural light on desk tops greatly exceed recommended minimums, administrators are puzzled by the apparently careless and needless electricity consumption. Actually, the situation might be something like this:

	Lights off	Lights on
Footcandles on task	50	75
Reflection factor	70%	70%
Footlamberts to eye	35	52.5
Brightness of sky—1000		
Brightness contrast	35 or 1:30 1000 approx.	52.5 or 1:20 1000 approx.

The second step usually taken to assure a more comfortable environment is the installation of an adequate low-brightness, electric-lighting system. Most of these have been indirect in nature. Some luminous ceilings have been installed; some large-area plastic panels have low brightnesses that fall within recommended ranges. The fixtures should be easily maintained and quality as to brightness contrasts is very important. Occasionally, however, it seems a little pointless to be too squeamish about the quality of the electric lighting. We have been critical when indirect fixtures hang too near the ceiling, when fixture brightness runs over 333 ft-L, or when louver-bottom fixtures are used—yet accept the full brightness of the sky.

In sheer self-protection, many classrooms are being shielded by venetian blinds: the third step taken in achieving a comfortable environment—elimination of high brightness of either sun or sky through a control device, preferably one not needing adjustment. Perhaps we are presumptuous in assuming that sun in the classroom has already been eliminated. It is extremely variable, produces enormous contrasts, and should be prevented from shining into the room. Here we have the first manifestation of one of the qualities of louvers—that of cutting out the light from one direction but admitting it from another. Properly adjusted venetian blinds cut off sky view, but admit ground light or reflected light to the ceiling and there it is redirected for use. So little light is admitted, however, particularly with unilaterally lighted rooms, that unless the sun is shining there is not enough light to illuminate the classroom without electric lighting. If the sun shines, brightness on the blinds may exceed 1000 ft-L and produce bad brightness balance. Obviously, part of the problem is good distribution of light in the classroom while elminating the extremes of brightness or darkness.

The question may well arise: Why not simply light with electricity? And indeed it is being done—particularly where bad weather conditions discourage finger



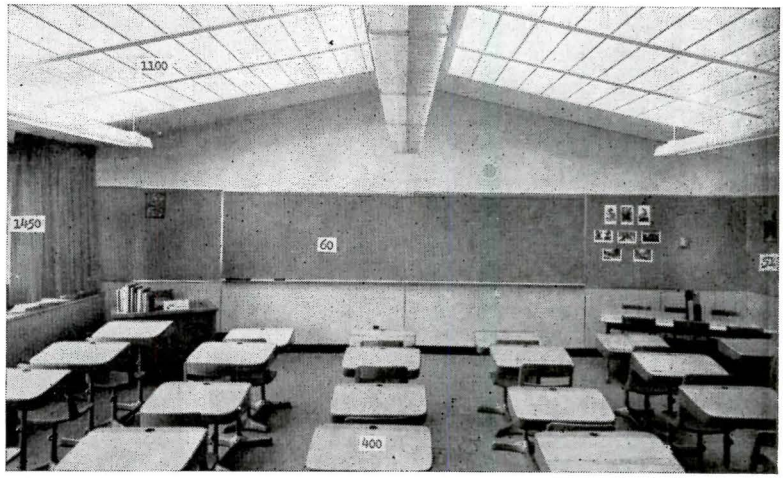
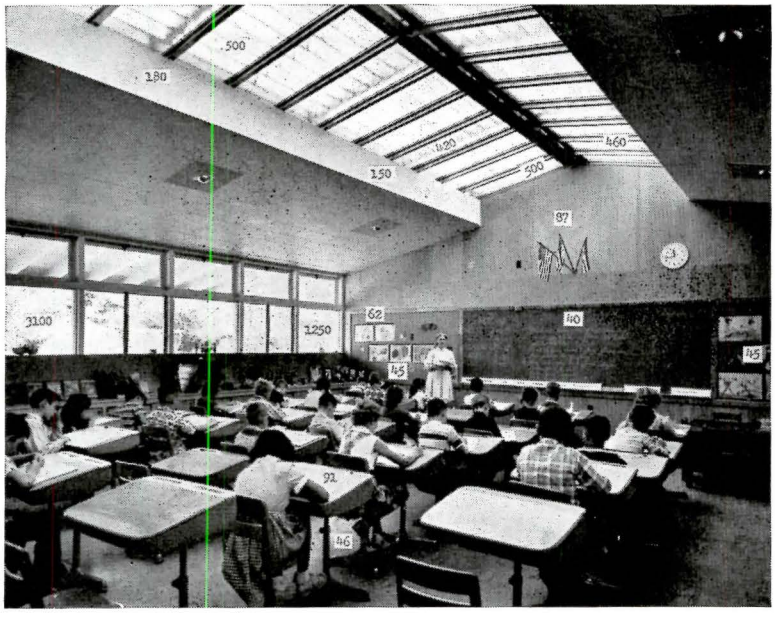


Figure 10 — successful toplighted classroom (right). *Roseland School; C. A. Caulkins, Jr., Architect.* Photo: Dmitry-Village Studio



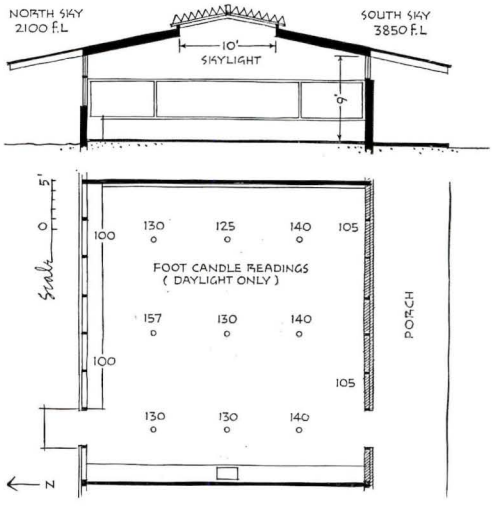


Figure 11 — toplighted classroom containing Solartron light and heat control system (left). *Colusa Elementary School; Barovetto & Thomas, Architects.*
Photo: Moulin Studios, courtesy of Western Asbestos Company

lem of scale if our schools are to appear less institutional. In the old days there was a rule of thumb, still appearing in some school codes, that the ceiling height or window-head height should not be less than one-half the room width. Actually, seldom was there adequate light beyond the middle of the room. Today, with wide roof overhangs and low window heads, glass area in relation to room depth is not too different from some of our older examples. As a consequence, toplighted classrooms are appearing with greater frequency. "Trilateral-lighted" classrooms have been publicized for some time, yet most of them have been a little less than perfect. Part of the trouble has been too small an area of skylight, too little diffusion, or improper arrangement for good distribution of daylight. If light could be selected from portions of the sky not containing the sun, as a source these

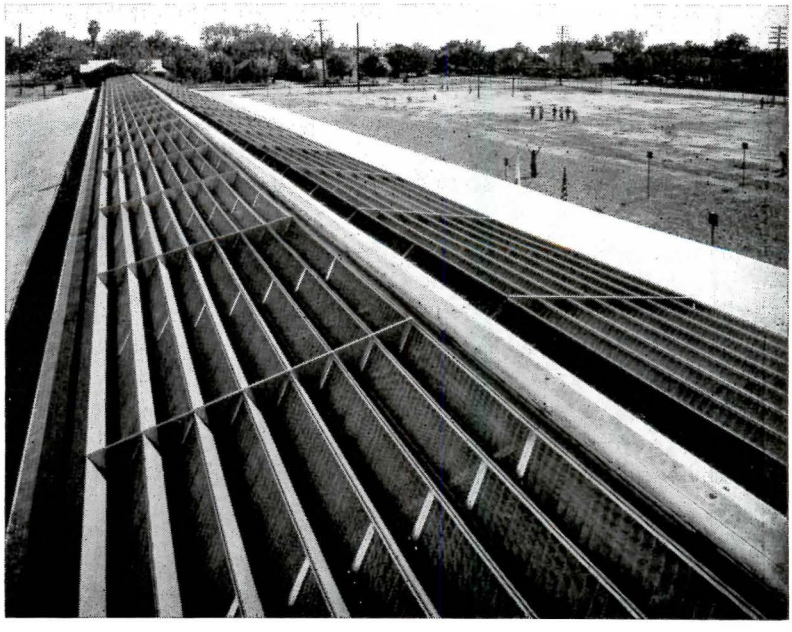


Figure 12—rooftop view of skylight control unit on Colusa Elementary School.

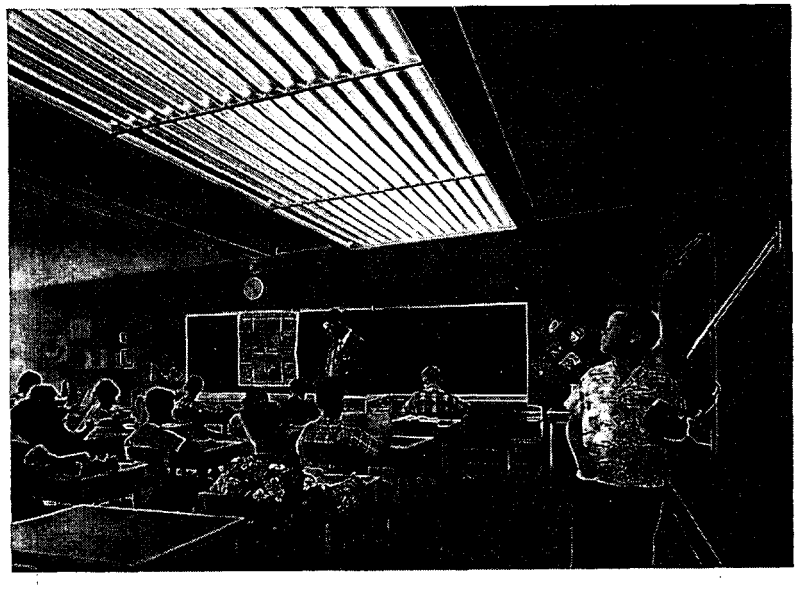
would probably be the most constant. An overcast sky has often about the same brightness as a clear, blue sky. Light from this portion of the sky should be less subject to effects of direction.

One of the more successful, recently built, toplighted classrooms has been the outgrowth of experimentation by Architect Clarence A. Caulkins, Jr. (*Figure 10*). Beginning with approximately 30 percent of the floor area in skylight and a plate height of 11 ft, he has improved seeing conditions by increasing the skylight to 60 percent of the floor area and reducing the plate height to 9′-6″. Windows have 7′-0″ heads and are for view only. In the opinion of this writer, the area of the skylight may be somewhat reduced by a more efficient sky-control device. The interior louvers materially reduce the aperture through which light reaches the point of usefulness. It is possible that sun striking the glass could result in unequal expansion and consequent breakage of the glass. Putting the control above the glass would solve some of the problem. This should also reduce heat build up. There is a conspicuously good distribution of daylight in the classroom and light levels measured indicate that the area of skylight can be reduced. In order to keep the outdoor view in pleasing contrast with the interior task, low-transmission glass may also be used in the windows without reducing the light level on the task, as is the case when the windows are the light source.

A classrom skylight covered by a compound louver is shown (*Figure 11*). This device eliminates the sun and diffuses and breaks up the sky brightness so that, while the area beneath the skylight is illuminated to 125 ft-c, the light is diffused to such a point that a high level is not evident. Research is being conducted to determine transmission so that necessary areas of skylights may be installed. In this installation, the control is installed above the glass, in an attempt to eliminate heat build up and some of the problem of breakage. (*Figure 12 shows a view of the sun-control device on the skylight.*)

A toplighted classroom with interior movable louvers in the skylight to allow darkening for projection is illustrated (*Figure 13*). The louvers, however, give the light a strong direction which may interfere with diffusion.

Figure 13—photo shows directional effect of light through louvers. Distribution might be improved by locating controls above glass. Louvers close to allow film projection. Brittan Acres School; John Lyon Reid, Architect.
Photo: Roger Sturtevant



These efforts to produce more comfortable and effective seeing conditions seem worth while—particularly in the elementary classroom with its indoor-outdoor activities, frequent comings and goings, and diversity of interests. Because of these site-centered activities, it seems rational for the classroom to be illuminated consistently with the out-of-doors. This infers higher indoor light levels and, as natural light is relatively free, there seems to be no reason for not availing oneself of all there is, provided one keeps contrasts down. As for electric light, no one should pay for more than an amount beyond which additional increases of light mean relatively small increases in acuity, comfort, or efficiency, or material cost savings made in the building. More research must be done in this field, as much has yet to be discovered.

recent structures in West Germany

apartment house, Hamburg

by R. Knerlich*

Slip forms were recently used in Hamburg, Germany, to erect all of the exterior and interior walls of a 14-story apartment house in only 11 days. After completion of the slip-form procedure, floor slabs and stairs were poured in four weeks. This apartment house has a ground plan of 3930 sq ft and a height of 130 ft. It contains 118 one-room apartments with 236 sq ft of living area in each and 10 two-room apartments with 356 sq ft each. One part of the basement, intended for shelter, and one part of the ground floor, intended for public passage, were formed and poured by conventional methods. A review of the expenditures for this project has shown that a savings of about 20 percent of the cost of the concrete-wall frame and about 10 percent of the total construction cost was realized by the use of slip-form construction—as compared with conventional concrete skeleton-frame construction.

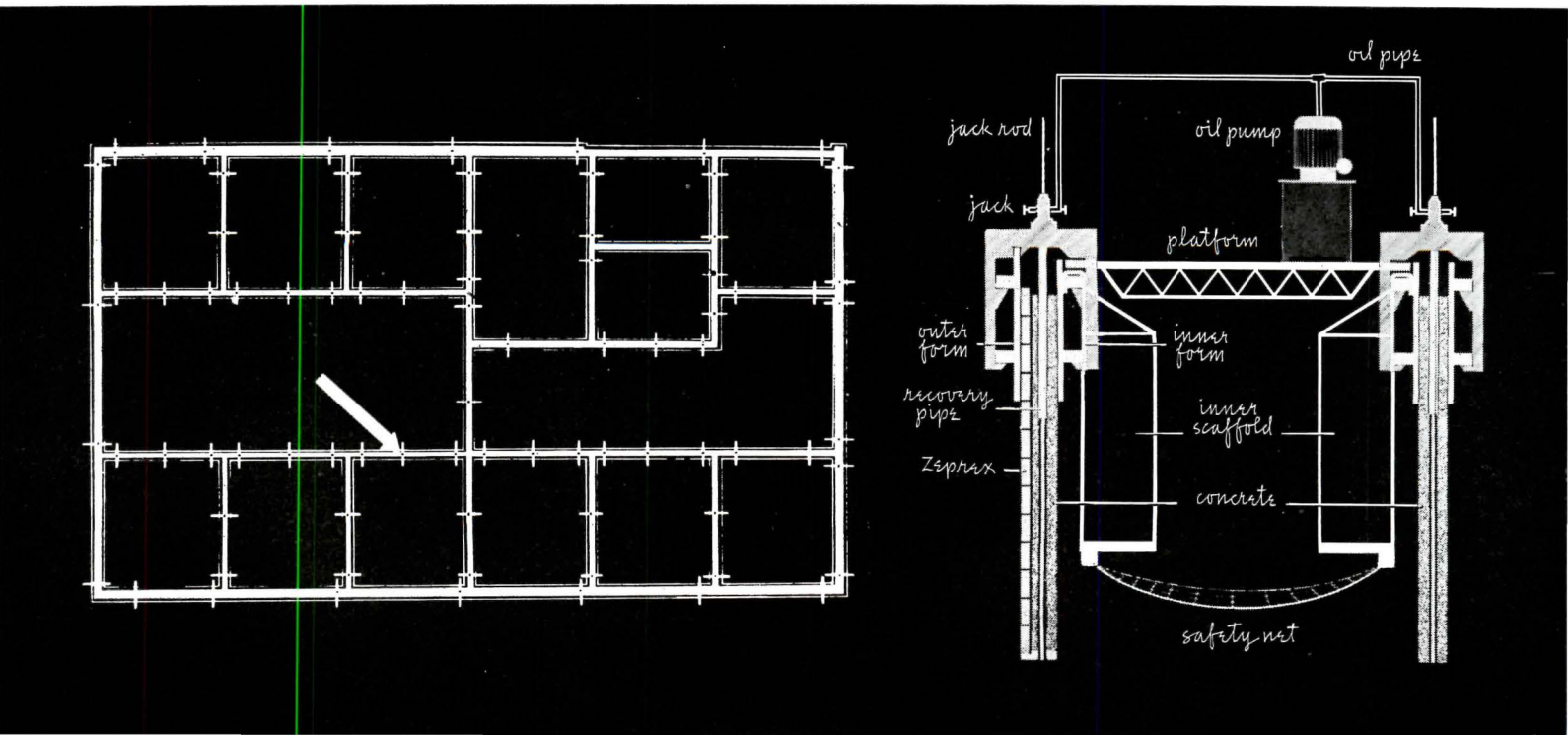
For this construction method—known proprietarily as the Concretor Form Raising System—the forms are usually 3′ or 4′ high and are initially assembled on the foundation slabs *(illustrations below)*. They are then raised continuously, with a speed that is co-ordinated with the pouring and setting of the concrete, until the top of the structure is reached. All work is conveniently performed from a platform flush with the tops of the forms *(Figures 1 and 2)*. The platform is raised simultaneously with the forms *(Figures 3 and 4)*.

The outer form boards on this particular job were spaced about 4 in. apart *(Figure 5)*. This was possible as the design of the wall called for large insulating blocks** to be used for the outer facing.

* *Architect, Hamburg, Germany. The original manuscript was translated by T. Carlweitz, Engineer, B. M. Heede, Inc., Concretor Equipment Division, New York, N. Y.*

** *Known in U. S. as Zeprex. (P. 119, June 1953 P/A.)*

Diagram of construction elements for slip-form construction method (below right). *Plan of a typical floor showing the supporting outer and inner walls cast with slip-form method. Note position and number of jacks* (below left).



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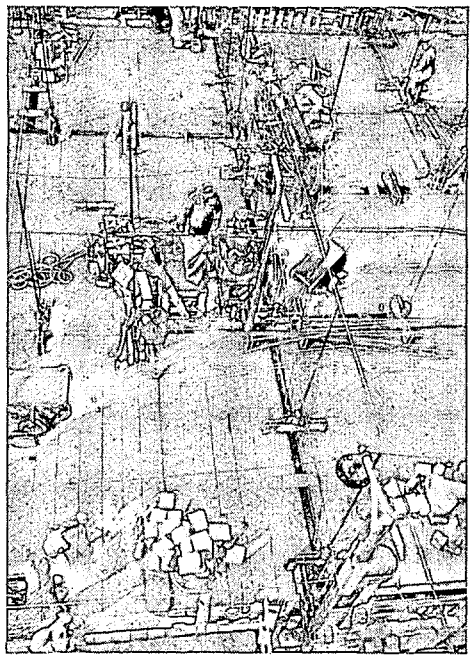
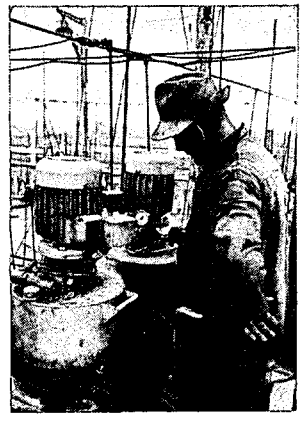


Builders assemble working platform, slip forms, and jacking equipment (Figure 1). *General view of working platform* (Figure 2); *located in center are pumps to which all jacks are connected by oil lines. Close-up of electrically-driven oil pumps* (Figure 3). *Detail of working platform with attached steel yoke and hydraulic jack* (Figure 4).

All photos: Herbert Dombrowski



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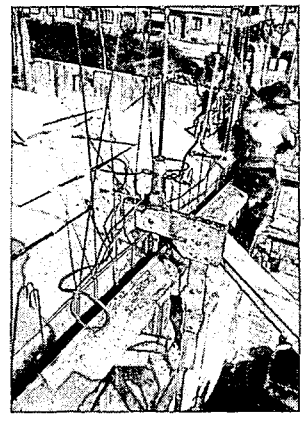

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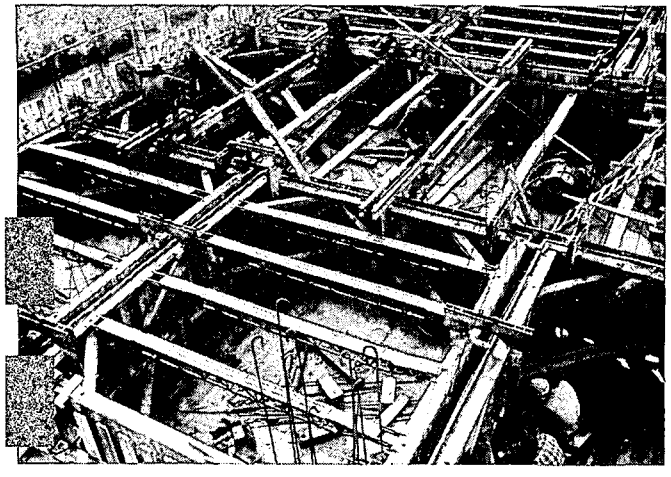


Thus the blocks themselves actually became the surface of the outer form and the concrete was poured directly against them.

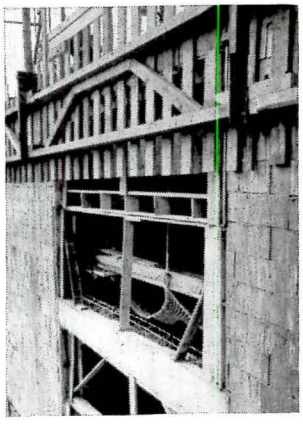
In slip-form construction, the entire weight of the forms, working platforms, hanging scaffolds, etc., is transmitted by means of yokes and jacks to vertical rods set in the concrete walls *(Figures 2 and 4)*. These rods, 1 in. in diameter and of random lengths, are joined together by threaded studs and, in the finished structure, extend from the foundation to the top of the building. In order to recover the rods after completion of operations, they are protected from contact with the fresh concrete by means of a pipe extended from the bottom of the jack.

The hydraulically raised jacks, 82 in all, were interconnected by oil lines from centrally located oil pumps *(Figure 3)* and raised simultaneously at an oil pressure of approximately 1000 psi. Speed of jacking depends primarily on three factors: temperature, air moisture, and quality of concrete.

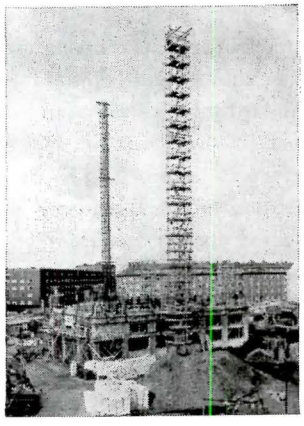
The concrete, which did not contain admixtures, was placed in comparatively thin layers and vibrated. It was found that due to the choice and composition of the aggregate, as well as the mix proportions of the aggregate and cement, a concrete density far above that specified was achieved. This quality of material very favorably affected the sound insulation of the comparatively thin 6 in. interior walls. Outerwalls are uniformly 11 in. thick, although in some areas the concrete is 9 in. and in others 7 in. Uniformity of over-all thickness was maintained by differing widths of insulating blocks.

A lime mortar was applied to the lightweight blocks which had been moistened in advance. After hardening, the walls were surfaced with plaster.

In designing a building for slipform construction, the plans should be such that the slip forms can be utilized from the foundation slab to the top of the building. Preferably, the walls should have a constant thickness and should not be less than 6 in. when wood forms are contemplated. Construction is simplified if windows are aligned vertically as the position of the jack rods is permanent. To facilitate placement, the reinforcing steel should be designed with this system in mind. Bars should not exceed 15 to 20 ft in length.



View of thin outer form against which the lightweight insulating blocks were placed (Figure 5). *Various stages of erection are shown* (Figures 6, 7, and 8). *Bricks were laid and insulating blocks were plastered from hanging scaffold* (Figure 9).



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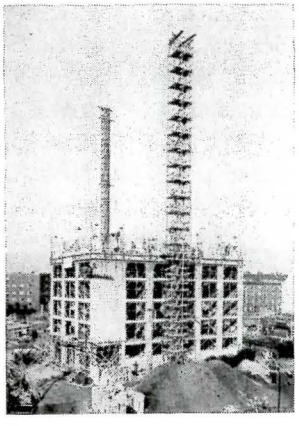

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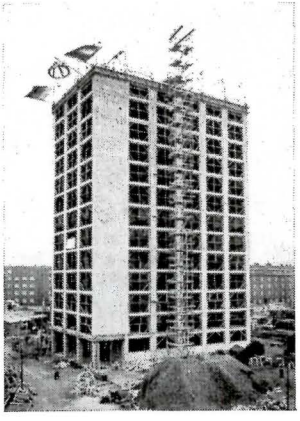

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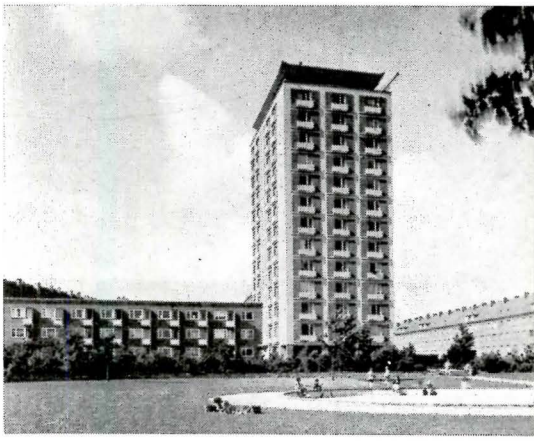
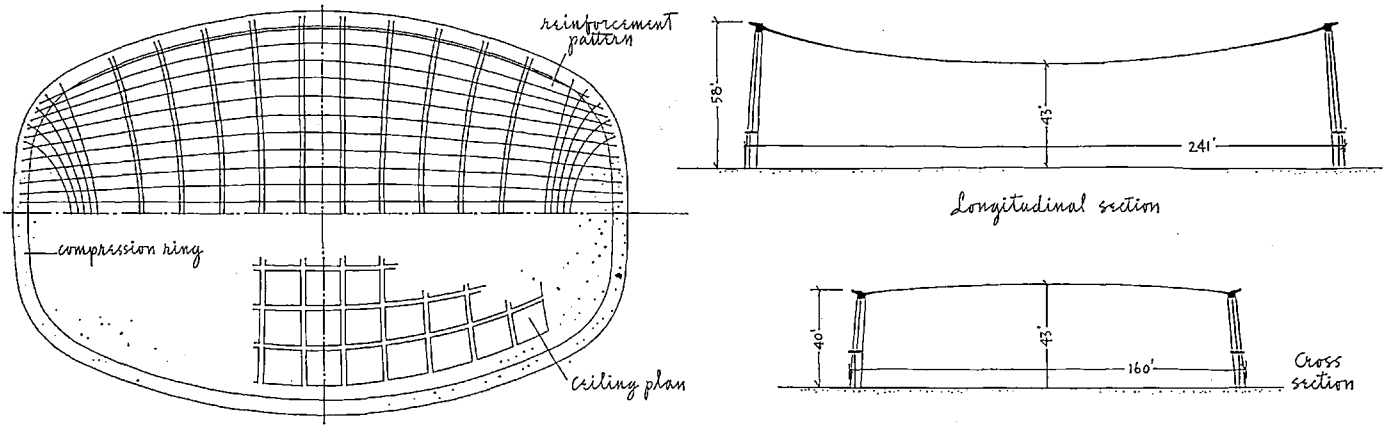




Completed views of 14-story apartment house with connecting three-story apartment building. Supporting walls are surfaced with gray-green plaster, window and door walls are filled with "Oldenburg" brick, and balcony walls are asbestos cement.



Sections show column slope, approximately 1:12 (above right). *Longitudinal reinforcement is placed 16" o.c.; transverse reinforcing is grouped at intervals about 16½' apart* (above left). *Grid pattern formed by ribs is also shown.*

exhibition hall, Karlsruhe

This exhibition hall, recently erected in Karlsruhe, Germany, measures 159½ ft by 241½ ft and is roofed by a doubly-curved concrete membrane only 2-⅜ in. thick!*

The elliptical membrane is suspended from a reinforced-concrete ring-beam which girds its entire surface. Steel reinforcing, spanning longitudinally, carries the major portion of the roof load on the strong axis of the ellipse and transfers it to "binderscheiben" (wide, flat beams formed at each end of the roof by heavy concentrations of reinforcing). The concrete ring acts in compression to counteract any inclination of the "binderscheiben" to come together. Tendency for the roof to flatten along the transverse axis, forcing the concrete ring outward, is taken up by post-tensioning the transverse reinforcing. A static condition results, in which all bending moments are accommodated within the roof structure. Reinforced-concrete supporting columns are inclined inwards and held together below ground by a second concrete ring, this one in tension.

Design loads on the membrane (originally calculated in the metric system) are approximately:

Dead load:	
concrete slab (including steel)	28.5 psf
ribs	6.2
bituminous roofing with 1-3/16" cork insulation	4.1
lighting, decoration	2.0
	40.8 psf
Live load:	
wind and snow	15.4 psf
Total	56.2 psf

Maximum deflection caused by these loads was calculated at 1.18 in. Upward wind pressure was not taken into account, since it would only tend to reduce the loads.

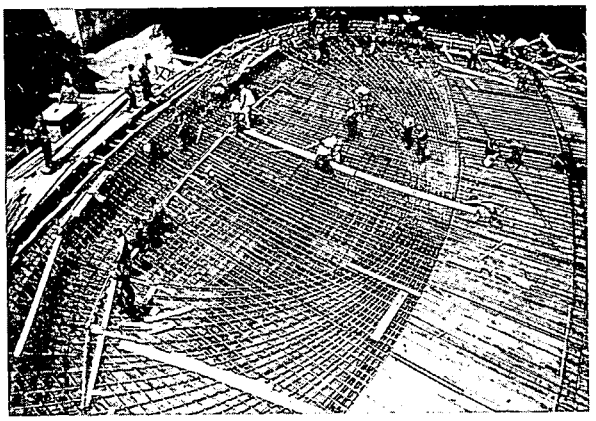
Concrete of 4300 psi was used for the roof and concrete ring; 3200-psi concrete was sufficient for the columns. Reinforcing steel is standard #8 bars with an ultimate strength of 130,000 psi. Both longitudinal and transverse reinforcing is post-tensioned according to the Dywidag system and anchored into the reinforced-concrete beam, which has a sectional area of approximately 12.4 sq ft.

Ribs, projecting about 1½ in. above and below the membrane, were formed to cover concentrations of transverse reinforcing. These were also run longitudinally on the interior ceiling.

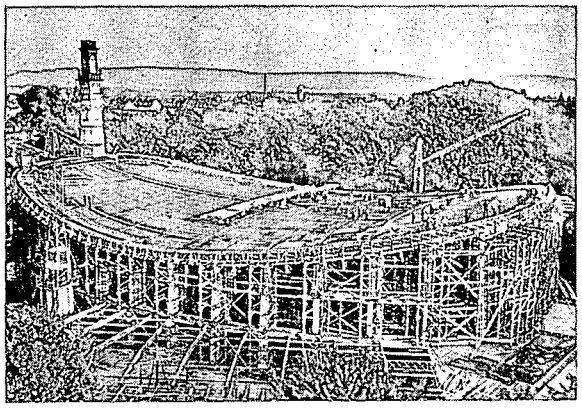
The columns, measuring about 18 in. at the widest, are shaped like tuning forks. In the cavity between the two prongs are placed conduits for electricity, air-conditioning ducts, and roof drains.

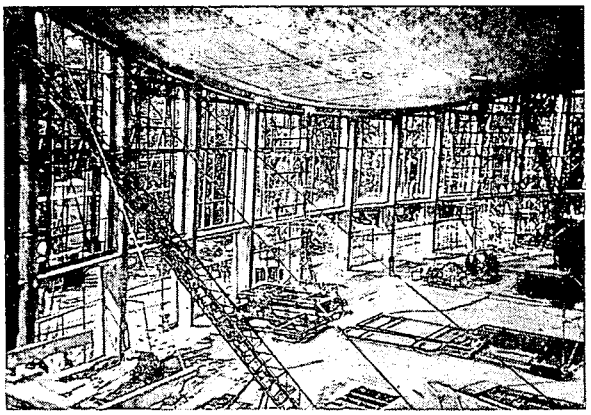
Prof. Erich Schelling of Karlsruhe was the architect. Engineers were Dyckerhoff & Widmann, inventors of the Dywidag method of post-tensioning.

* *That "doubly-curved surfaces . . . are the most appropriate from a structural point of view if a material like concrete, molded at the building site, is to be utilized," has also been recognized by Felix Candela in his architecture in Mexico* ("Stereo-Structures," June 1954 P/A).

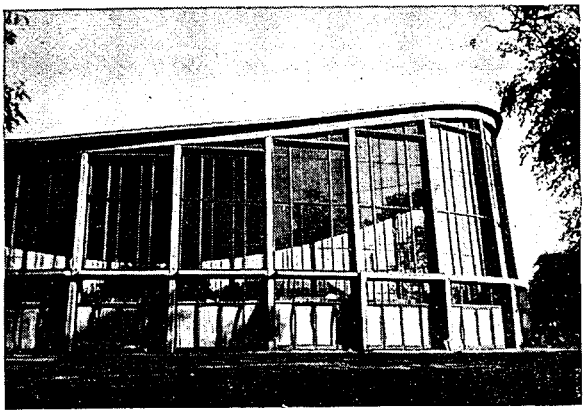


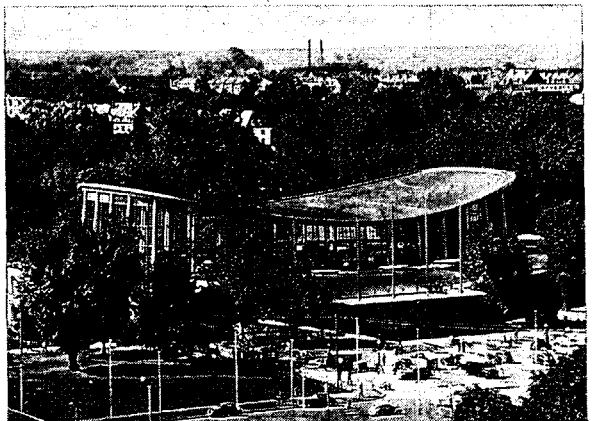
Construction photo shows placement of reinforcement for "binderscheiben" (right). *Reverse curve, which allows rain water to drain from roof, is clearly shown* (below) *even though scaffolding has not been removed.*





Window units with channel and tee mullions were assembled on ground, then put in place (right). *Of 36 bays, 31 are glazed* (below); *remaining five bays at opposite end are filled in with concrete to form backdrop for stage.*





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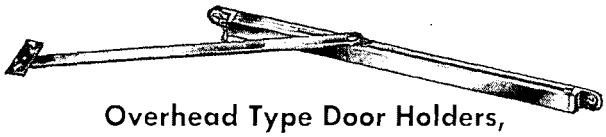

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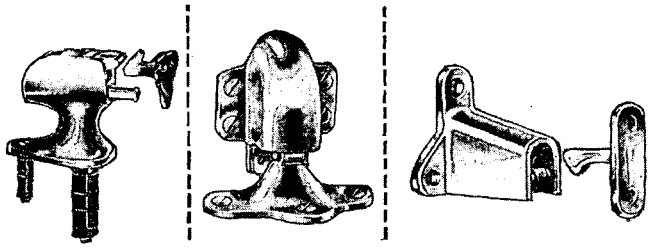
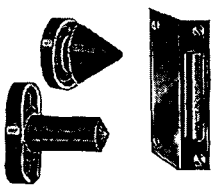


Floor and Wall Type Door Holders and Bumpers for **ENTRANCE and CLASSROOM DOORS** opening beyond 110°



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by Ben John Small

spec small talk



keys and Moore keys

I wonder if you would care to monkey with some key terms. For example, if I were talking about a drilled key or a pipe key would you believe I was describing a barrel key? (A key having a round hollow post with a projecting wing or bit to actuate the tumblers and bolt of the lock). Further, did you know that a thrust key is the same as a push key? (One which performs its function of setting the tumblers by inward rather than rotary motion.) Of course, I can drill you on warded key, wing key (really, a bit key), corrugated key, double bitted key, flat key, folding key, milled cylinder key (paracentric) to say nothing of masterkeying with change keys (sometimes called door key, guest's key, or room key), floor master keys (also called submaster keys and maid's key), section master keys (lovingly referred to as division master key, group master key, or master key), building master, grandmaster key, great grandmaster key, and emergency key which lets me out of this komplex of keys. If you really want some accurate definitions, P. O. Moore, Inc. has 'em under lock and key; maid's, that is.

got any?

Linoleum as we all know is the granddaddy of the floor covering field and, not unlike Kodak in its sphere, is the name often used as a term to cover the field of so-called resilient floorings. Frederick Walton, an English inventor found, in 1860, that when linseed oil reacts with oxygen it turns into a gummy solid. He mixed this goo with other ingredients and produced an economic floor covering which he labeled "linoleum." *India ink*, I find in my dotage after fooling with it for years in my Beaux-Arts days, comes from China, not India. *Portland cement*, Oregon and Maine notwithstanding, is named for an island in the English Channel long famous for its quarries. There must be many more like these—if you have any, please let me know.

yardstick

The other night we had a discussion at our CSI Chapter on a challenging question: is there a yardstick for good specifications? Well! A veritable torrent of words flowed in all directions; emotion ran high; bloodless faces became suffused; young specifiers sought refuge under old Sweet's. In good democratic fashion, no one agreed with anyone—to be sure, an occupational disease among us. To ease the tension, some clown related an architectural-type story of two dogs discussing a new parking meter wherein Rover said to Spot, "Dig that crazy pay toilet." Since we are a serious group, we fined him two grandfather clauses and went back to our pleasantly vituperative discussion.

One most intelligent specifier allowed as how in order to test a specification one should examine its comprehensiveness against a good check list. You will note I called him very intelligent, since I just happen to have written a book called *Building Check List** which just happens to be ideally suited for this purpose. Another very brilliant boy thought that "streamlining" could help clean up foggy, weasel-worded, obscure, fuzzy specification writing. You will note I called this lad very brilliant for I just happen to have written *Streamlined Specifications Standards** and—oh well—modesty forfends further comment. (All right, Reinhold, you may now release my twisted arm.) There were those cognoscenti who bucked for an elaborate scope of the work to help the harassed estimator meet tight due dates, and those who felt that there should be clearly defined zones of information assigned logically to the drawings and the specifications in order to avoid not only duplication but also possible conflict. Everyone agreed that references to known technical standards as well as trade association specifications should never be made without the specifier reading such references with the utmost care and modifying them accordingly in his specifications. Of course, I have my own views on what constitutes good specifications, not the least of which is having a good contractor complete with his retinue of good subs.

* *Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. 147 pp., $3.50*

fellow inmates, unite!

I wish you specification writers would take your work just a mite more seriously, if only to stay out of the courts. Let me remind you of the instance where an architect relied on specifications furnished him by a contractor. He was held liable for the inadequacy of chimneys designed by him. Take the time to investigate; do a little research in your office rather than behind bars!



temper, temper

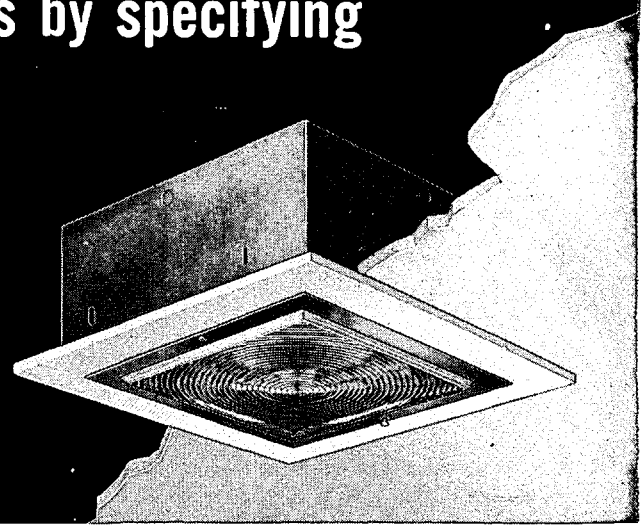
In most projects, although all items are at room temperature, there may be more hot items than cold ones. Consider the juicy specification adjectives that correctly describe but pleasantly confuse, like hot-rolled, cold-drawn, hot-dipped, cold-rolled, plus some tepid tidbits like hard-rolled, hand-rubbed, and cold-pickled (hic). On one such job there were also hot frames and cold beds but no hot water. The latter was called "tempered"; this is a very well-suited adjective, because it proves (what every good specification paragraph pusher knows) that a very close relationship in specifications exists between confusion and utter confusion; for cold-rolled copper (hard copper) is now called cornice temper, and soft copper is roofing temper. Temper, temper!

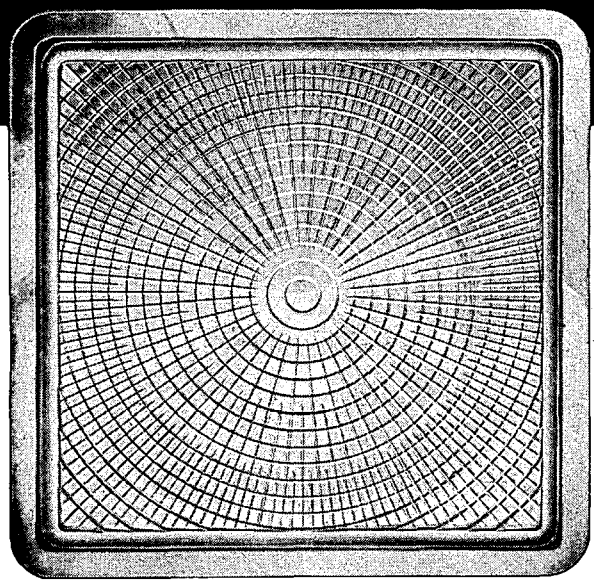
vox blox

If a hen can lay an egg in three minutes, how long does it take to lay a concrete block? Many a contractor, who thought to make a saving by omitting plaster, has found that the production rate per man in laying concrete blocks (exposed in walls of finished rooms) is much, much, much slower than for concrete blocks that are to be plastered. So, my friends, in figuring the savings for omitted plaster, ascertain first how many blocks can be laid per day where the masonry appearance has some importance and is so specified. Ninety per day is one contractor's experience, but I am not saying in what locality or what size block—that way you cannot prove my figure hygroscopic. Many companies make a special smooth block—no extra charge—for unplastered conditions. Specifications however should describe the workmanship required for the contractor, as his costs depend on how strictly he adheres to course spacing, thin joints, alignment of joints, uniform bond pattern, reinforcement, and the like.

Offer clients these benefits by specifying

ART METAL advanced ELIPTISQUARE





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- Edge light to ceiling for visual comfort
- Shallow recessed lens lighting

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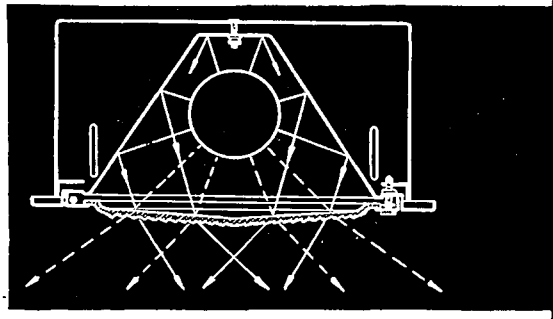
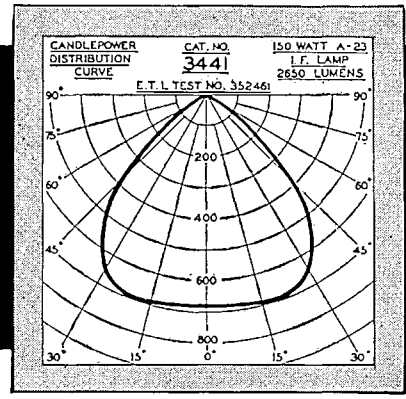
Multiplies Light Output



Eliptisquare reflector redirects *all* box-enclosed light downward through AMCOLENS to multiply lamp light utilization.



Please notice that the candlepower distribution curve is by Electrical Testing Laboratories, Inc., not The ART METAL Company.

May we send Bulletin 254 which gives complete details? Please write:

THE **ART METAL** COMPANY
CLEVELAND 3, OHIO

Manufacturers of Engineered Incandescent Lighting

roof frame: ded steel bent



JULIUS SHULMAN

Wall-Roof Section
3/4"SCALE

SCREEN
2"DIA. VENTS 16"O.C.
2"x 6" JOISTS, 16"O.C.
2-2"x12"S
FLASHING
3/4" TRIM
1/2" GYPSUM BOARD
11/8"x 5 1/2"
CONTINUATION
Plan
MULLION OVER EACH FRAME
METAL FLASHING
8WF17
3/4"WOOD TRIM
FRAME CENTER
3/4"WOOD SHEATHING
BUILT-UP ROOFING
2"x 6" JOISTS, 16"O.C.
2" BATT INSULATION
1/4"BOLTS 24"O.C.
METAL GUTTER AND FLASHING
1/2" GYPSUM BOARD
3/8"WELDED STIFFENER PLATE ON BOTH SIDES
2"DIA. VENTS 16"O.C.
3/4"WOOD TRIM
30" RADIUS
11/8"x 7 1/2" WOOD FRAME
WELDED CORNER ASSEMBLY
STEEL SASH
1/4"WEB
3/8" FLANGES
3/8" STIFFENER PLATE ON BOTH SIDES
1/4" BOLTS, 24"O.C AND STAGGERED AT ALL BEAMS

Sections
1 1/2" SCALE

BUILT-UP ROOFING
3/4"WOOD SHEATHING
INSULATION
2"x 6" JOISTS, 16"O.C.
1/2"GYPSUM BOARD
2-2"x12"S
3/4"WOOD SOFFIT
3/4"WOOD TRIM
8WF17
BOTTOM OF 12WF27
OUTER FLANGE OF COLUMN
2"x 6"S
CONTINUOUS BLOCKING
8WF17
12WF27

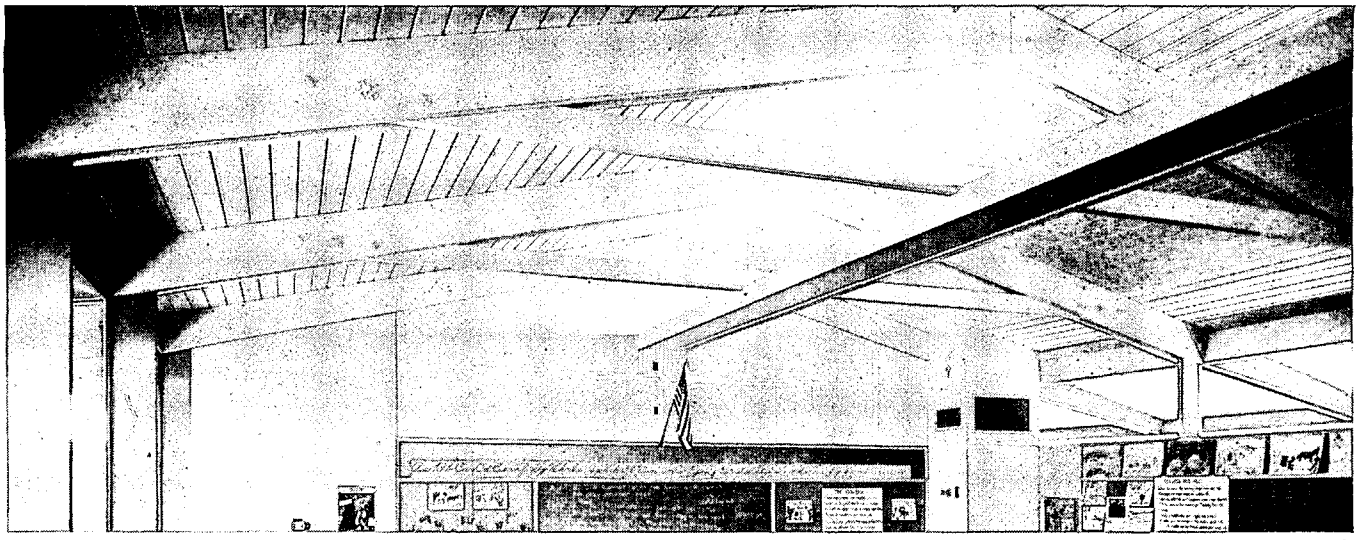
Section
3/32"SCALE

12
3
FRAMES SPACED ON 16'-3" CENTERS
12WF27
8WF17
14'
4'-2"
40'
5'-3"
12WF27
10'-10"
BASE OF COL.
PIERS, 12" WIDE
48"x 48"x 12" COLUMN FOOTINGS

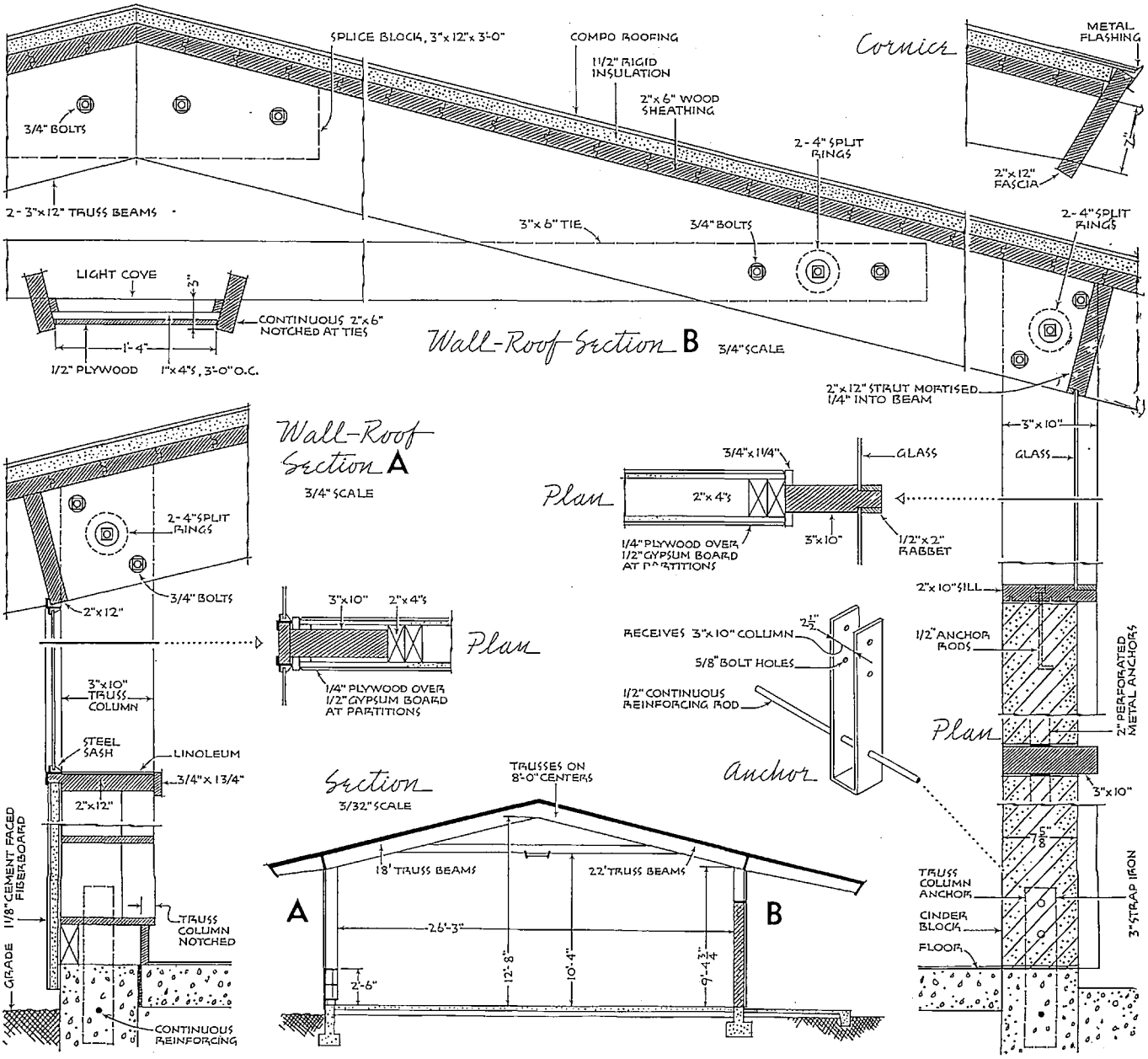
Plan
12WF27
8" MIN.
METAL GRILLE
CONTINUOUS CONCRETE SILL
CAULKING
2"x 6"
1/4" REINF. RODS
TOP OF COUNTER
HEAT PASSAGE
8" BRICK

LUTHERAN SCHOOL, Wichita, Kans.
Ramey & Himes, Architects

roof frame: wood truss



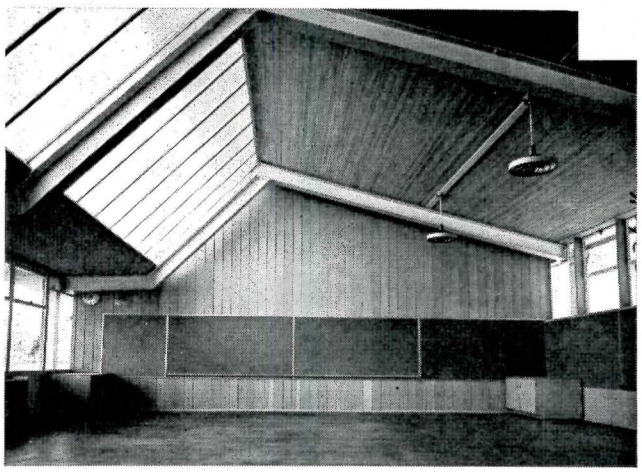
STUART WEINER



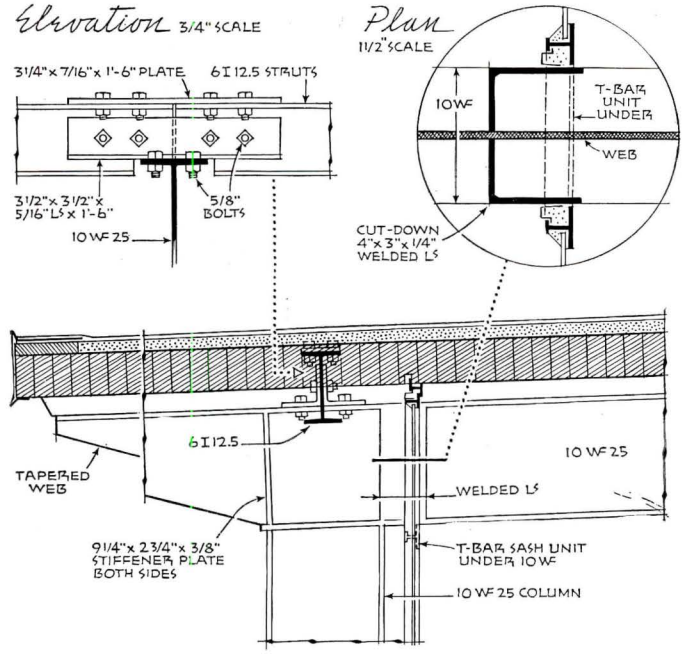
HAROLD W. SMITH SCHOOL, Glendale, Ariz.
Guirey & Haver, Architects

roof ne: grated clerestory

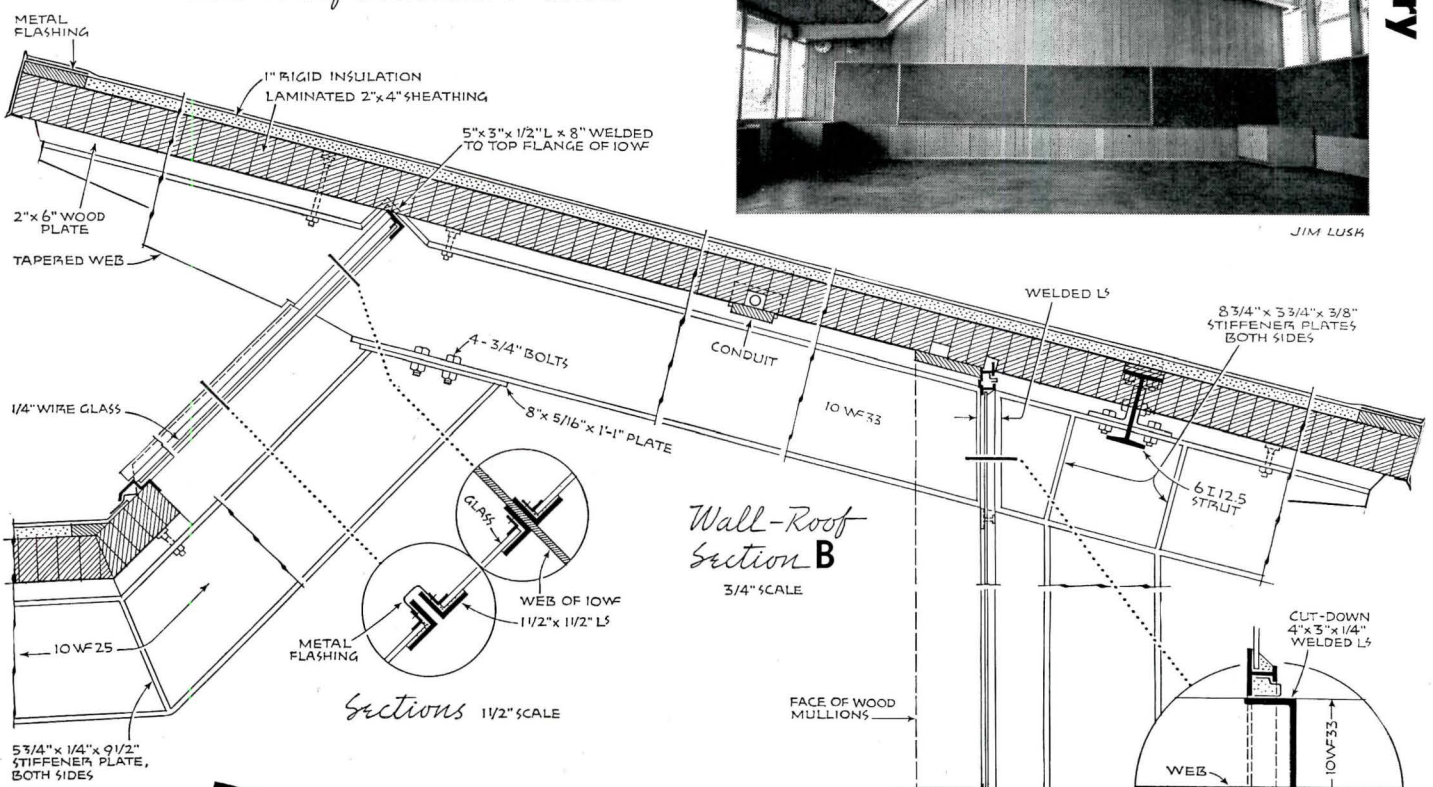




JIM LUSK

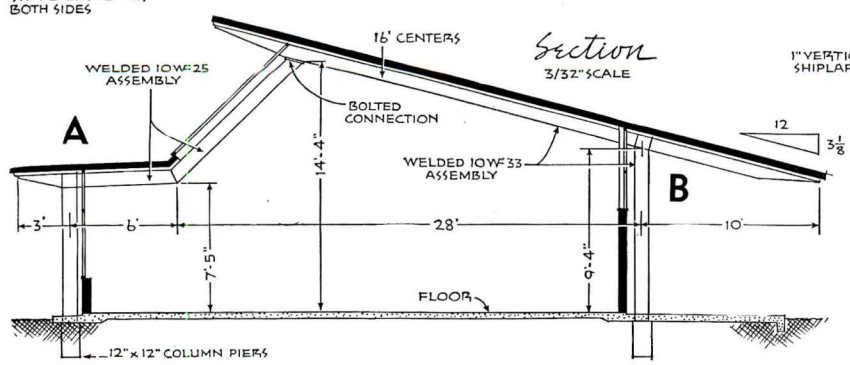


Wall-Roof Section A 3/4" SCALE

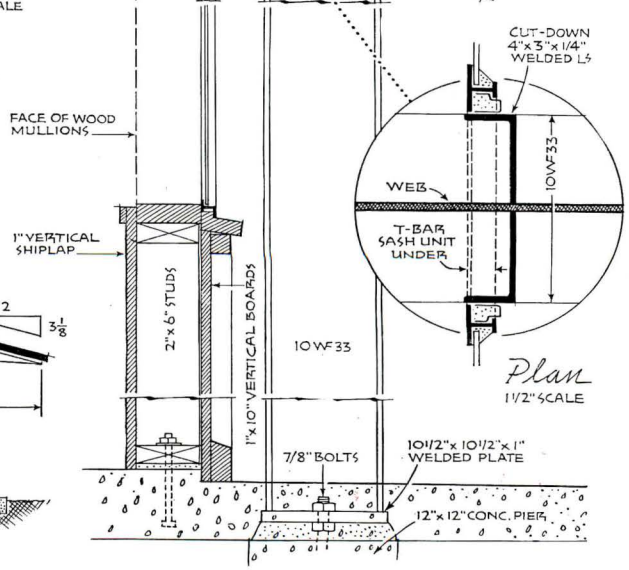


Wall-Roof Section B 3/4" SCALE

Sections 1 1/2" SCALE



Section 3/32" SCALE



Plan 1 1/2" SCALE

VANDALIA SCHOOL, Porterville, Calif.
Kaestner Associates, Architects

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Blue Ridge Securit *Interior Glass Door, flanked by a panel of Blue Ridge Corrugated Glass. Both are in the same rich Muralex pattern.*

BRIEF DATA

Glass—3/8" thick. Muralex patterned on both surfaces.

Tempered—three to five times stronger than untempered glass of same thickness.

Reversible—can be used right or left hand.

Standard Sizes—

2'6" x 6'8"	2' 5 1/16" x 6' 7 1/16"
2'8" x 6'8"	2' 7 1/16" x 6' 7 1/16"
3'0" x 6'8"	2'11 1/16" x 6' 7 1/16"
3'0" x 7'0"	2'11 1/16" x 6' 11 1/16"

Closers—when specified, the door can be shipped with a Sargent closer or prepared for use with an LCN concealed closer.

For more complete information, see the Securit Door insert in Sweet's Architectural File.

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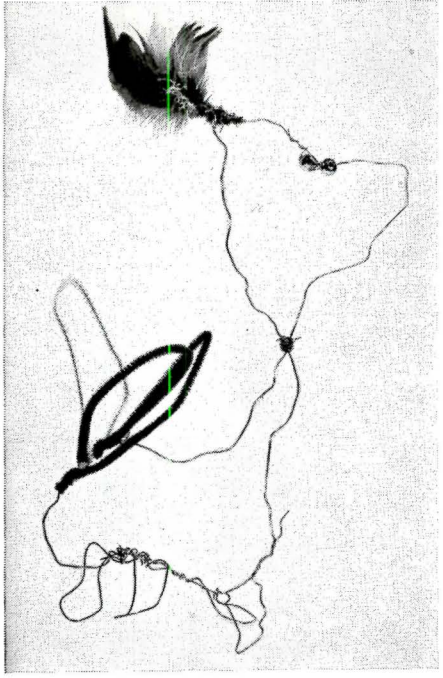
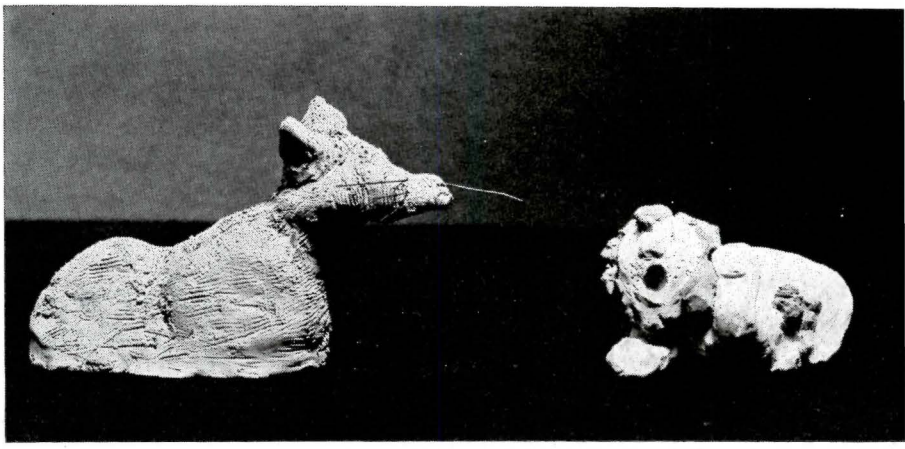




Children's Art: courtesy Museum of Modern Art



Louise Sloane

kindergartens

Present in every architectural assignment but seldom, if ever, so major a factor as in the design of kindergartens, is the psychological element—the human "plus" that concerns itself with the effect of the environment upon the spirit. Where children are, there must particularly be enrichment for the mind and the spirit, as well as provision for the healthy growth of the body. Sensitivity to this need is especially apparent in the examples of work selected for this portfolio.

Blended with such practical aspects of the job as budgetary limitations, probabilities of future expansion, regional orientation and so on, is the consistent consciousness of contemporary thinking on child psychology. This shows itself in the use of gay and cheerful colors, in the thoughtful selection of child-scale architectural details, in the flexibility of furnishings that lend themselves to the child's need for freedom of motion. It appears again in the candid use of undecorated natural materials as backgrounds, leaving the child's imagination free to make its own contribution to the decor. Above all, these surroundings do not patronize the child, nor force upon him the adult's often distorted concept of what is "juvenile."

Fulfilling its *in loco parentis* role, the well-designed kindergarten offers comfort for the body, security for the spirit, and open doors and windows for the mind.

kindergartens

client	Wenonah Elementary School
location	Minneapolis, Minnesota
architects	Thorshov & Cerny, Inc.

rail and extruded-metal screen, painted white



asphalt tile

data

cabinetwork

Cabinetwork: Lake St. Sash & Door Co., Minneapolis, Minn.

equipment

Chalk and Corkboards: New York Silicate Book Slate Co., Inc., 541 Lexington Ave., New York, N.Y.

Fire Extinguishers: Elkhart Mfg. Co., Elkhart, Ind.

Drinking Fountains: Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

Sinks: Eljer Mfg. Co., Ford City, Pa.

furnishings

Tables: Minneapolis Board of Education.

Chairs: Norcor Manufacturing Co., Green Bay, Wis.

lighting

Lighting: #H-286-4, Keystone Slimline Luminaire/Keystone Electric Mfg. Co., Philadelphia, Pa.

walls, ceiling, flooring

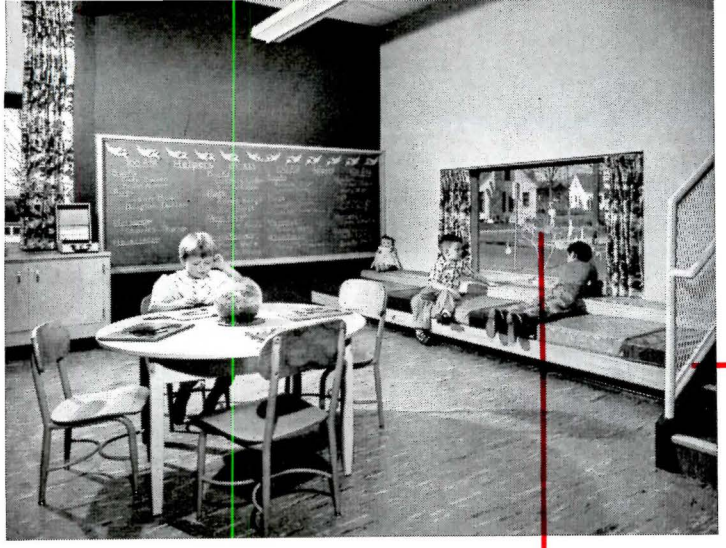
Walls: Devoe & Raynolds, Inc., 44 St. and First Ave., New York 17, N.Y.

Ceiling: acoustical tile/Celotex Corp., 120 S. La Salle St., Chicago 3, Ill.

Flooring: asphalt tile/Armstrong Cork Co., Lancaster, Pa.; quarry tile/Mosaic Tile Co., Pershing Rd., Zanesville, Ohio.

Bright colors, sturdy materials, and open planning provide a cheerful, spacious, and virtually indestructible room for the young occupants. Furnishings are scaled to child-size, as are the picture window and the window seat. As the children ascend the balcony to the nap area, they may look through peephole windows, glazed in warm, varied colors. The integration of the structural system with the lighting, both artificial and direct from the clerestory, contributes to the agreeable design. Contrasting textures, planes of color, and arrangement of storage and work units are used to create intimate areas within the over-all space.

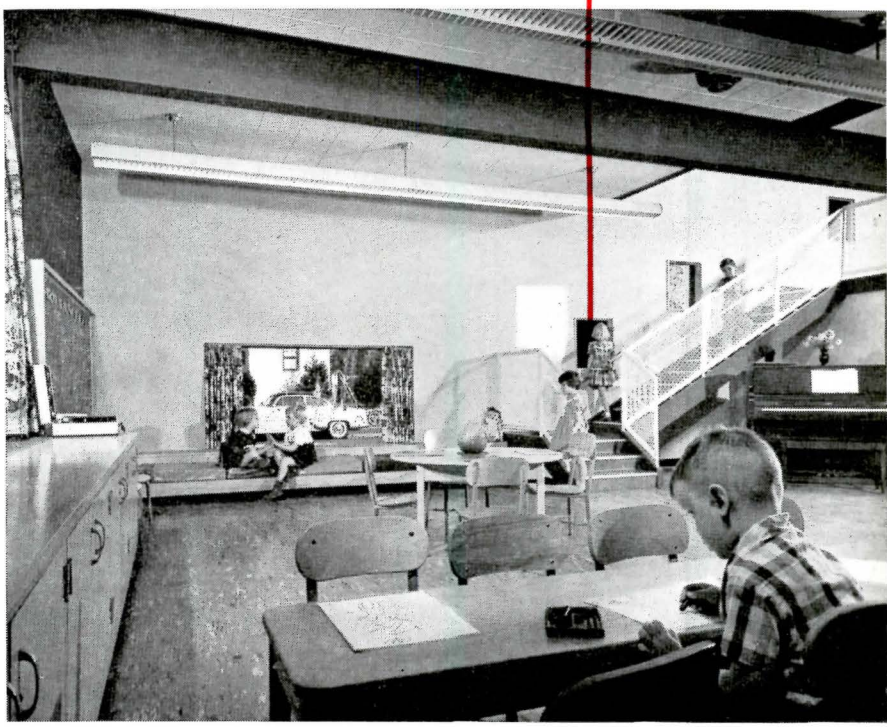
Photos: George Miles Ryan Studios



stair to nap area

colored-glass windows

child-size picture window



acoustical tile



patterned draperies

kindergartens

client	Hugo Reid School
location	Arcadia, California
architects	Austin, Field & Fry

movable screens



decorative floor insert

data

equipment

Movable Screens: custom-made by School District, painted-wood frame, acoustical-board facing.

furnishings

Furniture: American Seating Co., 901 Broadway N.W., Grand Rapids 4, Mich.

lighting

Fixtures: "Rocket" / Smoot-Holman, Inglewood, Calif.

ceiling, flooring

Ceiling: "Cushiontone" / Armstrong Cork Co., Lancaster, Pa.

Flooring: asphalt tile/Kentile, Inc., 58 Second Ave., Brooklyn 15, N.Y.; decorative inserts/Armstrong Cork Co., Lancaster, Pa.



Designed as an integral facility of a two-acre city park and playground, this kindergarten was scaled to create a warm and friendly atmosphere. Storage units, easels, furniture, are all comfortably child-height, and the dropped lighting fixtures increase the feeling of intimacy. Particularly interesting are the movable screens which serve the double purpose of shielding the rest cots as well as acting as pin-up boards for artwork. The room is planned with generous space for active play.

Photos: Julius Shulman

p/a interior design data

kindergartens

client	Central School, South Bay Union School District
location	Imperial Beach, California
architects	Paderewski, Mitchell & Dean

paved play area, egg-crate sheltered



concrete slab, radiant panel, asphalt tile

cane-fiber perforated acoustic tile



island cabinets

Window walls and sliding glass doors serve a double purpose, taking full advantage of the mild dry climate for outdoor activities and also permitting constant supervision by one teacher of both the kindergarten room and the brick-fenced, paved, play area. Common brick selected as the building material in consideration of the initial, the maintenance, and the operation costs, contributes variegrated color and texture to the interior walls as well. A homelike atmosphere was created in order to minimize the change from home to school environment, especially important at the kindergarten age.

Photos: Julius Shulman

data

doors and windows

Sliding Metal Doors: "Arcadia"/ Arcadia Metal Products, 324 N. Second Ave., Arcadia, Calif.

Metal Windows: semi-intermediate projected/ Druwhit Metal Products Co., 4368 E. Bandini Blvd., Los Angeles 32, Calif.

equipment

Counter Tops: formica/ The Formica Co., 4620 Spring Grove Ave., Cincinnati, Ohio.

Chalkboard: "Permaplate"/ Education Equipment Co., El Monte, Calif.

Tackboard: "Hi-Lite" Weatherwood/ ½" thick/ U. S. Gypsum Co., 300 W. Adams St., Chicago 6, Ill.

furnishings

Tables: Virco Manufacturing Co., 15134 S. Vermont Ave., Los Angeles, Calif.

Chairs: #60, "Greg-Sun"/ Hi-Point Bending and Chair Co., Silver City, N.C.

lighting

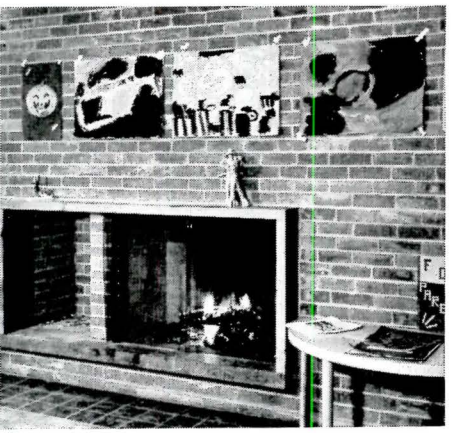
Lighting: #R7013, "Seelux" Concentric Ring/ with silver bowl lamps/ Edwin F. Guth Co., 2615 Washington Blvd., St. Louis 3, Mo.

ceiling, flooring

Interior Ceiling: "Acousti-Celotex" acoustic tile/ random pattern, Type C-9-R/ 12" x 12" x ¾"/ The Celotex Corp., 120 S. LaSalle St., Chicago, Ill.

Flooring: asphalt tile/ Color No. D-263 and D-253/ Kentile, Inc., 58 Second Avenue, Brooklyn 15, N.Y.

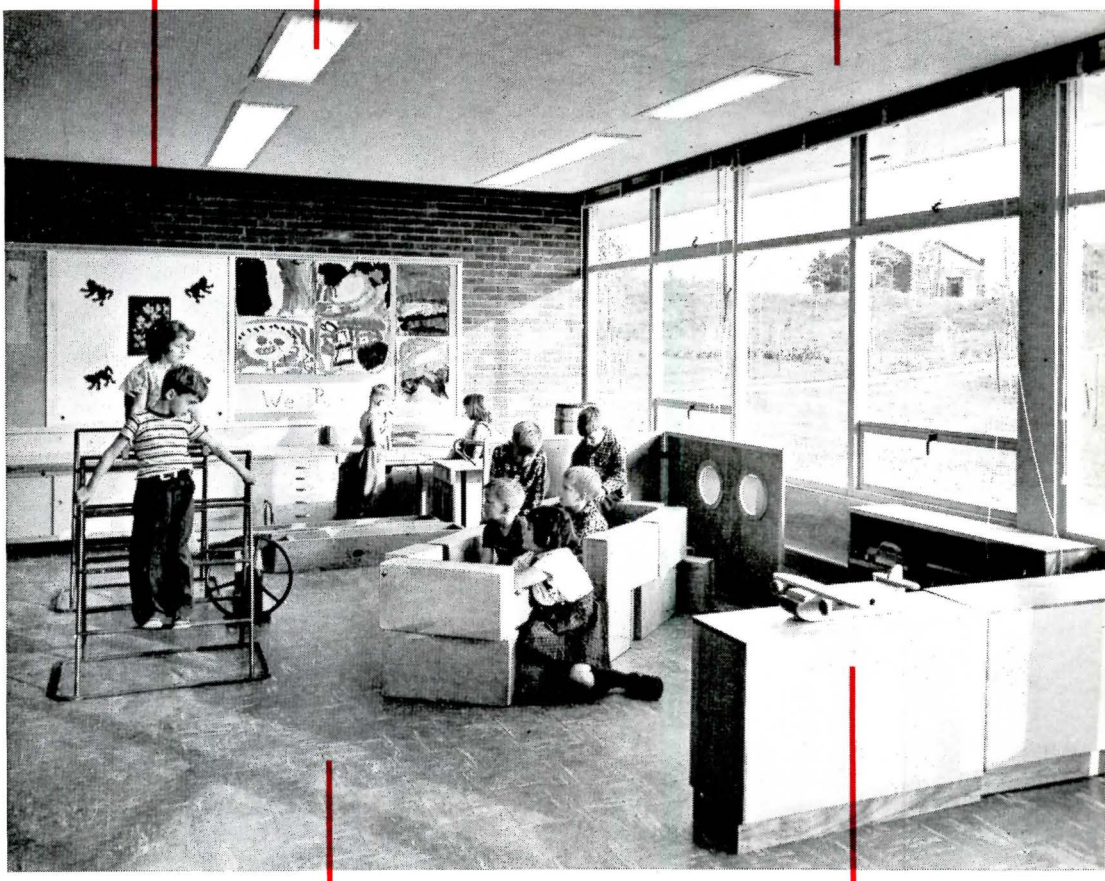
client	Grout Park School
location	Schenectady, New York
architects	Skidmore, Owings & Merrill



lighting controlled by separate switches

warm-red brick walls

white acoustical tile



gray asphalt tile

portable storage bins

data

cabinetwork

Portable Bins: designed by Skidmore, Owings & Merrill, made locally.

windows

Windows: Hope's Windows, Inc., Jamestown, N.Y.

equipment

Playblocks, Porthole Screen: adapted by Eleanor Jaeger, principal of school, built locally.

Nesting Bridge Set: Childcraft Equipment Co., 155 E. 23 St., New York, N.Y.

lighting

Flush Fluorescent Lighting: Eastern Fixture Co., 170 Vernon St., Boston, Mass.

walls, ceiling, flooring

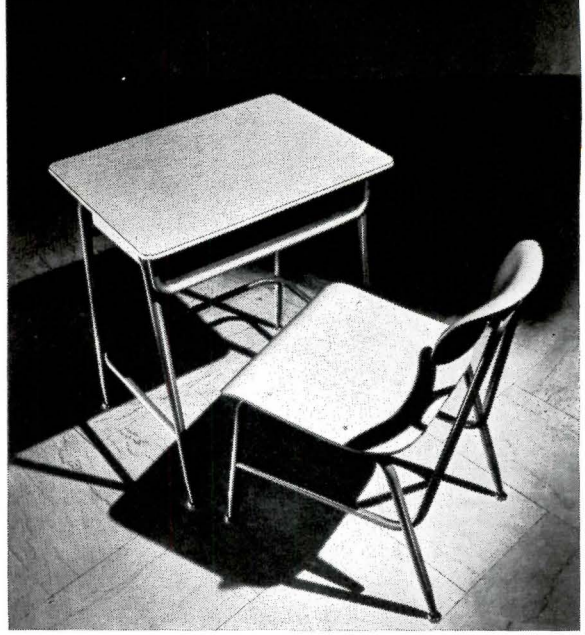
Walls: brick/ Champlain Brick Co., Mechanicsville, N.Y.

Ceiling: "Travacoustic" suspended acoustical tile/ National Gypsum Co., 325 Delaware Ave., Buffalo 2, N.Y.

Flooring: asphalt tile/ B. G. Goodrich Co., 36 Nichols Ave., Watertown 72, Mass.

Color-planned to provide an inviting, yet unobtrusively neutral background, for the colorful creative work of the children themselves, the Grout Park School kindergarten combines natural birch woodwork, red brick walls, gray floors, white ceiling, and cream-colored linoleum counter tops. Highlight of the room is the open fireplace, requested by the teachers to add an important living experience for the small students. For maximum flexibility, storage bins are portable. The workbench is fitted with scaled-down real working tools. The play equipment is designed for lively action and for free imaginative play (note "porthole screen" which can become a house with windows, a boat, a store, or whatever the child visualizes). Because the small child's favorite seat is the floor, radiant heat keeps floors warm.

Photos: Gottscho-Schleisner

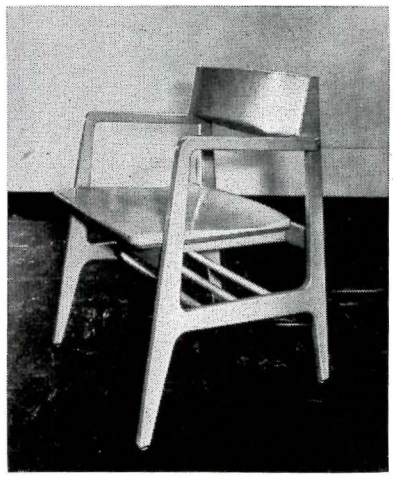


School Furniture: "Samsonite" desk and chair/ stainless-steel frames/ top in plastic laminated to plywood, or solid maple, or birch, or maple plywood/ baked-enamel finish in turquoise, rust-red, cocoa brown, light gray/ constructed for durability, silence, easy maintenance/ designer: Russel Wright/ **Shwayder Brothers, Inc., 4270 High St., Detroit 29, Mich.**

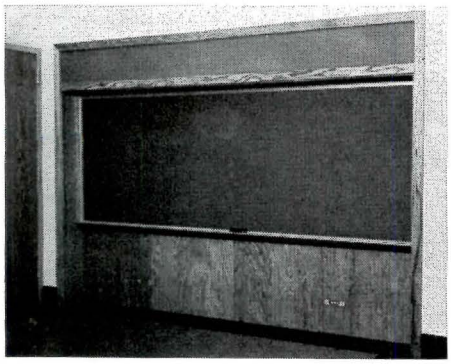


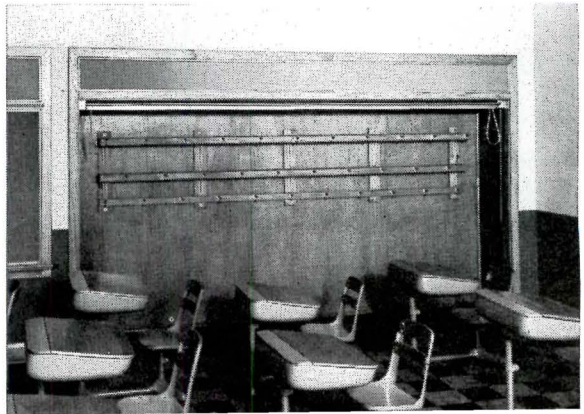
Library Table and Chairs: designed for Yale Art Library/ top 36" x 96" x 29" hi, walnut "Realwood" Formica, base black wrought-iron/ chair backs, seats, and arms of solid sculptured walnut/ designer: Darrell Landrum/ **Avard Furniture, 66 W. 55 St., New York, N. Y.**

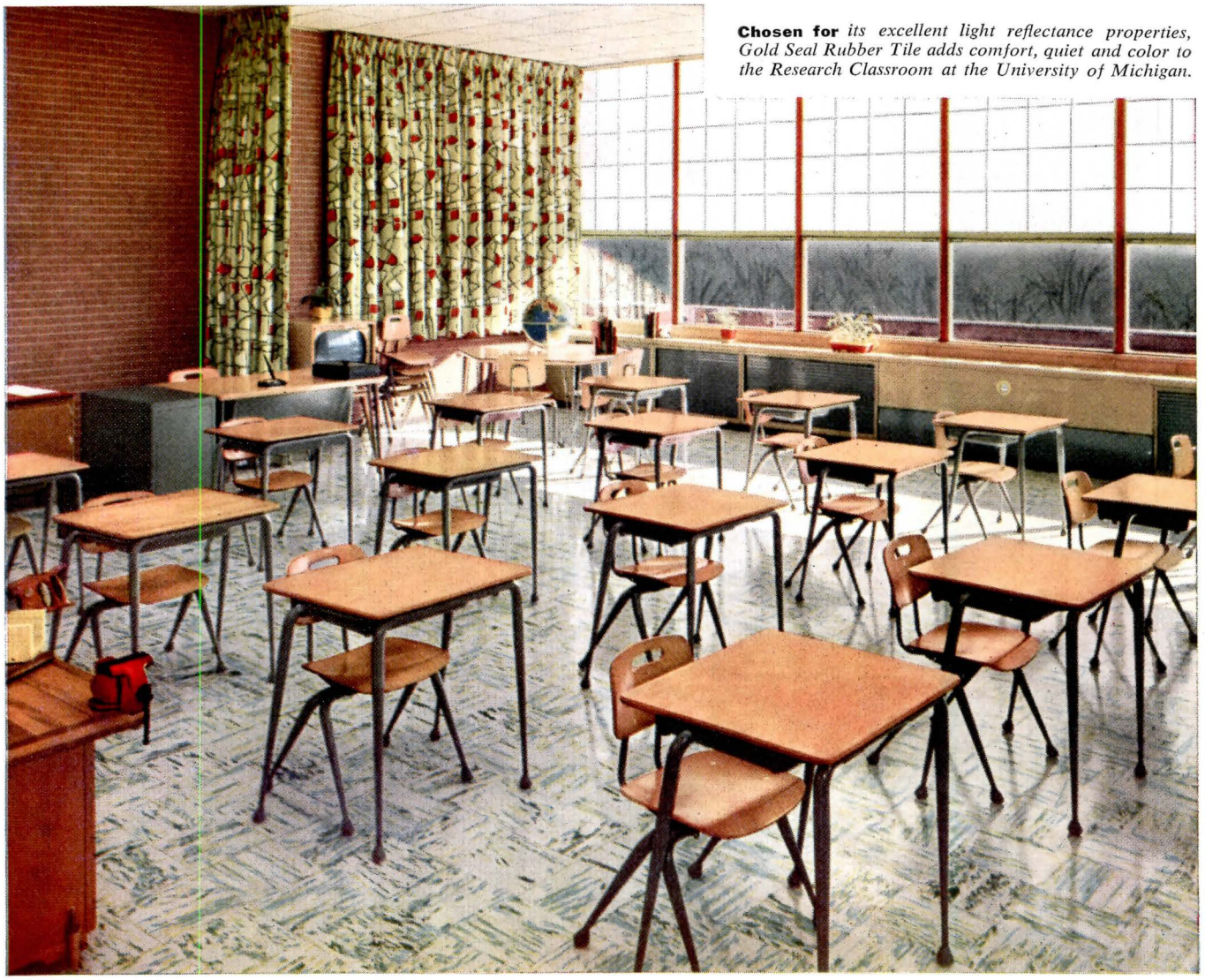
Reading Chair: constructed for proper posture, built to stand public use/ birch, light finish, or special finishes or leather upholstered/ designer: Norman Cherner/ **Library Bureau of Remington Rand, Inc., 315 Fourth Ave., New York 10, N. Y.**



Cloakroom Closure: "Wardrobedoor"/ opens with vertical rise/ space-saving/ counterbalancing mechanism for ease of operation/ outer surface may be equipped with chalkboard/ birch hardwood, red-oak veneer, or special veneers/ hardwood shelving, brass coathooks/ interior compartments furnished to special order/ **Barber-Colman Co., Clifford Ave., Rockford, Ill.**







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Use: heavy-traffic commercial and institutional areas. Sizes and patterns: 6" x 6" and 9" x 9" tiles. 21 marbleized patterns.

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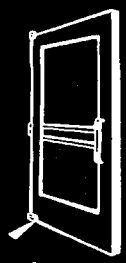
CONGOLEUM-NAIRN INC., KEARNY, N. J.



entrance and vestibule doors



patient room doors



utility and supply room doors



operating room doors

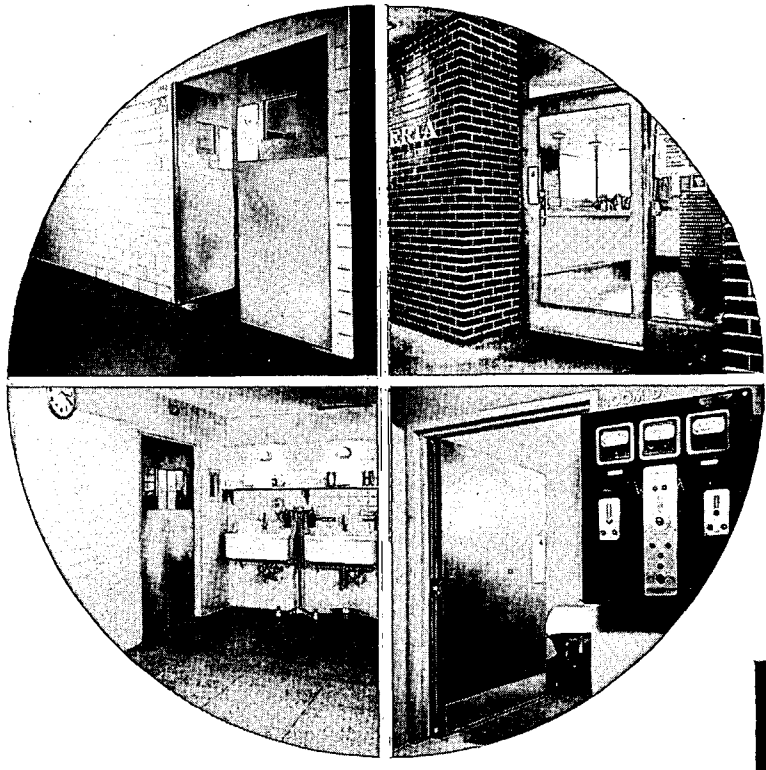


x-ray room doors



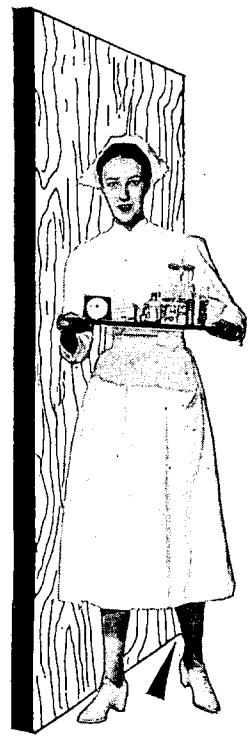
toilet room doors

All "*working*" hospital doors should close automatically with RIXSON concealed closers



Weiss Memorial Hospital Interiors, Chicago.

LOEBL, SCHLOSSMAN and BENNETT, architects, Chicago.



RIXSON concealed closers are firmly embedded in the RIGID FLOOR

Where patients, visitors and a busy staff pass through doors . . . a safe, controlled door closing action is important. Every "working" hospital door, including entrance and vestibule doors, utility room, toilet, and patient room doors—should be equipped with RIXSON floor type closers. The doors will open with a light, easy push and then close gently, quietly, and automatically. RIXSON Closers are out of the way, firmly concealed in the rigid floor where they cannot gather dust or dirt and cannot obstruct the door opening. No unsightly arms or mechanism exposed.

There's a silent, automatic RIXSON Closer to suit every interior and exterior door requirement — from the lightest patient room door to the extra heavy X-ray room door.

Most RIXSON Closers available with built-in hold-open.

THE OSCAR C. RIXSON CO.

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1



2

1. **"Monterey" Indoor-Outdoor Group:** (left) "Del Monte Settee," redwood frame, double cross-strapping under plastic-covered cushions/ **retail:** $44.95; (center) "Carmel Chair," redwood frame, canvas back and seat in 8 colors/ **retail:** $19.95; (right) "Pebble Beach Chair," redwood frame, double cross-strapping under plastic-covered cushions/ wheels/ **retail:** $29.95; designed by Greta Magnusson Grossman/ **Suncraft-Monson California Co., Fremont, Ohio.**

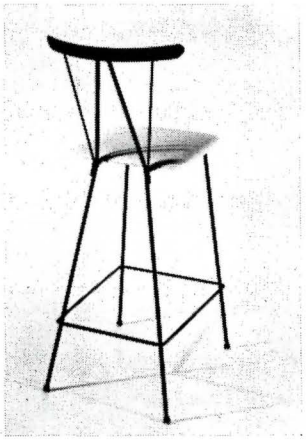
2. **Table and Chairs:** table, rosewood top, 31" x 31" x 28"/ wrought-iron base, chalk-white/ **retail:** $88; chairs, rosewood finish on ash/ wrought-iron frames/ **retail:** $56; new wrought-iron finishes: Antique Pink, Mist-Green/ **Lee L. Woodard Sons, Elm St., Owosso, Mich.**

3. **Bar Chair:** wrought-iron/ "Neva-Rust" finish in white, Lemon Yellow, Aquamist, Clover Pink, Statuary Bronze, Satin Black/ seat 27" high, over-all height 40"/ designed by Maurizio Tempestini/ **retail:** $25/ **John B. Salterini Co., Inc., 510 E. 72 St., New York, N. Y.**

4. **Lounge Chair:** adjusts to five different positions by means of self-locking arm ratchet/ legs rubber-tipped/ adjustable pillow head-rest/ black-enameled wood frame, yellow sailcloth/ **retail:** $16/ **The Telescope Folding Furniture Co., Inc., Granville, N. Y.**

5. **Stackable Chairs:** thin redwood combined with gold-anodized aluminum/ tapered leg/ rust-proof finish/ backs molded for comfort/ engineered for stacking and easy storage/ **retail:** $31/ **The Troy Sunshade Co., Troy, Ohio.**

6. **Contour Chaise:** "Weatherproof" series/ guaranteed rust-proof/ perforated metal with wrought-iron in Shrimp, Lemon Yellow, Aquamist, Pompeian Green, Charcoal Gray, Shocking Pink, black, white/ 74" x 23" x 40"/ designed by Jack Cameron/ **retail:** $60/ **Arbuck, Inc., 473 Fourth Ave., New York, N. Y.**



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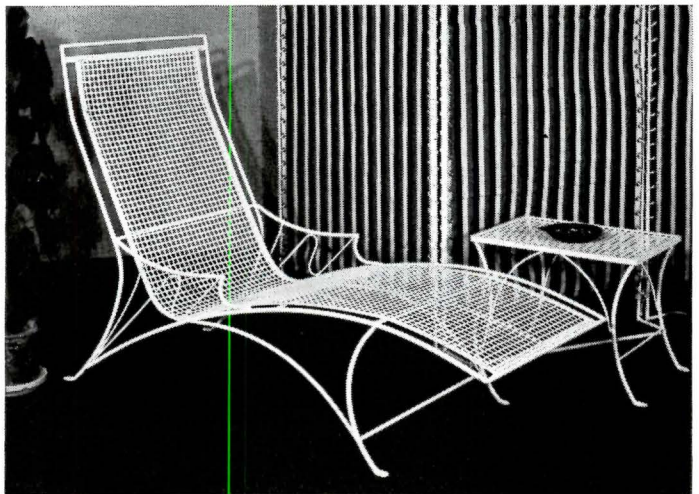
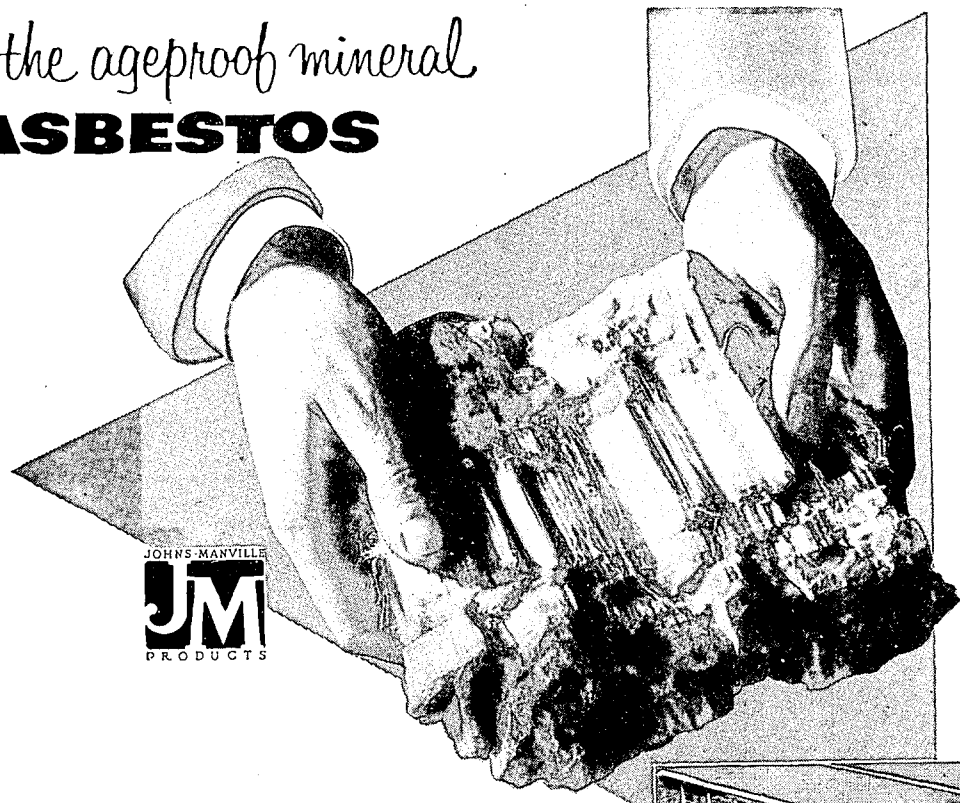
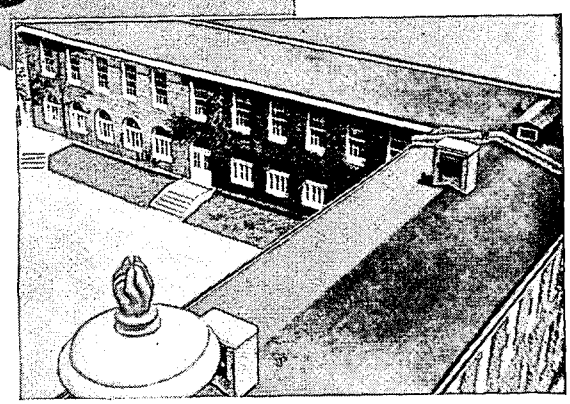


6

From the ageproof mineral

ASBESTOS





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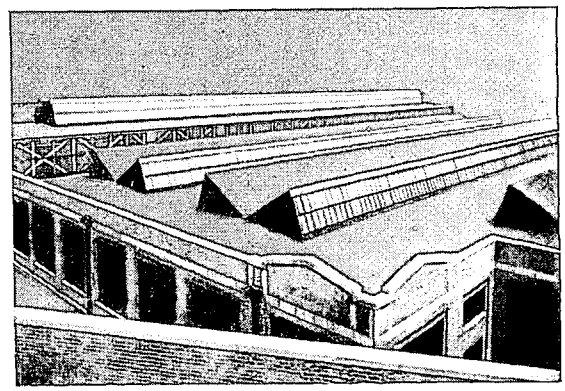
Because they are made of the mineral, asbestos, the felts of a Johns-Manville Flexstone Built-Up Roof assure lasting service and protection. They will not support combustion. They effectively resist the drying-out action of the sun . . . won't rot, are weatherproof and need no periodic coating.

Flexstone Built-Up Roofs are smooth-surfaced . . . permit thorough drainage . . . make damage easy to locate and repair. These superior advantages are also provided by the J-M Flexstone Special Built-Up Roof . . . developed especially for dead-level decks.

For complete information about Flexstone Roofs and J-M Asbestile* Flashing System that provides thorough water tightness and effective treatment for critical roof areas, see your Approved Johns-Manville Contractor. He's listed in the Classified Section of the telephone directory.



For free copy of Flexstone folder BU-51A, write Johns-Manville, *Box* 158, New York 16, N. Y. In Canada, write 565 Lakeshore Road East, Port Credit, Ontario. *Reg. U. S. Pat. Off.

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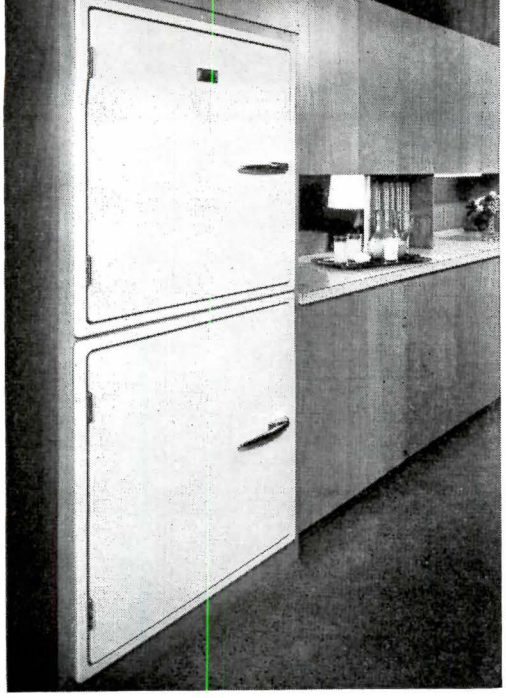
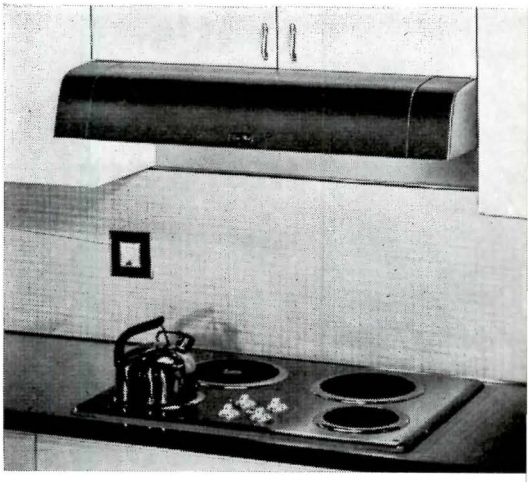


Refrigerator-Freezer: (above) "Bilt-In" combination/ doors stainless-steel or color choice DuPont Dulux enamel/ refrigerator capacity 8.3 cu ft, freezer capacity 6.3 cu ft/ **Revco, Inc., Deerfield, Mich.**

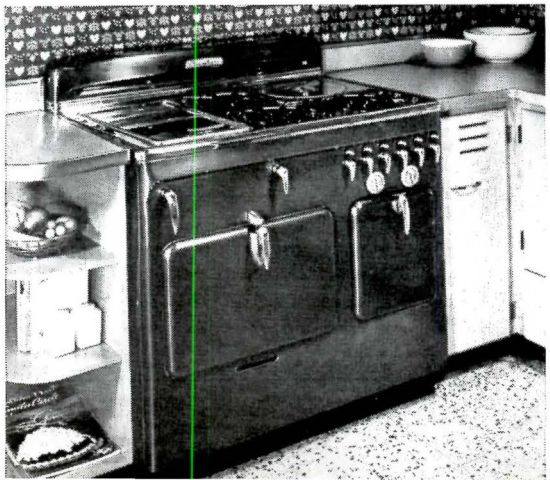


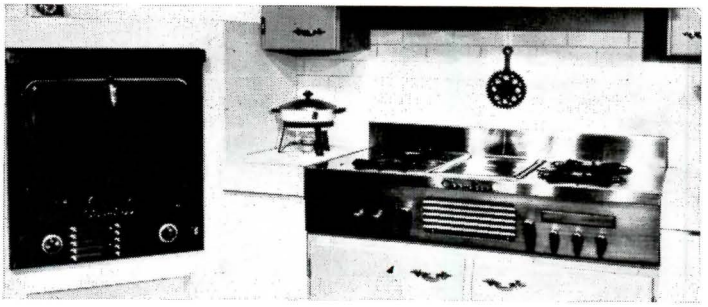
Hardwood Cabinets: (left) "Centennial" line concealed hardware/ "Tawny Birch" finish/ specified by Sidney H. Morris & Associates in Chicago's 1000 Lake Shore Drive apartments/ **I-XL Furniture Co., Goshen, Ind.**

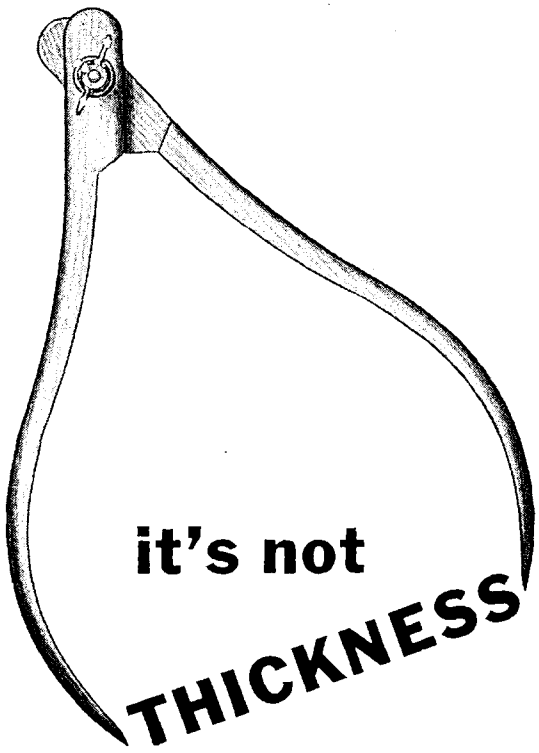
Ventilating Hood: (below) Expansible, 30" to 42", or 42" to 54"/ copper or stainless-steel brushed finish/ incorporate baffle plate for even distribution of air discharge/ **Trade-Wind Motorfans, Inc., 7755 Paramount Blvd., Rivera, Calif.**



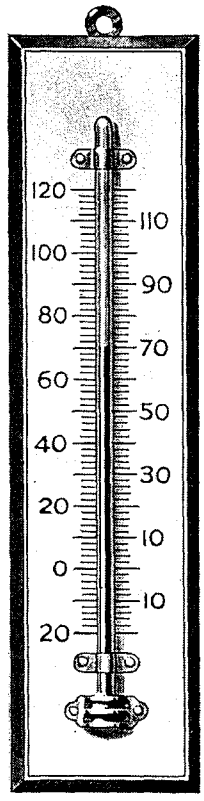
Copper for Kitchen: (left) gas range in antique copper/ steel panels copper-plated/ tarnish-protected by baked-on clear enamel/ cooking tops in chrome or black; (right) "In-a-Wall" oven and "In-a-Top" broiler unit in antique copper finish/ **Chambers, 2464 N. Meridian St., Indianapolis, Ind.**







it's not THICKNESS



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Once upon a time it was the practice of architects to specify roof insulation by thickness. Today, this practice is obsolete because ¾-*inch* of Fiberglas* does the same insulating job as a *full inch* of most other materials. And in addition to its exceptionally low "k" factor, Fiberglas Roof Insulation is dimensionally stable, rot proof, moisture resistant. It has sufficient resilience to withstand normal traffic loads. Its light weight and easy workability also save time and labor costs. For complete technical data, see our listing in Sweet's File, or write either to one of the distributors listed below, or to Owens-Corning Fiberglas Corporation, Dept. 63-C, Toledo 1, Ohio.

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Architects Co-ordinating Service: "K.I.P." four-fold service includes planning, specifications, color, supply and installation/ showroom stocks and displays Herman Miller, Vista, Raymor, other selected furniture and accessories/ purpose of service: to provide architects complete interior planning and execution facilities/ affiliates: Don Knorr, Ann Hall Knorr, R. Dudley Trudgett, Dan Nacht, AIA/ **K.I.P. Inc., 720 Montgomery, San Francisco 11, Calif.**

Modular Office Furniture: "Office-Ettes"/ hundreds of combinations possible from wide range of tops, pedestals, tubular leg supports, panel-end supports, drawers, bookcases/ standard joining hardware/ Bonderite-coated steel or wood/ Mist Green or Silver Gray DuPont "Dulux" metallic-enamel finish or special finishes/ linoleum or vinyl tops/ **Arnot-Jamestown Division of Aetna Steel Products Corporation, Jamestown, N. Y.**

Ceiling Panels: "Steelacoustic" panels/ cold-rolled zinc-bond steel/ white-baked-enamel finish/ suspension-system installed on suspended ceiling grid device/ fastened with hold-down clips for easy access to service areas/ 24" x 24"/ washable without effect on sound-absorbing efficiency/ **The Celotex Corporation, 120 S. LaSalle St., Chicago 3, Ill.**

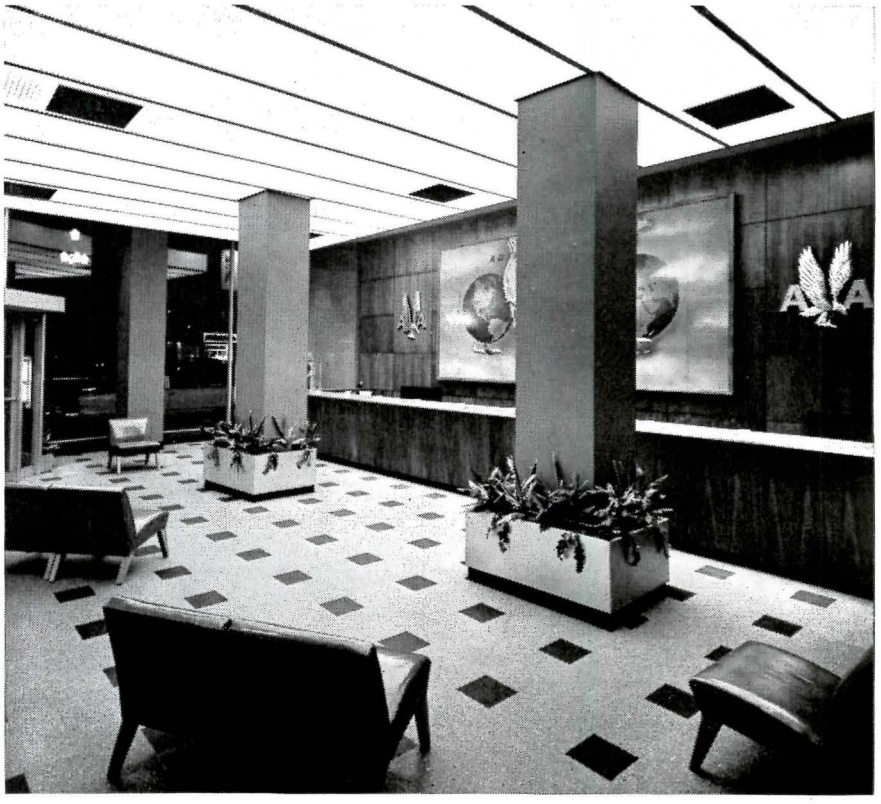
Custom-Door Kitchen Cabinets: "Pic-A-Dor" white steel cabinets/ sliding doors of perforated or plain hardboard may be painted to match any color scheme/ textured glass doors also available/ or cabinets without doors, fitted with grooves and runners for custom-cut doors in any 1/4" thick material/ utility cabinet's versatility suggests use in kitchen-dining areas, bathrooms, nursery, utility room/ sizes from 30" x 18" to 42" x 30"/ "Granodized" for rust- and corrosion-resistance/ finished with double coating of DuPont Dulux/ adjustable shelves/ **Tracy Kitchens of Edgewater Steel Co., 3125 Preble Ave., Pittsburgh 30, Pa.**

Colored Air Conditioners: "Hideaway" room air-conditioners now in Glacier Grey, Colonial White, Suntan/ corrosion-protected—casing and structural elements of steel coated with layer of zinc, bonderized, painted/ window models, **retail:** 1/3 hp, $199; 1/2 hp, $289; 3/4 hp, $349; 1 hp, $399/ console units, **retail:** 1 hp, $549; 1-1/2 hp, $699/ **Carrier Corporation, Syracuse, N. Y.**

Predecorated Metal Acoustical Unit: "Gold Bond Spatterfect Acoustimetal"/ introduces dark-green paint pattern over standard-white finish, to mask geometric arrangement of perforations/ uses sound-absorbing "Gold Bond Acoustipads" for noise reduction coefficient range of .80-.90/ baked-on finishes permit cleaning with damp cloth/ installed only by authorized franchised contractors/ **Acoustical Sales Division, National Gypsum Co., Buffalo 2, N. Y.**

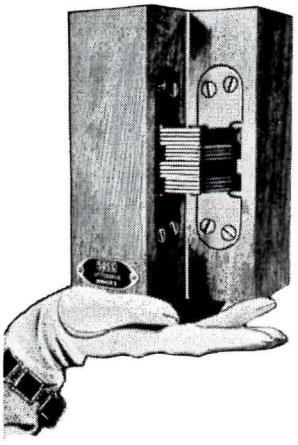
Linen Wall Covering: Belgian linen with permanent Neoprene backing/ 48" width/ **retail:** $2.25 per yd./ **Utrecht Linens, 119 W. 57 St., New York 19, N. Y.**

Movable Partition: "Weldwood"/ wood-paneled with mineral-core construction/ fully mobile/ 1 3/4" thick/ finished in hardwood veneers/ held in sturdy rigidity by metal connectors/ "Weldrok" mineral core provides sound barrier/ warp-free, dimensionally stable/ "Life of Installation" guarantee/ in widths of 24", 30", 36", 42" 48", lengths up to 8 ft/ "Stay Strate" doors available in matching woods/ **United States Plywood Corporation, 55 W. 44 St., New York, N. Y.**



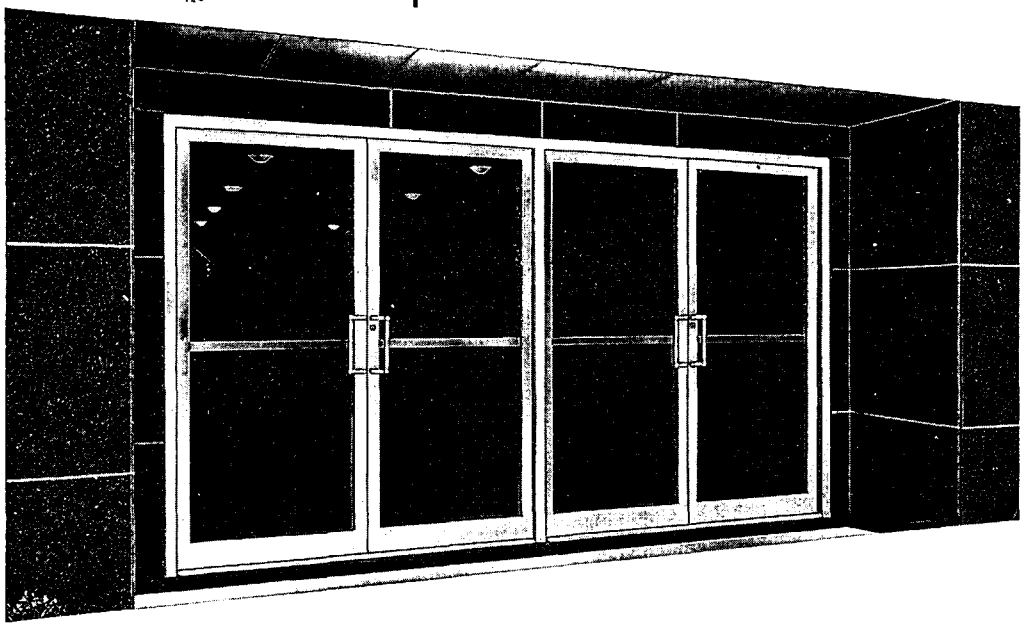
Detroit office of American Airlines, equipped with Soss Invisible Hinges.

Architect: Cornelius T. Gabler
Hardware Contractor: John F. Freeman Co., Detroit



Invisible Hinge: hinge is completely hidden from view when doors or lids are closed/ beautifies, streamlines interiors/ ideal for contemporary architecture/ special rust-proof alloy/ gives excellent service under all climatic conditions/ easy to install/ pleasing to clients/ available in wide variety of sizes/ catalogue free on request/ **Soss Manufacturing Company, 21715 Hoover Road, Detroit 13, Mich. Dept. 11.**

CHECK THIS COMPARISON



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63S-T5 Alloy	**YES**	**YES**	YES	YES	YES
Door Thickness	2″	1¾″	1¾″	1¾″	1¾″
Glass Stop One Side, Integral Part of Stile	**YES**	**YES**	NO	NO	NO
Removable Stop Without Screws	**YES**	**YES**	YES	NO	NO
Plastic Glazing Bead (No Putty)	**YES**	**YES**	NO	NO	NO
Thru Bolted and Welded Construction	**YES**	**YES**	NO	YES	NO
Non Ferrous Armored Bolt Dead Lock	**YES**	**YES**	NO	NO	YES
Concealed Pin Pivot Type Butts (Oilite Bearings)	**YES**	**YES**	NO	NO	NO
DeLuxe Heavy Duty Push & Pull	**YES**	NO	YES	NO	NO
Concealed Assembly & Installation Screws	**YES**	NO	NO	NO	NO

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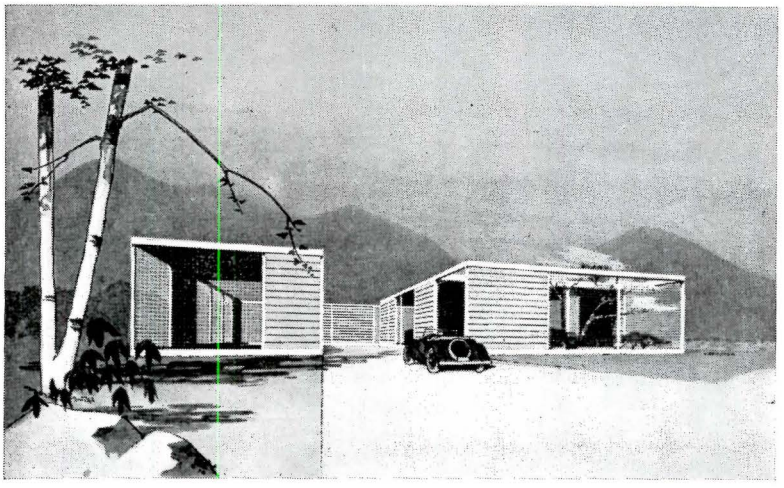

9-4. Advanced Designing with Asbestos Siding, 20-p. brochure containing six houses designed by well-known architects to demonstrate esthetic potentialities of asbestos siding. Includes house by Paul Schweikher (left), which utilizes siding shingles on steel frame for both exterior and interior walls. Brief description of design features and comments by architect accompany large color renderings. Gives construction details and plans. Asbestos-Cement Products Assn., 509 Madison Ave., New York 22, N. Y.

Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread ★ *interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

1-12. Atmospheric-Spray Cooling Towers (312), 12-p. bulletin providing information on design and specification of spray-type cooling towers especially suitable for use in small air-conditioning installations. Contains selection tables for determining correct tower sizes; includes construction details of redwood or steel towers featuring simplified erection. Binks Mfg. Co., 3114-44 Carroll Ave., Chicago 12, Ill.

1-13. Gyra-Flo Power Exhausters (GPE-103), 4-p. brochure describing roof ventilators operating at low noise levels for installation in schools, hospitals, churches, and theaters. Outlines special features eliminating air turbulence. Detailed drawings; tables of performance and sizes. Chicago Blower Corp., 9867 Pacific Ave., Franklin Pk., Ill.

1-14. Perma-Fan Condensers (C-4.31), 6-p. folder on redesigned line of evaporative condensers. Contains instructions and tables for selection of condensers ranging in capacity from 5 to 110 tons. Operation and assembly drawings; dimensions of units and component parts. Drayer-Hanson, Inc., P. O. Box 2215, Terminal Annex, Los Angeles 54, Calif.

1-15. Thermo-Base Air Distributors (954), 8-p. booklet describing forced warm-air baseboard diffusers designed for use on exposed walls. Gives recommended procedure for design and installation in residential construction, including table of heating and cooling capacities. Also gives data on increased-capacity units for commercial and industrial applications. Gerwin Industries, Inc., Michigan City, Ind.

1-16. Commercial Radiation, AIA 30-C-4 (CR-654), 16-p. catalog on wall-type radiation for use with steam or hot-water heating systems. Provides chart of Btu ratings and dimensioned details for several different models; gives material on construction of steel, copper, or aluminum heating elements. Suggested specifications; table of correction factors for steam pressures and air temperatures. Hoffman Specialty Mfg. Corp., Indianapolis 7, Ind.

1-17. Piping, Trapping, and Venting Steam and Hot-Water Unit Heaters (15), 8-p. bulletin containing data on piping connections for blower- and propeller-type heaters. Piping diagrams; table of heat-transmission coefficients of common building materials. Industrial Unit Heater Assn., 2159 Guardian Bldg., Detroit 26, Mich.

construction

2-20. Artcor Building Specialities, AIA 14-J, 4-p. brochure containing technical data on joist hangers, tie straps, split rings, and post bases. Tables give sizes, allowable loads, and weights; dimensioned drawing of each piece. Also includes information on plate washers and clip angles. Arch Rib Truss Corp., P. O. Box 6742, Los Angeles 22, Calif.

2-21. Dur-O-Wal Masonry Reinforcement, AIA 10-C, 4-p. bulletin describing steel reinforcing for additional joint strength in masonry walls. Drawings show standard design for solid walls and special drip rods for use with cavity walls. Gives technical data on mortar and steel strengths; suggested specifications. Dur-O-Wal Div., Dept. A., Cedar Rapids Block Co., 650 Twelfth Ave., S. W., Cedar Rapids, Iowa.

(Continued on page 159)

PROGRESSIVE ARCHITECTURE, 430 Park Avenue, New York 22, N. Y.

I should like a copy of each piece of Manufacturers' Literature circled. We request students to send their inquiries directly to the manufacturers.

1-12	2-22	3-16	8-4
1-13	2-23	3-17	8-5
1-14	2-24	3-18	9-3
1-15	2-25	4-11	9-4
1-16	2-26	4-12	9-5
1-17	3-13	4-13	
2-20	3-14	5-2	
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For a neater, more compact drainage installation, insist on *Chase* Copper Tube for soil, waste and vent lines.

Chase 3″ Copper Drainage Tube fits *within* standard partitions, eliminates the need for costly and unsightly furring-out construction that's required with ordinary drainage materials.

The smooth inside surfaces of Chase Copper Drainage Tube and Solder-Joint Fittings permit fast, even drainage... there are no internal projections to form waste-trapping pockets. And, of course, *copper* can *never* clog with rust!

What's more, because *installation* costs are lower, the *total* cost of a quality Chase Copper Drainage System is little or no more than the cost of an ordinary system.

Chase Copper Drainage Tube and Solder-Joint Fittings can mean a *quality* job at little or *no* extra cost. When planning, be sure to specify *Chase!*

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Boston	Dallas	Indianapolis	Newark	Providence	Waterbury
Charlotte†	Denver	Kansas City, Mo.	New Orleans	Rochester†	(†sales office only)

(Continued from page 155)

2-22. T-Chord Long-Span Joists, 8-p. booklet on lightweight steel roof framing capable of supporting steel, gypsum, or built-up wood decking. Provides specifications and tables for selection of proper joist size. Details and photos of actual installations. Haven-Busch Co., 501 Front Ave., N. W., Grand Rapids 4, Mich.

★ **2-23. Hendrick Grilles,** AIA 30-J, 136-p. catalog picturing more than 100 grille and register designs manufactured in steel, bronze, aluminum, and other commercially rolled metals. Actual-size photos, diagram, and table of dimensions given for each grille pattern; photos, details, and measurements provided for exhaust or supply registers. Also illustrates door louvers and loud-speaker grilles. Hendrick Mfg. Co., Carbondale, Pa.

2-24. Sun-Control Products, AIA 35-P-2, 8-p. publication showing aluminum louvers and awnings. Contains description, specifications, and dimensioned details of conventional louvers, marquee louvers, and roll-type awnings. Photos and typical-installation drawings. The Kawneer Co., Niles, Mich.

2-25. Econo-Rail, 4-p. folder showing extruded-aluminum railing. Explains bolt-through construction for impact resistance and elimination of vibration. Dimensioned details show assembly without welding in order to prevent discoloration of metal. Newman Brothers, Inc., Cincinnati 3, Ohio.

★ **2-26. Aluminum Bridge Railings,** AIA 15, 56-p. catalog illustrating bridge railings with many photos of actual installations and detailed construction drawings. Outlines design procedure, giving sample problem; provides all necessary dimensions of available shapes in tabular form. Also includes specifications, cost studies, and new alloy designation system. Reynolds Metals Co., Louisville, Ky.

doors and windows

3-13. Precision-Engineered Windows, 4-p. file folder describing large-pane aluminum windows suitable for use in office buildings, schools, and homes. Installation details and elevations show side-hinged, top-hinged, and center-pivoted sash. Specifications cover materials, construction, weather stripping, infiltration, and locking devices. Artex Inc., Summerville, S. C.

3-14. Sound-Reduction Doors, AIA 16-F, 8-p. booklet containing data on sound-reduction doors to be used in areas of high sound levels. Explains reduction of sound by mass principle, great rigidity, and vibration-proof hardware. Photos and drawings of door construction and assembly; suggested specifications. Sound Reduction Door Div., Jamison Cold Storage Door Co., Hagerstown, Md.

3-15. Marmet Aluminum Windows, AIA 16-E (55-2), 16-p. pamphlet on architectural-projected sash, ribbon windows, curtain-wall sash, and specially designed church windows. Specifications, photos, elevations, and details given for each type. Also includes information on sun-control devices and ventilators for use with glass-block construction. Marmet Corp., Wausau, Wis.

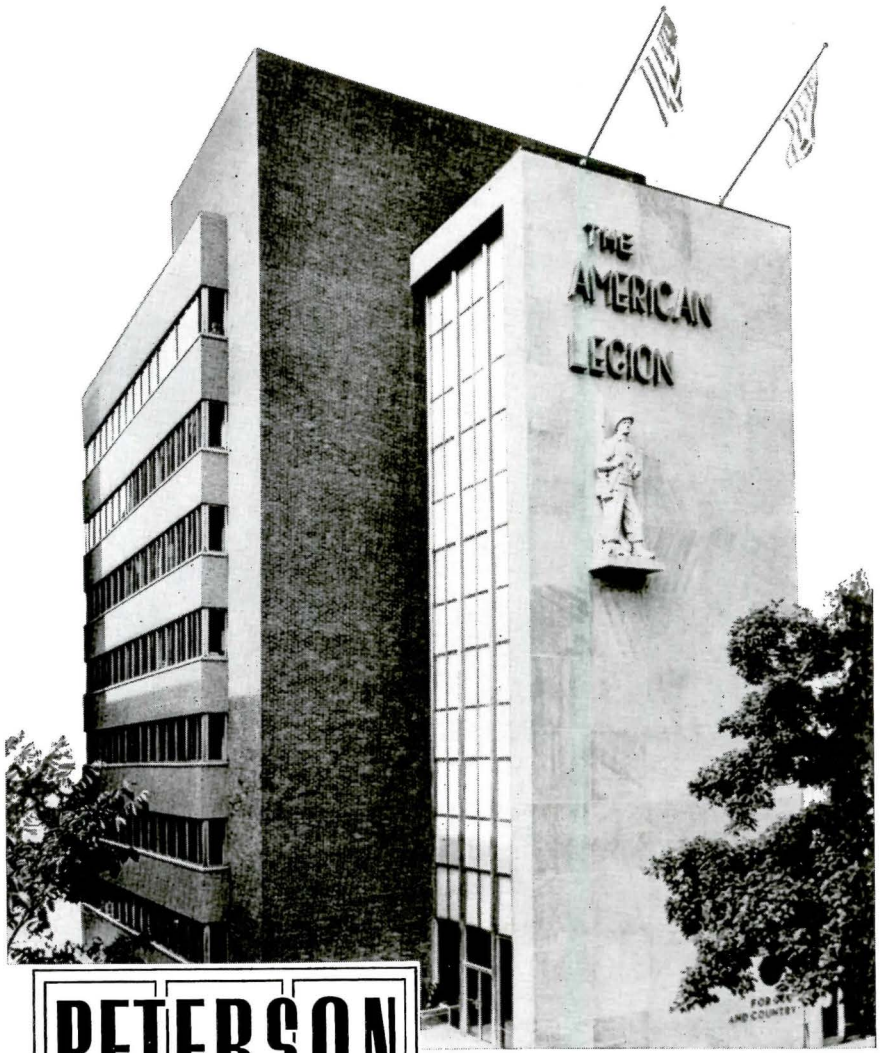
3-16. Russwin Surface-Type Liquid-Controlled Door Closers, 20-p.

3-17. Russwin "400" Door Closers and Adjustable Ball-Bearing Pivots, 12-p.

Two bulletins describing surface-mounted liquid door closer and mortise-type closer. Outstanding features of each closer listed; specifications, mounting instructions, data on hardware, and dimensions given. Provides information on brackets for unusual conditions; photos and diagrams. Russell and Erwin Div., The American Hardware Corp., New Britain, Conn.

3-18. Winco Aluminum Products, AIA 26-A-1, 12-p. brochure featuring ribbon windows, ventilators, and accessories designed especially for use with glass-block construc-

(Continued on page 160)



PETERSON

HORIZONTAL SLIDING ALUMINUM WINDOWS

BUILDING ILLUSTRATED: American Legion Headquarters Building, Washington, D. C., Britsch & Munger, Toledo, Ohio, Architects. Giesecke, Kuehne and Brooks, Austin, Texas, Associate Architects.

. . . feature flush aluminum and glass exteriors and continuous runs accentuating today's architectural trend.

- 50 standard sizes up to 10′ wide and 6′ high.
- Special sizes and styles on request.

PETERSON WINDOW CORPORATION
1385 E. 8 MILE ROAD FERNDALE 20, MICHIGAN

p/a manufacturers' literature

(Continued from page 159)

tion. Photos, elevations, and details show window and ventilator installations; includes specifications and data on sun canopies. Also gives information on line of custom-built projected sash. Winco Ventilator Co., Inc., 533 Bittner St., St. Louis 15, Mo.

electrical equipment, lighting

4-11. **Fusible Service Equipment** (SE-100), 20-p. catalog containing technical information on service and lighting panels, switches, and test blocks covering requirements of 30 to 6000 amps. Gives description and rating for each piece of equipment; photos, typical wiring diagrams, and knockout-location drawings. Federal Pacific Electric Co., 50 Paris St., Newark 1, N. J.

4-12. **Modern Lighting,** AIA 31-F-23 (R-103), 16-p. brochure presenting line of contemporary lighting fixtures. Photos and drawings illustrate many different designs in ceiling and wall-mounted lamps; data on finishes, dimensions, and recommended wattages. Globe Lighting Products, 1710 Flushing Ave., Brooklyn 37, N. Y.

4-13. **Westinghouse Lighting Handbook,** 260-p. manual covering basic theories and practices of modern lighting. Gives recommendations for design and application of lighting systems for specific requirements, i.e., schools, commercial and industrial installations, street lighting, and sign illumination. Typical forms for cost-analysis studies; many drawings, diagrams, and tables. Commercial Engineering Dept., Lamp Div., Westinghouse Electric Corp., Bloomfield, N. J. ($2.50)

finishers and protectors

5-2. **Maintenance Finishes** (F-387), 28-p. guide to paint products, including varnishes, wood stains, and masonry paints. Features two-page selector chart of interior and exterior finishes; suggests surface preparation, application, and coverage capacity of paints. Sample color chips. The Glidden Co., Cleveland 2, Ohio.

insulation (thermal, acoustical)

6-5. **Aerocor Insulations** (GL6.C4), 8-p. pamphlet outlining properties of resilient blanket-type insulation with low thermal-conductivity and high sound-absorption qualities. Suggests uses, application methods, and sizes; lists sources containing detailed information on specific products. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

specialized equipment

8-4. **ADC Curtain Tracks and Machines,** 4-p. bulletin containing data on drapery tracks and automatic curtain-control machines. Covers lightweight residential equipment in addition to heavier machines for theater curtains. Drawings, suggested specifications, and selector tables. Automatic Devices Co., Allentown, Pa.

8-5. **Austral-Steel Chalkboard,** 4-p. brochure stating advantages of porcelain-enameled steel chalkboard. Describes installation on felt or fiberboard backing; details show assembly with aluminum frame and chalk-tray; specifications. Austral Products Corp., 225 Broadway, New York 7, N. Y.

surfacing materials

9-3. **Wright Floor Tile,** 8-p. pamphlet containing information on line of vinyl, standard rubber, and hard-service rubber tile. Includes data on advantages of each material; data on sizes, thicknesses, colors, and patterns; architect's specifications. Wright Mfg. Co., 5200 Post Oak Rd., Houston, Tex.

9-5. **Vinyl-Cork Tile** (55), 8-p. booklet on cork-base floor tile protected by vinyl covering. Gives specifications, installation instructions, and information on maintenance. Actual-color photos of available textures and patterns; dimensions and thicknesses. Dodge Cork Co., Inc., Lancaster, Pa.



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IMPRESSIVE BEAUTY OF NATURAL MATERIALS

"We used Rilco Laminated Arches and Purlins," says Ramey and Himes, "to express the structure in an honest and interesting manner, and make the structural framing an integral part of the character in the church building.

"Rilco Arches allowed us complete freedom of design. The arches we chose were used to give a feeling of height in smooth, flowing lines.

"The natural wood of the arches and purlins gives a warm, pleasing feeling that blends with the brickwork and paneling of the chancel."

QUALITY ENGINEERED TO YOUR SPECIFICATIONS

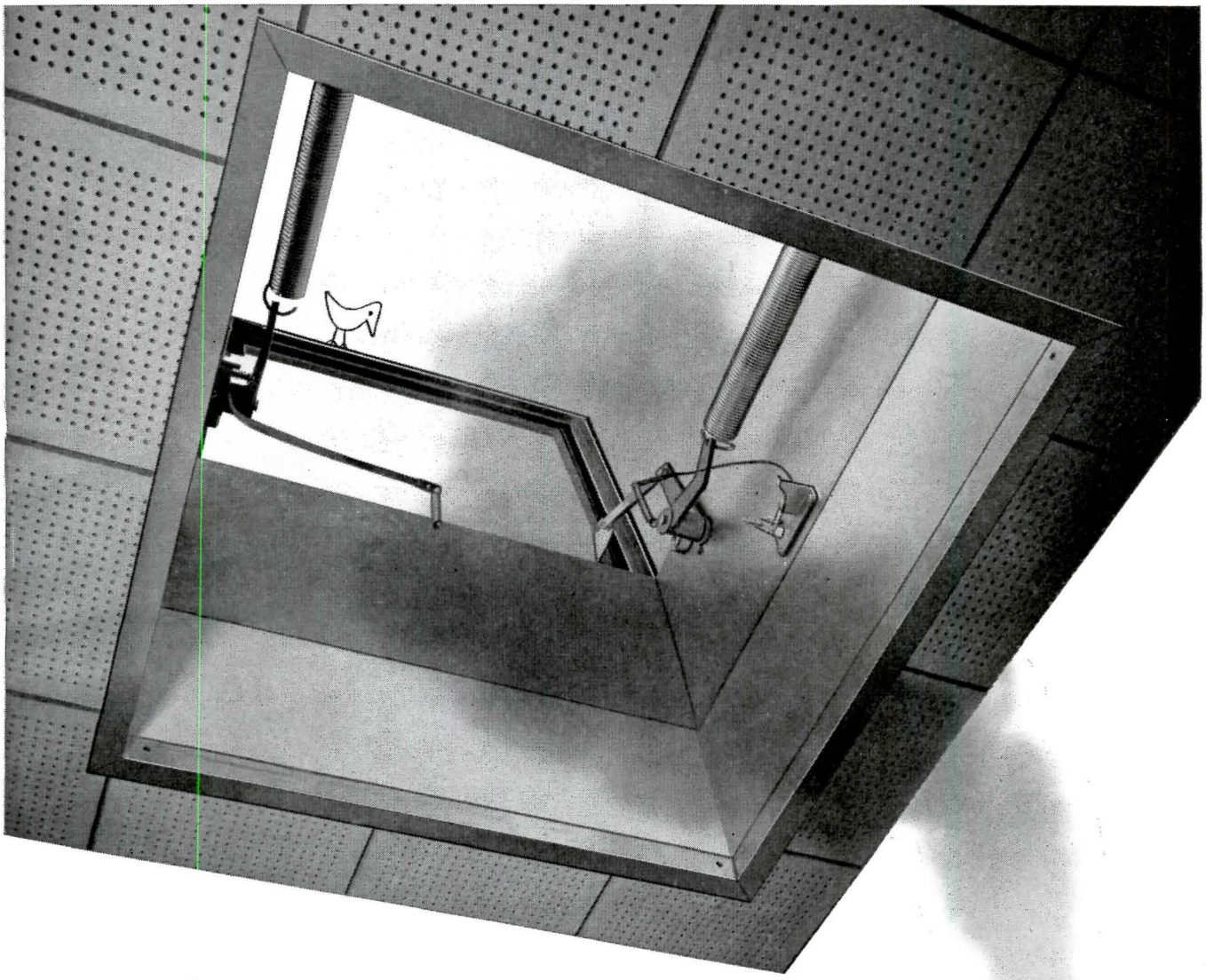
Rilco Laminated Wood Products are fabricated from selected West Coast Douglas Fir, and manufactured with modern precision equipment under rigid factory control. Rilco's experienced engineers will be pleased to consult with you about your requirements and give "on the job" cooperation. See our catalog (2b/Ri) in Sweets or write for complete information.

RILCO works wonders with wood

RILCO LAMINATED PRODUCTS, INC.
2517 First Natl. Bank Bldg., St. Paul, Minn.

THIS GREAT NEW PRODUCT PROVIDES

AYLIGHTING + FIRE PROTECTION



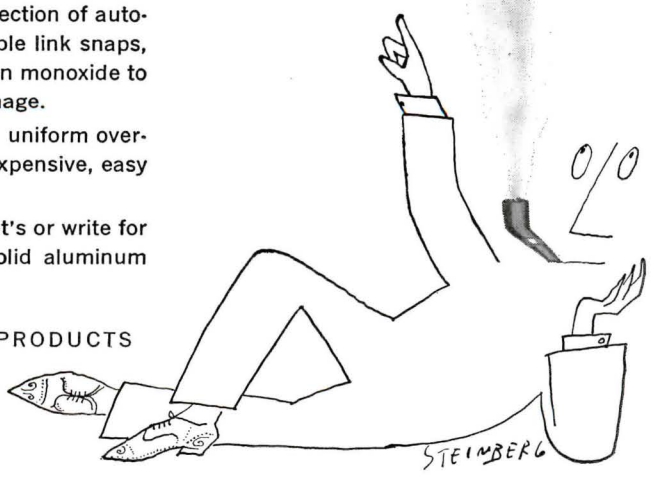
WASCOLITE PYRODOME

. . . could mean the difference between damage and disaster in your clients' plants

The WASCOLITE PYRODOME gives clients the added protection of automatic fire venting. Under excessive heat, PYRODOME's fusible link snaps, and the dome flies open. This allows heat, smoke and carbon monoxide to escape, and thus helps to contain the fire and minimize damage.

Even if there is no fire PYRODOME is on the job supplying uniform overhead daylighting through its Wascolite acrylic dome. It is inexpensive, easy to install, and cuts lighting costs.

Look into the WASCOLITE PYRODOME today . . . see Sweet's or write for illustrated catalog. Also available: Wasco Pyrovent with solid aluminum cover for venting only.

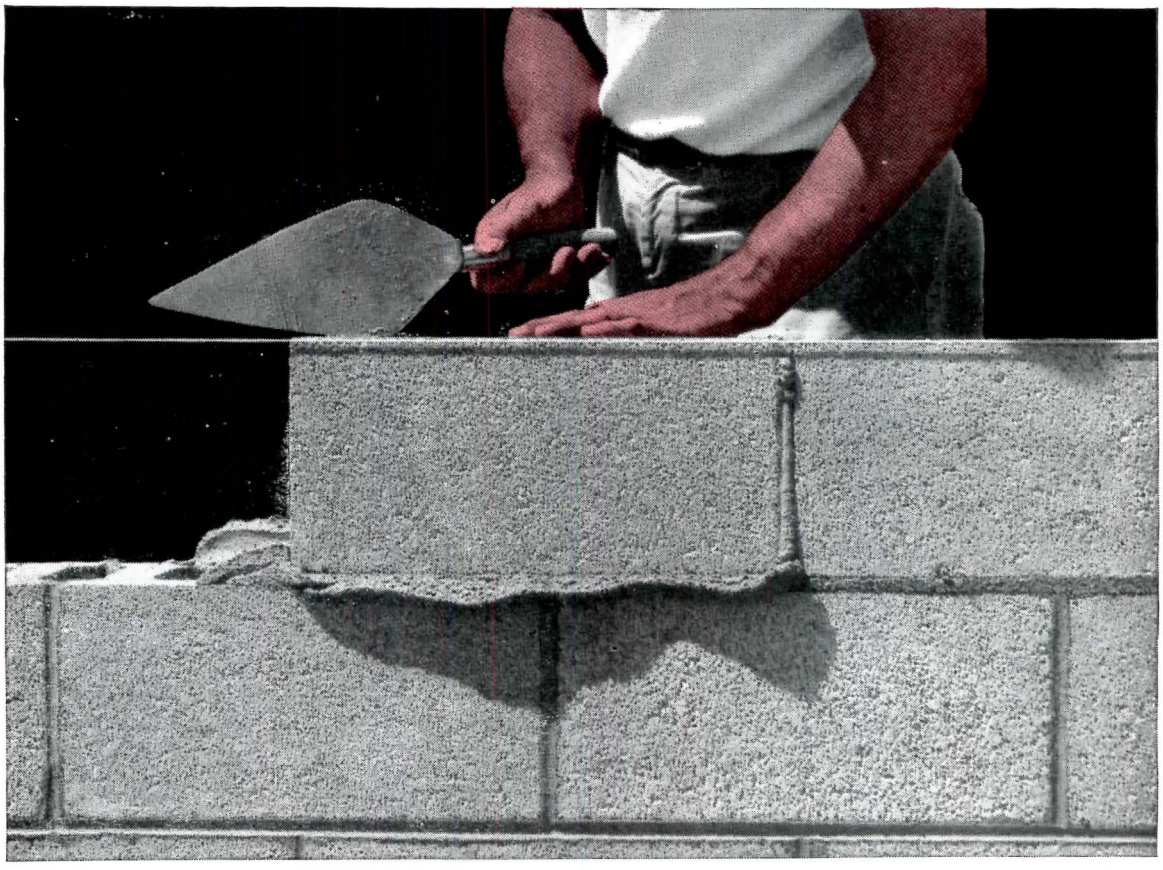


• TOP SPECIALISTS IN DAYLIGHTING AND FLASHING PRODUCTS

WASCO PRODUCTS, INC.
90C Fawcett Street, Cambridge 38, Mass.
Pat. Nos. 2610593, 2693156 and pats. pend.

BRIXMENT

Better Mortar for Blocks



BETTER BODY

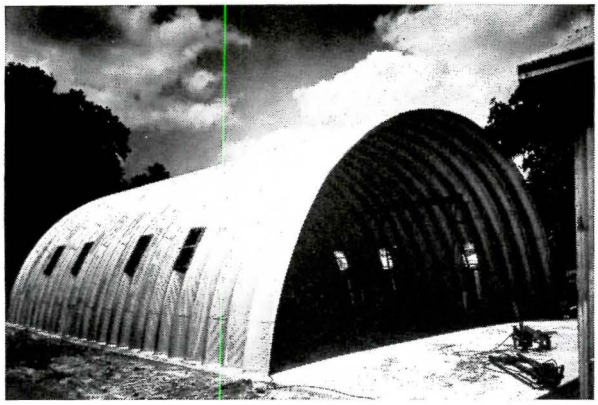
When concrete block are laid, the mortar should have "body", to support the weight of the unit, thus holding it up to the line. If the mortar lacks body, the block will settle below the line even if a thick bed of mortar has been spread.

At the same time, plasticity is required. Unless the mortar is plastic, the bricklayer cannot quickly and accurately tap the block down to the line.

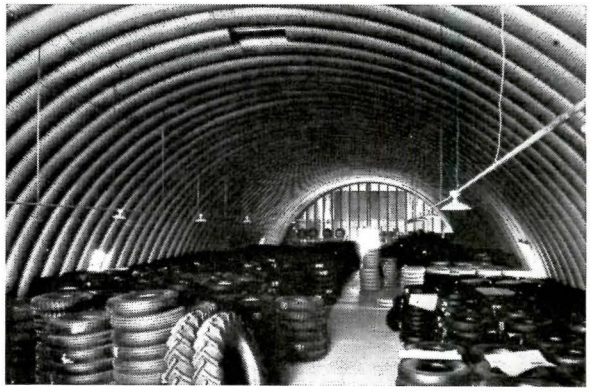
Brixment has body and plasticity. It is firm but not stiff —soft but not sloppy. This combination of body and plasticity makes Brixment the best possible mortar to use with concrete blocks.



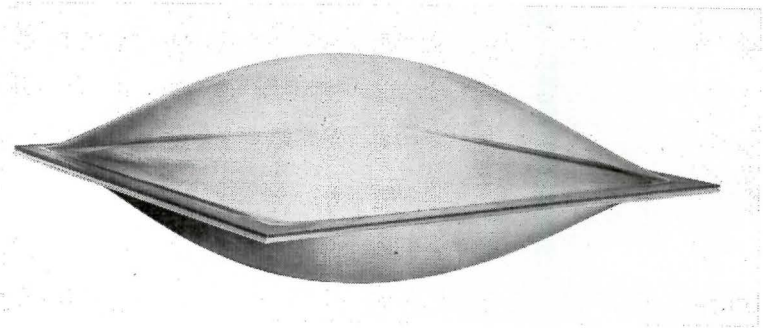
Louisville Cement Company . . . Louisville 2, Kentucky

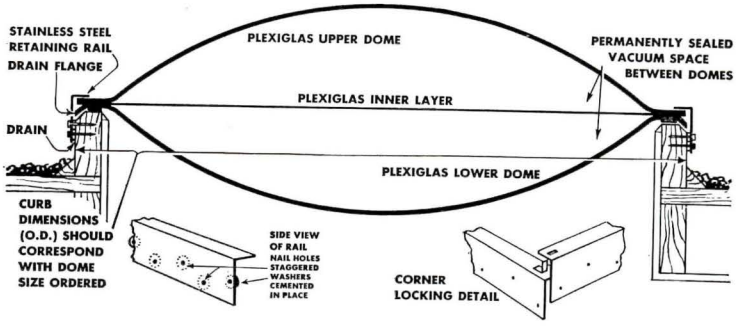


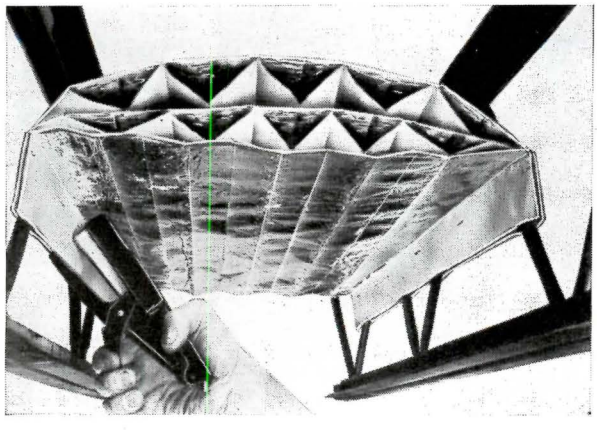
This all-steel building, developed on a patented, trussless construction principle, is made entirely of individual 2' wide, slightly arched steel sheets. A concrete slab is the only foundation required and buildings of this type can be produced in a variety of sizes: 30' wide and 14' high; 40' and 17'; 50' and 18'; 60' and 20'; and 100' and 35'. Cost, FOB Chicago, is approximately $1.10 per sq ft. Wonder Building Corporation of America, 30 N. LaSalle St., Chicago, Ill.



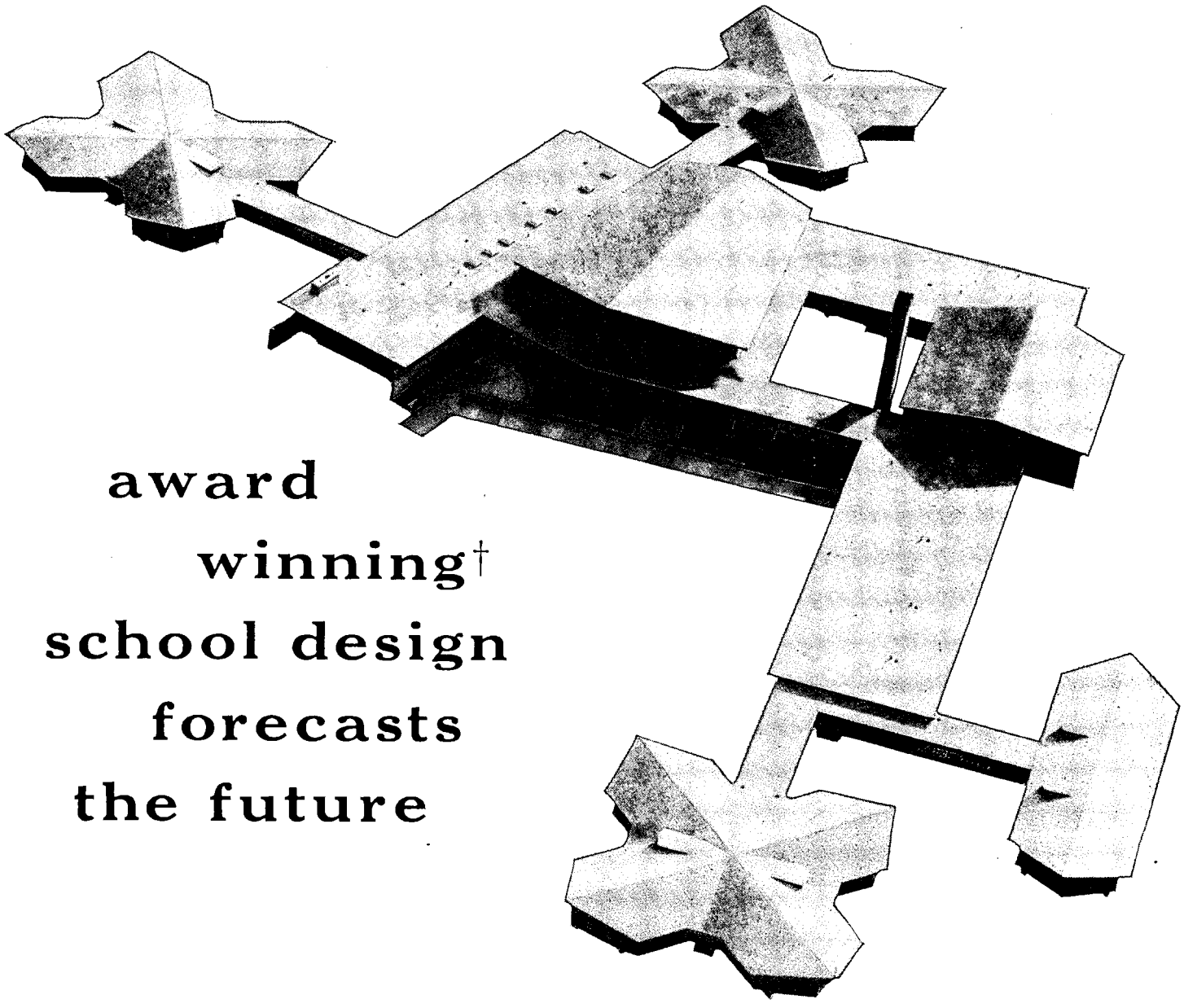
Vacuum-insulated skylight eliminates moisture condensation and gives more than five times the insulation protection of ordinary single-dome skylights. Although its heat transfer coefficient is less than one-fifth that of the single-layer dome, its cost is only 25 per cent higher. Center stress member is a tension device compensating the compressive forces of the outer domes which are under vacuum. Upper unit is transparent while lower is translucent. Bettcher Plastics Co., 1604 S.W. 10 Ave., Portland 1, Ore.



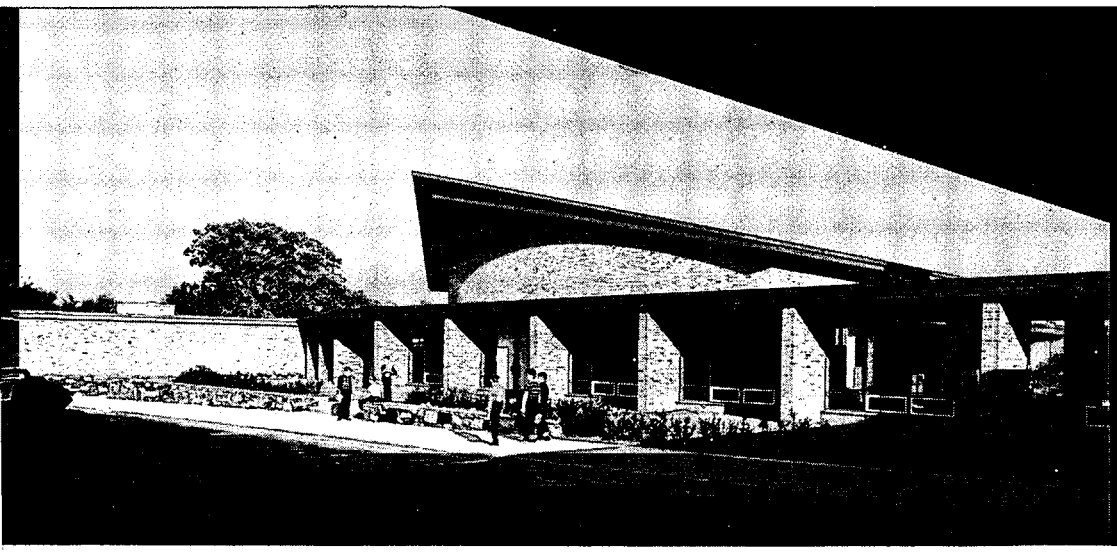




To meet certain unusually rigid fire regulations, combination asbestos and aluminum insulation blankets are available for structures with joists 16" and 24" on center. Infra Type 6AP (left) *consists of three tough, commercially pure aluminum sheets, six reflective surfaces, two alternate asbestos separators, and six reflective spaces. Can be obtained in continuous blankets from 125' to 375' in length. Infra Insulation, Inc., 525 Broadway, New York, N. Y.*



award winning† school design forecasts the future



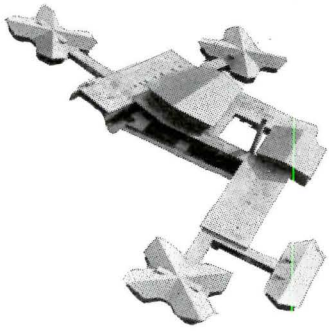
Heathcote Elementary School
Scarsdale, New York

Architects and Engineers:
Perkins & Will

General Contractor:
Arthur D. Stolle-Delval Corp.

PYROFILL Roof Deck:
Keystone Fireproofing Corp.

†1951 special feature award, The School Executive Magazine; 1954 silver medal award, Architectural League of New York



SHEETROCK* PYROFILL* ROOF DECKS

specified for rigidity, lightness, fire-resistance, speed of application

STRUCTURAL RIGIDITY—Bulb tee sections used to reinforce the PYROFILL slab serve—along with the gypsum—to provide lateral stiffening of the structural steel supports without increasing the depth of the structure.

LIGHTWEIGHT—SHEETROCK PYROFILL weighs only 10 to 12 lbs. per square foot in 2½ inch thickness, thus permitting important savings on structural steel and footings.

STRONG AND DURABLE—The design as recommended has a high factor of safety. Thirty-year-old PYROFILL decks are still giving excellent service today!

LOW-COST—SHEETROCK PYROFILL provides an incombustible, insulating deck at lower cost than other types of construction claiming equal benefits.

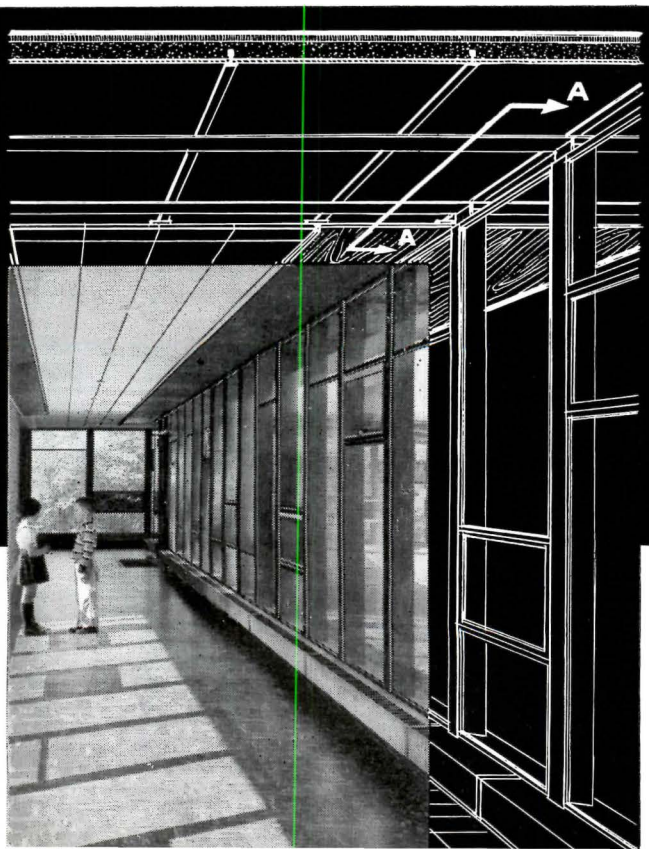
INCOMBUSTIBLE—PYROFILL is made of fireproof gypsum, so it will not burn. Insurance rates are often 30% less than for combustible constructions.

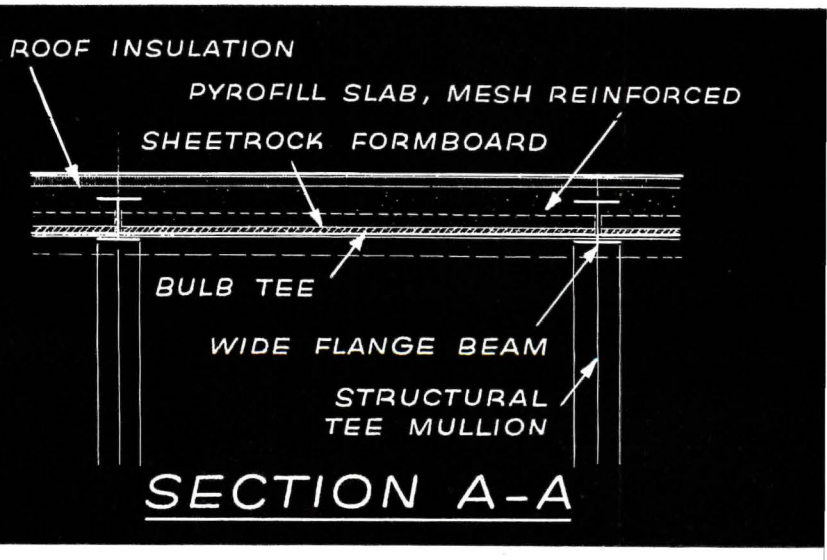
FAST INSTALLATION—PYROFILL sets in less than an hour and is then capable of carrying normal construction loads. A single crew can pour from 20,000 to 30,000 square feet per day, ready for roof covering.

For further information refer to Sweet's Catalog, Section $\frac{2e}{11n}$, contact the authorized PYROFILL contractor in your area, or write United States Gypsum, Dept. PA-1, 300 West Adams Street, Chicago 6, Ill.

* T. M. Reg. U. S. Pat. Off.

UNITED STATES GYPSUM The Greatest Name in Building





SECTION A-A

This PYROFILL roof deck has bulb tees installed between the wide flange beams, rather than over them, providing the lateral strength required for the corridor structures, eliminating the need for purlins. Total thickness of the roof structure is held to a minimum to fulfill the aesthetic requirements of the design.

p/a products

(Continued from page 163)

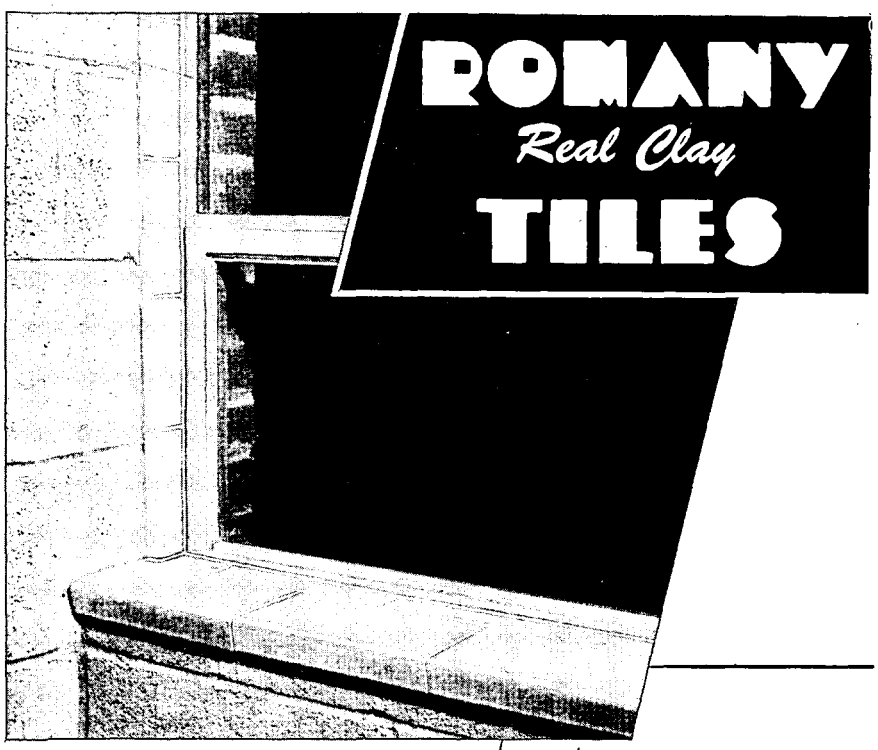
air and temperature control

Glassheat "Footlighter" Panels: baseboard radiant-heating units with individual room thermostats permit zone-controlled heating. Surface-mounted, rectangular panels are constructed of specially tempered glass fused with aluminum heating element; infrared rays are projected by metal reflector behind glass. Steel frame formed with hooded deflector eliminates wall streakage and may be painted to match wall finish. Exterior measures 9" x 47½". Continental Radiant Glass Heating Corp., 1 E. 35 St., New York 16, N.Y.

High-Capacity Air Conditioner: room air conditioner has regulating switch enabling unit to deliver concentrated stream of air for fast cooling or gentle flow to maintain desired temperature. New refrigeration circuit cools and filters air twice; standard equipment includes automatic thermostat and control for direction of air flow. Available in ¾, 1, and 1½ hp to cool rooms from 500 to 900 sq ft. Mitchell Mfg. Co., 2525 Clybourn Ave., Chicago, Ill.

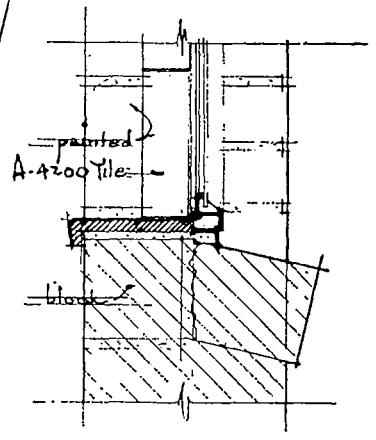
Line-O-Heat: low-cost lineal heater prevents freezing of water pipes, pumps, gutters, and eaves. Vinyl-encased electric heating tape with glass-fiber insulation will withstand knotting and immersion in water. Tape is manufactured in 3' to 60' lengths; rated at 5 watts, it may be plugged into electric outlet. Smith-Gates Corp., Plainville, Conn.

Home-Conditioning System: baseboard convectors give year-round temperature control. In summer, chiller provides cooled water through same facilities used for heating; central blower distributes controlled quantity of air under entire length of baseboard, insuring balanced flow of air by induction. Condensation is removed through built-in drains. The Vulcan Radiator Co., Hartford, Conn.



TILE FOR
MODERN WINDOW SILLS

This new flat smooth tile is economical and wear proof. It meets the growing demand for tiled window sills in residences, stores, etc. and has a special use in school rooms where it offers desirable space for exhibits plus welcome cleanliness. Priced to compete with most window sill materials. The A-4200 Cap illustrated, detailed into the window jamb, neatly and inexpensively covers transition between a metal window and wall material.

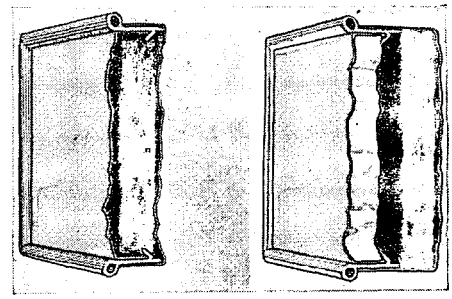


Every Architect should have our Sample Tile Chart No. 6. It's free.

UNITED STATES CERAMIC TILE COMPANY

Member: Tile Council of America and Producers' Council, Inc.
217-G FOURTH ST., N.E., CANTON 2, OHIO

construction



Double-Wall Panels: porcelain-enamel curtain-wall panels feature cavity construction to prevent condensation problems. Type "A," made in sizes up to 12 sq ft, has glass-fiber insulation and air space. Type "C," produced in sizes to 20 sq ft, also has special gypsum-base backing for increased rigidity and sound insulation. Exterior and interior surfaces are porcelain fused to steel. Weepholes at bottom of panels permit condensation to escape; vinyl gasket seals wall against weather. Davidson Enamel Products, Inc., 1100 E. Kibby St., Lima, Ohio.

"Panel-Bilt" Structures: preplanned, prefab buildings, free of interior columns, are especially suited to commercial and industrial uses. Rigid-steel framework is sheathed by precast-concrete panels 5" thick with 1½" core of rigid glass-fiber insulation. Tongue-and-groove joints, sealed with rubber and caulked, insure weathertightness. Modular dimensioning permits variations in door and window placement; steel sash and bucks are cast in place at factory. The Marietta Concrete Corp., Marietta, Ohio.

Exposed Suspension System: acoustical ceiling tiles are supported on exposed steel channels. Large-size tiles, 12" x 24", resting on white-painted flanges, are lifted up and out for access to hidden air-conditioning ducts, electrical wiring, or plumbing. System is claimed to be as low in cost as

(Continued on page 168)

NOW the luxury of clay wall tile becomes practical for even the low-budget home!

CTA 11

the new and modern clay tile adhesive by 3M cuts installation costs up to 20%!

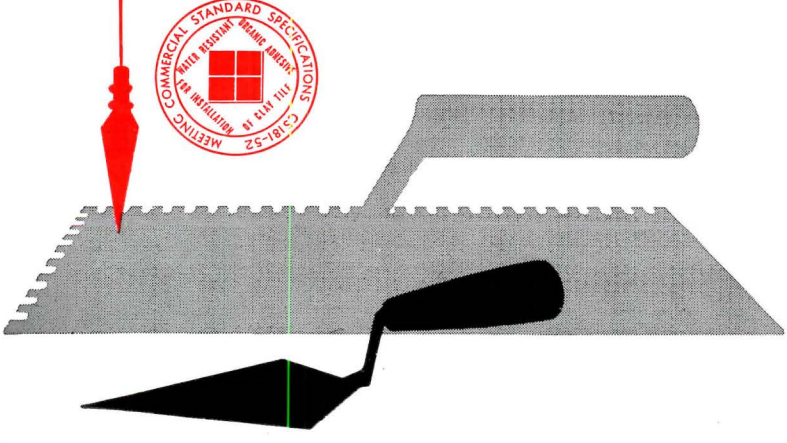


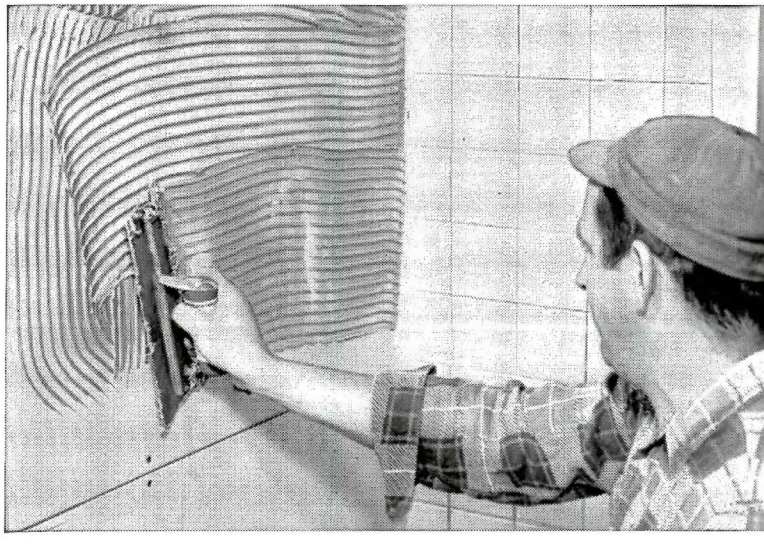
Now architects can have their way in specifying durable, practical, beautiful clay tile for even low-budget installations . . . because CTA-11 is here! Now builders can use "dry wall," and get a clay tile job that will last a lifetime . . . because CTA-11 is here! Now tile contractors can set tile faster at up to 20% savings in cost, remodel without rebuilding walls . . . because CTA-11 is here!

CTA-11 is the new, the modern clay tile adhesive that holds clay tile fast to almost any plumb surface. It's tough, resilient, durable . . . resists cracks, moisture and settling . . . spreads neatly like butter right out of the can!

Say CTA-11 on your specification sheets. Say CTA-11 to your supply dealer. It's on his shelves right now . . . ready to start cutting costs for you.

To profit from the same dollar-saving advantages in setting floor tile, specify CTA-12. For the complete details on CTA-11 and -12, write today to 3M, Department 153, 417 Piquette Avenue, Detroit 2, Michigan.





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MINNESOTA MINING AND MANUFACTURING COMPANY *ADHESIVES AND COATINGS DIVISION*

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p/a products

(Continued from page 166)

cement-applied acoustical ceilings. National Gypsum Co., 325 Delaware Ave., Buffalo 2, N.Y.

Thulman Chimney Top: redesigned chimney cap and baffle-type shield provide 50 percent more free area for flue gasses to escape and give more massive exterior appearance. Baffles act as stabilizers for top of flue and prevent water-and-soot stains on outside of chimney. Fabricated of steel to fit single- or double-flue chimneys. The Majestic Co., Inc., Huntington, Ind.

doors and windows

Power-Glide Windows: power-operated sliding windows are operated by remote control from any location in room. Window sash is suspended on nylon rollers in extruded-aluminum track to eliminate sliding friction. Double-glazed window also includes glass-fiber roll screen. Modern Homes Corp., 14507 W. Warren Ave., Dearborn, Mich.

Permanently-Projected Window: packaged aluminum window permits ventilation and protection from rain at same time. Unit is constructed of permanently-projected sections; horizontal pane of glass between projected unit and window frame opens. Solar Corp., Fort Worth, Tex.

electrical equipment, lighting

Sterilume Conditioner: scientifically designed fixture for use with germicidal lamp provides effective diffusion of germ-killing rays. Short ultra-violet rays, eliminating air-borne germs, produce air sanitation equal to 100 fresh-air changes per hr. Available in 18" and 36" lengths. Gruber Lighting, 125 S. First St., Brooklyn 11, N. Y.

Nepcoduct Electrical Raceway: underfloor electrical raceway is claimed to have more than three times capacity of standard ducts. Designed for heavy-duty wiring in industrial plants where overhead wiring interferes with normal operations, ducts are constructed of 14-gage cold-rolled steel, galvanized and protected by acid-resistant clear enamel applied to interior and exterior surfaces. Manufactured in 10' lengths with 4" x 4" cross section. National Electric Products Corp., Gateway Center, Pittsburgh, Pa.

Plugmold: permanent, multi-outlet assembly provides continuous row of convenience outlets spaced every 6", 18", or 30". Metal strip containing outlets is easily installed wherever needed *without cutting* into walls. Available with 2-wire NEMA grounded receptacles and 2- or 3-wire duplex receptacles. The Wiremold Co., Hartford 10, Conn.

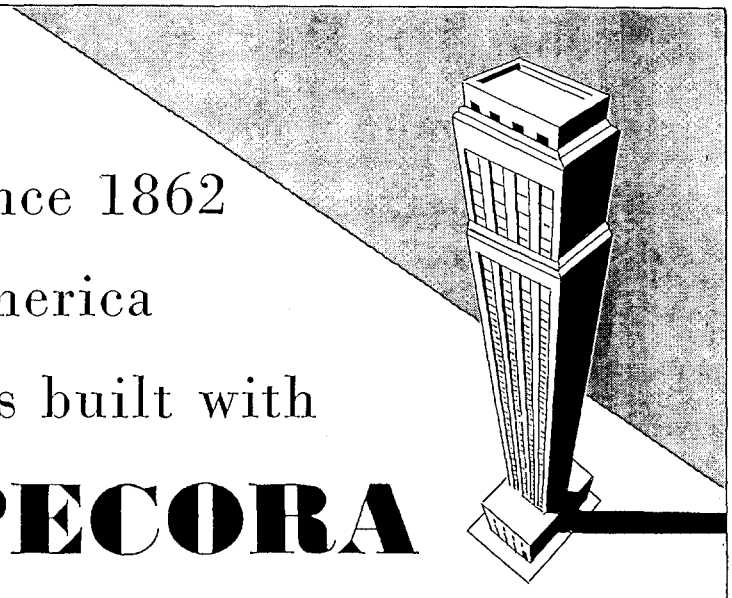
sanitation, plumbing, water supply

Single-Lever Mixing Faucet: interchangeable for conventional two-handle faucet, mixing faucet provides positive control of hot and cold water or any in-between temperature. Single lever preselects desired temperature and controls flow of water. Finished in heavy chrome over brass; equipped with spray unit to supply clear water or detergent spray. The Schaible Co., 5801 Mariemont Ave., Cincinnati 27, Ohio.

specialized equipment

Alvin Constructor Pencil: sharp, uniform lines are made by ribbon lead which fits into flat propelling lead holder. Lead inserts, .016" thick and .047" wide, need no sharpening. Available in HB, H, 2H, and 4H. Alvin & Co., Windsor, Conn.

Automatic-Feed Drawing Pen: continued refilling is eliminated with drawing pen containing ink cartridge. Pressure on cap releases proper amount of ink to nibs through concealed feed tube. Nibs are made of precision-honed stainless steel. Rule-O-Matic Corp., 38 E. 57 St., New York 22, N.Y.



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For three generations, leading architects and builders have learned to rely on Pecora Products. These days, the specifications for many of America's most important buildings read: "Pecora Calking and Glazing Compounds"

The reason is basic. The cost of these compounds represents a tiny fraction of over-all construction costs. Yet an inferior calking or glazing compound can materially affect the completed job.

Almost alone among producers of Calking and Glazing Compounds, Pecora exercises quality control from start to finish. Every step—the cooking of the raw oils, the preparation and blending of the materials—is carried on in Pecora plants. So that Pecora can confidently guarantee the consistently superior performance of its products.

It's good "construction insurance" to specify:
PECORA ARCHITECTURAL CALKING COMPOUND (Comes in two consistencies "gun" and "knife". Fully meets Govt..Specifications
PECORA GLAZING COMPOUND (Recommended for all sash).

Write for informative literature and generous samples for testing purposes.

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QUALITY—SINCE 1862—SERVICE

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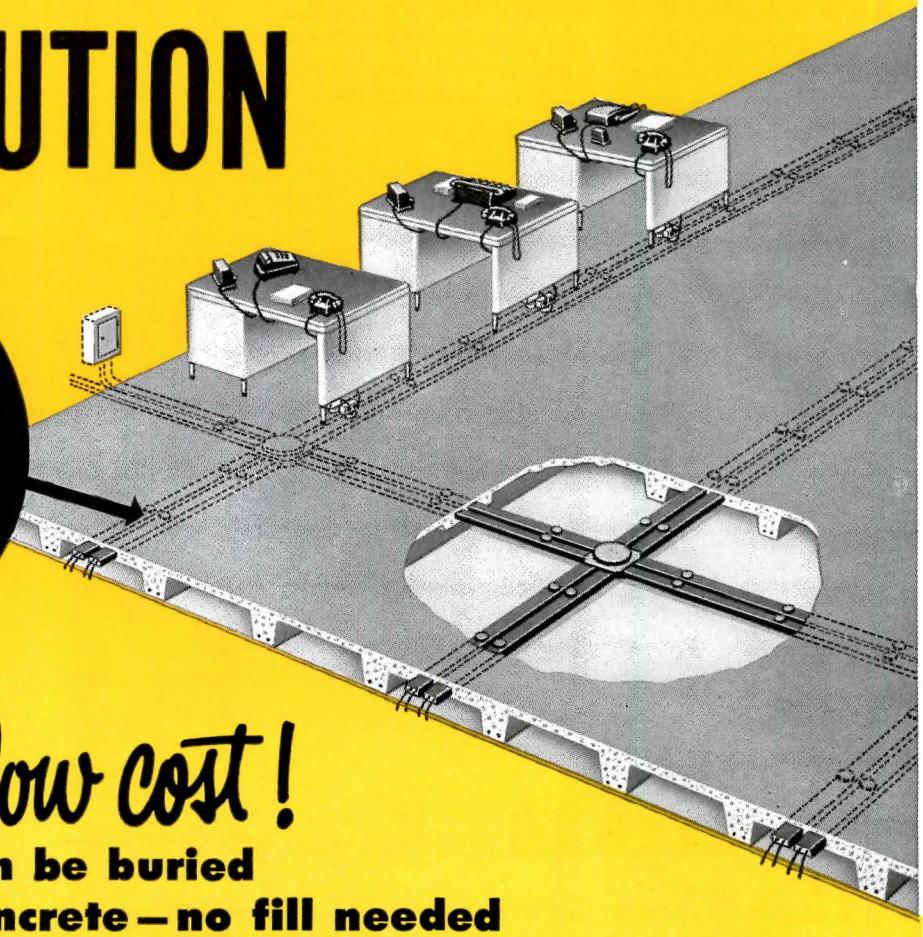

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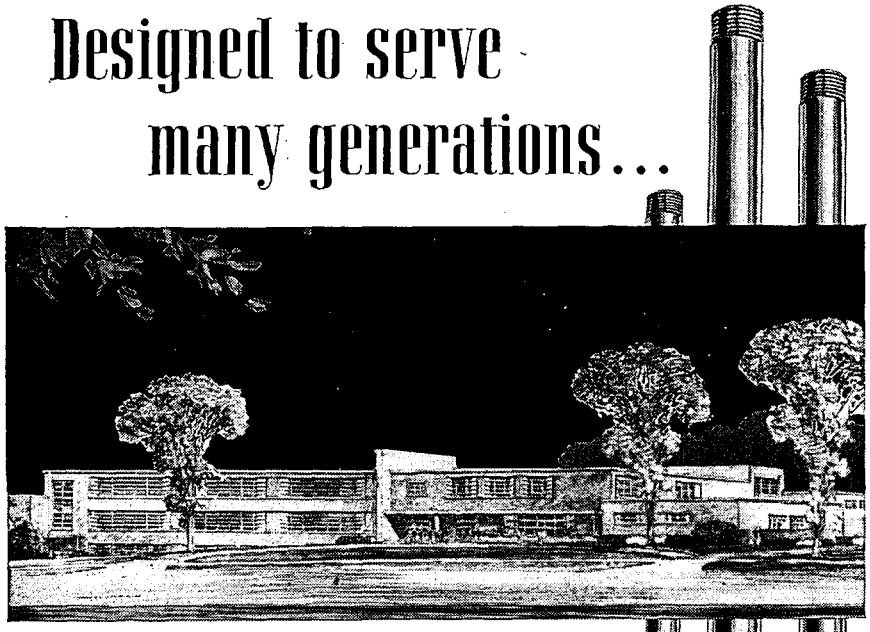

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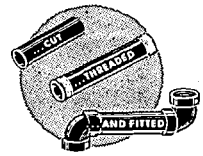

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The text for today's lesson is Chapter VIII, "Candidate Training for the Practice of Architecture," from the testament in accordance with Bannister, *The Architect at Mid-Century — Evolution and Achievement,** plus such additional references as the subject requires. (*Note to the reader:* This column will not, cannot, and would not if it could, serve as a substitute for the original document. However, as it has informed you previously, it will draw for its lessons on the original text from time to time.)

Before discussion of the details of the problem of candidate training there are several existing hypotheses, postulated by professional history, tested by years of experience in education and practice, adopted as a ritual by habit, but discredited by performance and result. There has grown up in this country, by common consent but all too little common analysis, a curious credo which divides professional training from professional practice and creates a dichotomy between the two. This is easily expressed by the accepted axiom, "The practice of architecture cannot be taught in school; the limits of professional practice are such that only in school can a man's imagination and abilities be developed adequately." In other words, it is an accepted concept that the lid is clamped on and screwed tight the minute a man graduates and enters an office where he begins to practice architecture. Only after he has achieved a conservative success through years and years of office routine, may he dust off his aged fancies and let them roam again as they used to in the Never-Never Land of architectural school. Actually this credo, honored by its practice more often than its breach, may be one of the fundamental reasons for the drabness and ineptitude of most of American architecture. I can't help wondering about Italy, Brazil, Mexico, and a few more exciting places, and whether they also blindly accept this concept.

(Continued on page 172)

* *The Architect at Mid-Century. Vol. I: Evolution and Achievement.* Edited by Turpin C. Bannister. 513 pp., $8.75. *Vol. II: Conversations Across the Nation.* Edited by Francis R. Bellamy. 260 pp., $5. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1954.

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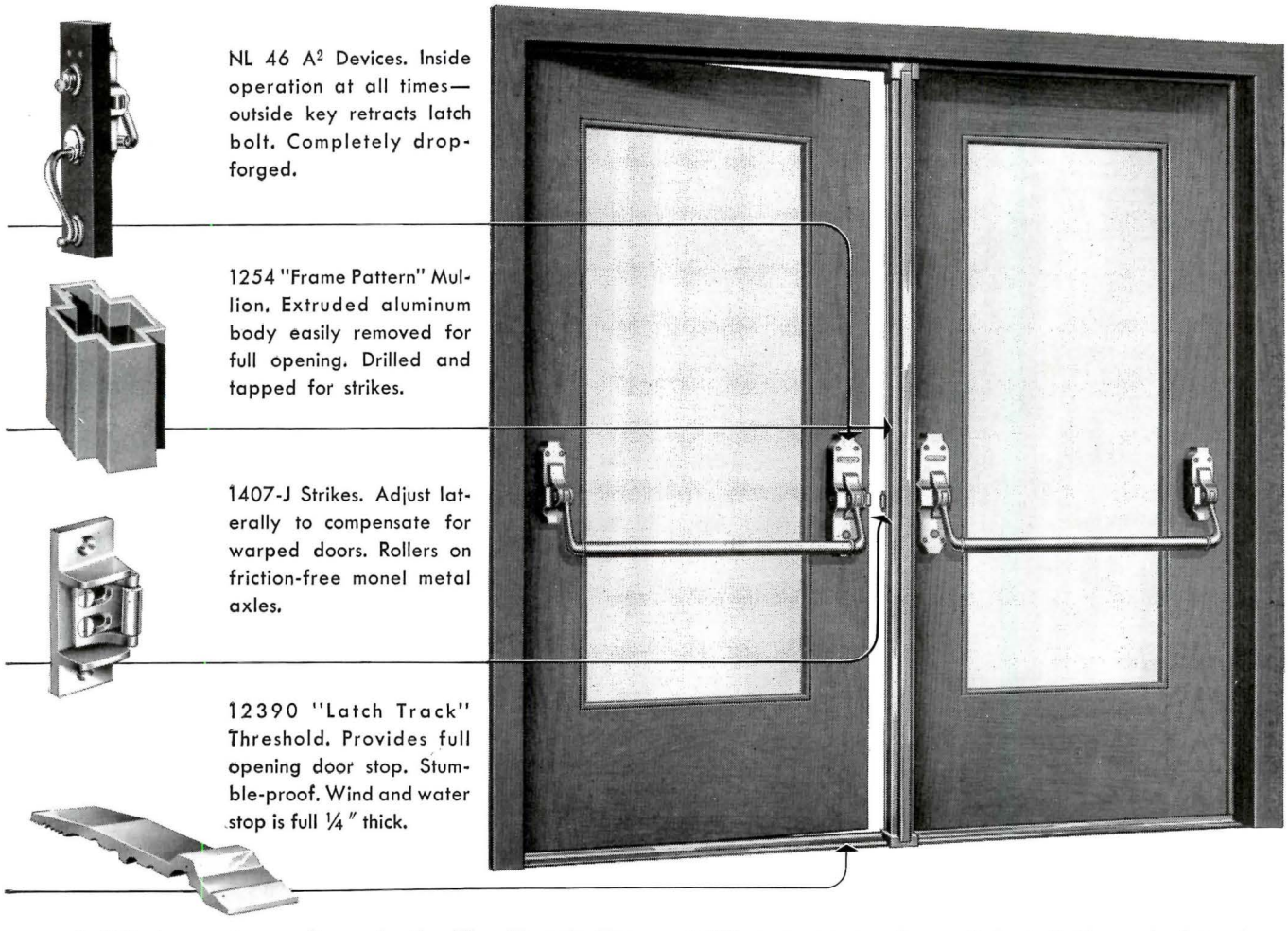

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out of school

(Continued from page 170)

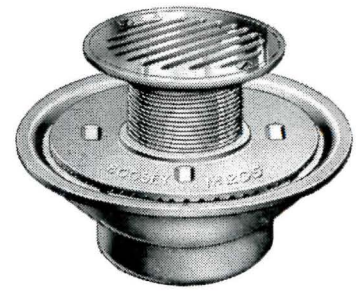
The report on which this text is based states on page 333, "While to laymen and some practitioners it may seem that much of the training here assigned to candidacy should have already been covered in professional curricula, it is evident from foregoing chapters that school training is subject to inherent limitations of time and approach. It is universally recognized, therefore, that the school-trained candidate must supplement his academic training by the discipline which only practical office experience can provide in the application of theory to specific situations, the expansion of knowledge to more comprehensive scope, and the development of mature judgment and wisdom. Thus, school and office training must complement each other in the attainment of professionally competent personnel."

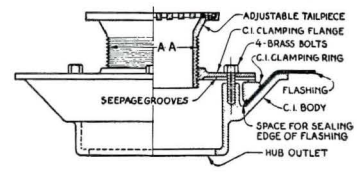
I do not accept the postulates that "school training is subject to inherent limitations of time and approach" and that "school and office training must complement each other." Perhaps I should say, I do accept them as concomitants of the present system but I do not accept the present system as being necessarily either finite or the best. Educational theories in any field of human endeavor should be subject to continued scrutiny, to ascertain their adequacy and accomplishment. We know that, in theory, the architectural educational expedient which we are discussing here is wrong. We know that in carrying out this theory it has serious holes or gaps which must be patched. We are not certain that any of the patches suggested will hold.

The seed of schizophrenia that lies dormant within architecture should not be incubated in the education of the profession. Art and science, theory and practice, are not divisible, are not confined each within separate cells. The breath of life which blows through great architecture is the true synthesis of the two distinct poles of esthetic intent and pragmatic purpose. But these are not positive and negative poles. Rather they are the north and south of a great sphere within which are contained all the elements and objectives of architecture.

(Continued on page 174)

It's Easy to Specify the Exact Drain for the Job!





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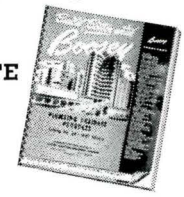

Here's the easy way to specify the exact drainage specialty! Catalog contains complete specifications and engineering drawings for area drains, basement floor drains, boiler room drains, back water valves; cafeteria, shower and toilet room drains; double drainage drains; expansion joints, flashing fittings for stack vents; manhole back water valves; pump room drains; roof drains and stack base fittings.

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out of school

(Continued from page 172)

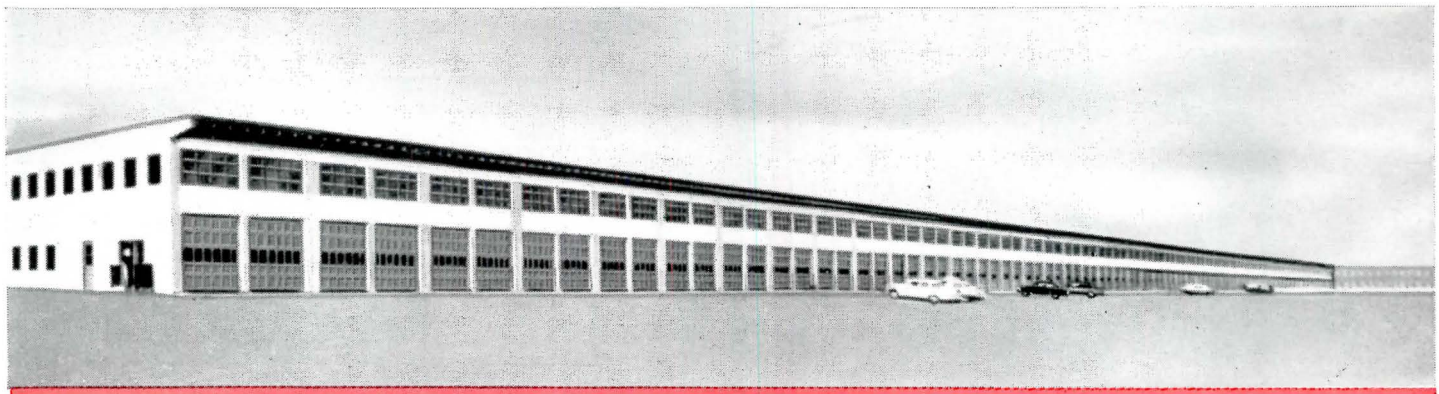
Because of the curious history of architectural education in America, based on the sorry traditions of borrowing only parts of educational systems from other countries and then forcing these parts into an unnatural mold, we have never formed a complete system which is natural to us. I am not speaking in nationalistic terms but rather in the terms of a logic of architecture in which the practice of the profession is imaginative and creative architecture—not just as a goal, but as the thing itself.

We cannot weigh beauty against the dollar. There is no scale which balances the public purpose and a special interest. These are matters of deep concern within the context of a cultural intent. They demand analysis within the framework of education, whether for the profession of education or for all other purposes. Architectural education, it seems to me, by the process it has adopted, shirks this responsibility or accepts from habit the easiest way out. It then hunts by instinct, rather than fundamental reason, for whatever bridges it can find and build across the chasms of its own digging.

We have accepted the concept that the architectural school cannot train adequately for practice; that the examinations at the end of five, six, or even seven years of special study are still necessarily inadequate; that two or three years of special, but relatively low-grade, office experience are necessary before premiation for a "professional" examination, with the passing of which there emerges the *whole* architect. From the egg to the caterpillar to the cocoon and finally the butterfly. I personally prefer to think of the architect in terms of a higher form of life, and of his evolution as a more developed process.

Speaking of the American system of Medical Education in the January 23, 1955 *Washington Post*, Staff Reporter Nate Hazeltine said: "Medical education cannot fall back to lower levels in its steady climb from the morass of laxity and confusion surveyed by Dr. Abraham Flexner in 1908-09. Dr. Flexner's report then was a bombshell. His hard-hitting, factual report disclosed that many medical schools then operating were poorly equipped, overcrowded, and required substandard entrance qualifications. The Flexner report was so damning that nearly half of the medical schools existing then had to close." Hazeltine then went on to say that the U. S. medical schools are now the envy of the world, although operational costs and tuition have gone too high.

It would be exaggerated to say that the report of the Commission for the Survey of Architectural Education and Registration of 1949-54 is "hard hitting" but it is factual enough. Despite the same deficiencies Dr. Flexner reported—poor equipment, overcrowding, substandard entrance requirements and many others —I doubt that any architectural school will close its doors because of the Survey Commission Report. Even when a nega-



A Mile of Crawford Doors (400 Doors) in

The Market Building of the St. Louis Produce Association, Inc., is one of the largest buildings of its kind in the world and one of the most modern and functional. It houses the brokerage activities of more than 65 produce commission houses which own the building cooperatively and occupy standard units which are enclosed front and rear, and separated by 400 Crawford Doors.

Five miles of railroad track behind the two buildings can accommodate more than 200 produce cars at a time. About 100 cars a day deliver 1,500 tons of produce which enters through the rear doors, is sold on the floor and is loaded through the front doors onto hundreds of trucks for local delivery. The advantages of this direct flow and minimum handling are obvious and have brought many interested marketers to St. Louis to study this operation.

The "Market" is actually two buildings, each 1,235 feet long, 115 feet wide and 20 feet high. Each building contains 49 cooperative units, each of 25 foot frontage by 115 feet deep. Units are separated by Crawford Doors which permit units to be combined in twos, threes, etc. The building covers 20 acres, six city blocks, and provides 281,750 square feet of floor space. Construction is tilt-up concrete and was completed in October, 1952. Cost was $3,250,000.

The 400 Crawford Doors are distributed as follows: 100 doors 8′0″ x 8′0″ on the rear, facing on the railroad siding; 200 doors 10′0″ x 10′0″ on the front, facing on the truck loading docks; 100 doors 10′0″ x 8′0″ in the dividing walls, between units. All these doors are manually operated and are reported to be giving completely satisfactory service. If you have door problems, please write us; your inquiry will get prompt, intelligent attention. Crawford Door Company, 165-20263 Hoover Road, Detroit 5, Michigan. Plants in 10 cities; Warehouses in 94 cities; Sales and Service everywhere. In Canada, F. Fentiman & Sons Ltd., Ottawa, Ontario.

tive NAAB report is rendered, schools seldom, if ever, close down for that reason. It could also be stated that, on the whole, the level of the architectural schools is much higher than were the medical schools of 1909. I would agree in general, but let each of us decide this for himself.

My use of this illustration could be attacked by a most convincing argument that architects are not as essential to the human welfare and well being as doctors and therefore that educational standards can be more lax. As a profession it can easily ride along a few more years on its reputational traditions or traditional reputations. Are you willing to accept the concept of a second-rate profession? We still have no real admission standards either for entrance to professional schools or for entrance to practice.

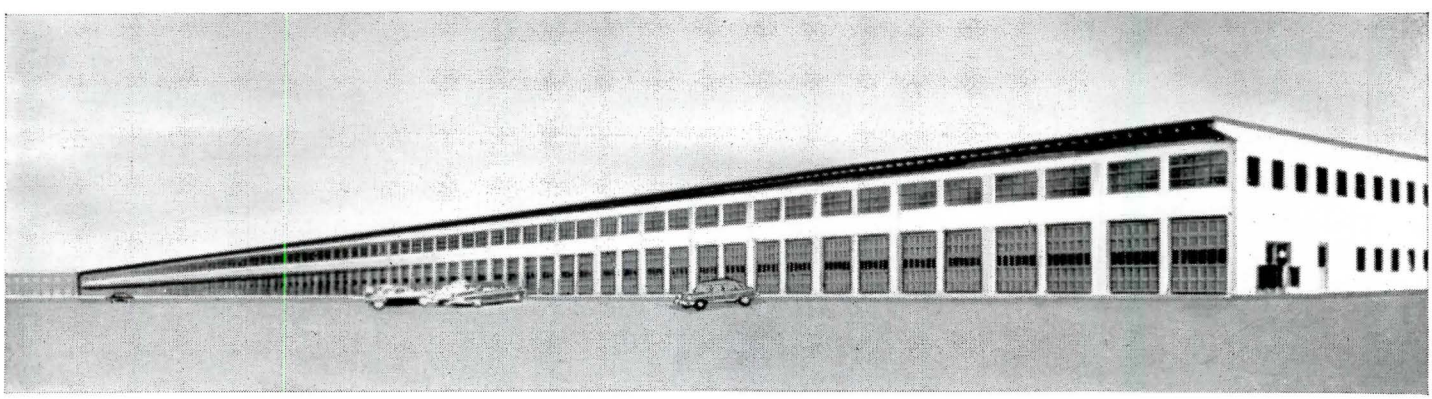
All of this is why I cannot get excited about candidate training—the cocoon. And yet, under this accepted system, there is no other choice but to try to find a device which will form a bridge between the theoretical training of school and the actual practice. We know all of the arguments—the problems of the office-trained, nonschool man; the difficulty of simulating practice in school; the need to avoid the "trade school" concept; the need for developing the unhampered mind; the need for men who can just "draw" when they have to earn a living.

The AIA is now girding its loins to make the Candidacy Period as specific and as valid a part of the educational sequence as collegiate training itself. This is in accord with the Burdell Survey Commission Report *(q.v.)*, recommendations of the AIA Committee on Education, and others. A Chapter Program Chairman's Guide as a supplement to the Chapter Manual will contain advisory material for local chapters to enable them to understand their role in this training period. Further, a "logbook" for each candidate will shortly be available from the Octagon. In this will be kept by each candidate for registration examinations, a record of his office experience as part of the validation of his competency at the final hour.

Something of this sort was started in 1933 when the AIA, ACSA, and NCARB co-operated in the development of the Mentor Plan (Burdell Report, page 334). Depression and war may have been contributing factors but the Mentor Plan failed. Failure again would not necessarily be disastrous, because we would return to where we are. But since the objectives, within the limited philosophy I have been attacking, are excellent, I would hate to see the new plan fail. And there is an off chance that if it begins to work, there will be an encouragement for scientists in the field of architectural education to develop studies for the more rational approach to a badly needed, integrated, training program.

The trend in the schools at the moment to employ practicing architects as part-time Deans and Directors, and also the apparent increase in part-time professional instruction (particularly in the urban schools), should be clarifying the relationships between the theoretical and practical. Actually, it should have

(Continued on page 178)



St. Louis Produce Association, Inc.
Market Building

Architects: **L. ROY BOWEN & ASSOCIATES, St. Louis, Mo.**
Contractors: **ROBINSON CONSTRUCTION CO., St. Louis, Mo.**
Crawford Doors by **CRAWFORD DOOR SALES CO. of St. Louis**



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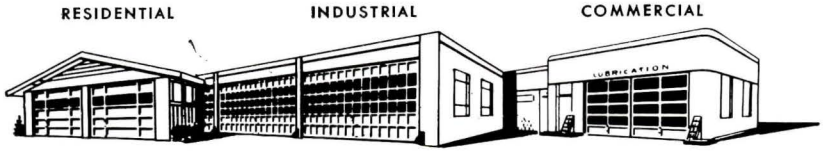

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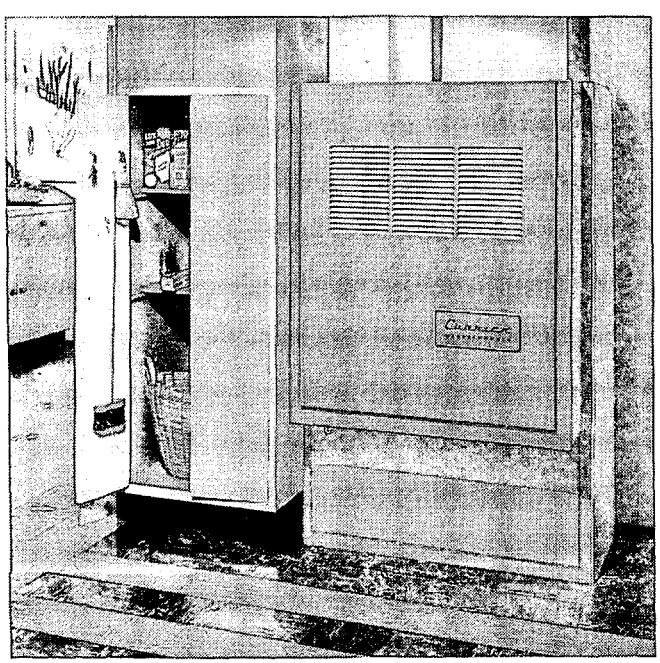

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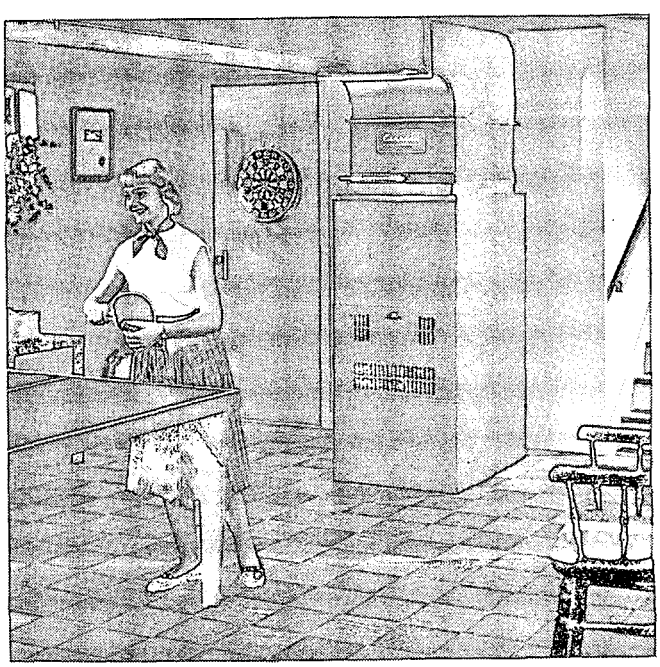
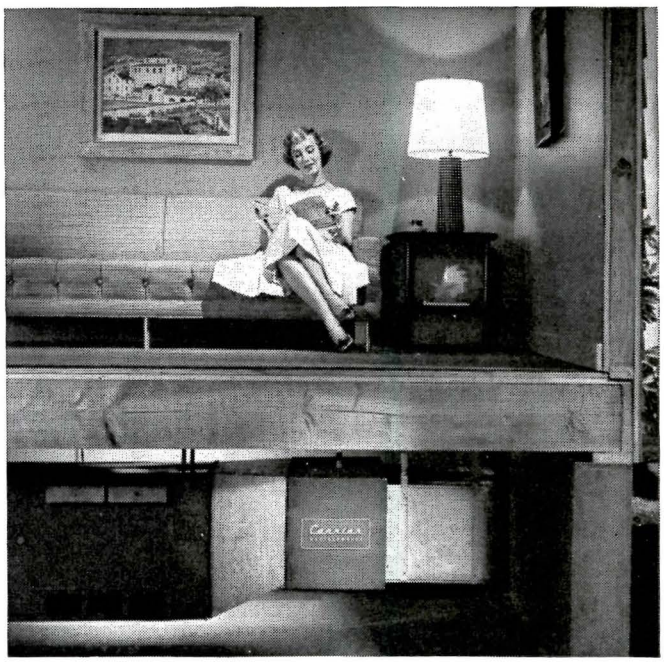


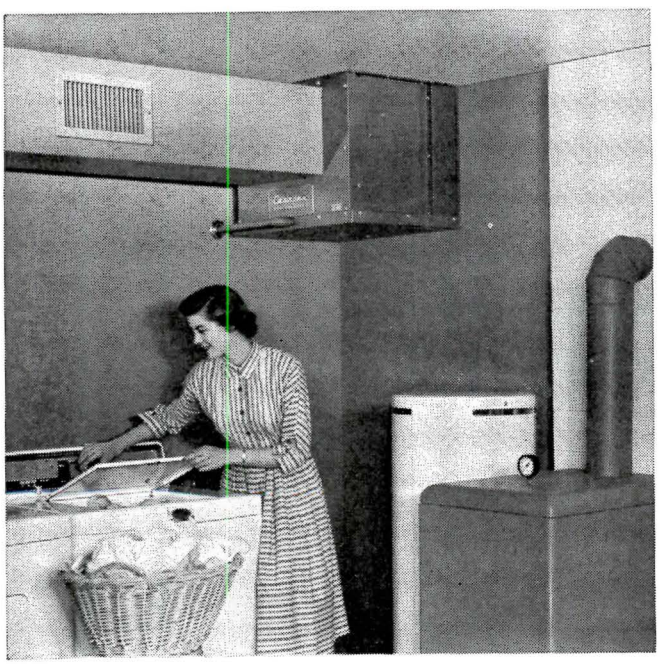
WITH COOLING ADDED TO A TOP-DELIVERY FURNACE? This Carrier Conversion Weathermaker adds on to the top of any standard warm air furnace. It's ideal for a basement installation like the one illustrated. The section on top of the furnace contains a cooling coil. Small refrigerant lines run from it to an air-cooled refrigeration section located anywhere outdoors.



WITH COOLING ADDED TO A COUNTER-FLOW FURNACE? This Carrier Conversion Weathermaker fits under any counter-flow furnace. Naturally, it's ideal for any warm air perimeter system . . . particularly when the ducts are in the floor slab itself. A separate, compact refrigeration section needs no water for cooling and it may be located in the yard, the garage or carport.



WITH COOLING ADDED TO A HORIZONTAL FURNACE? This Carrier Conversion Weathermaker pairs happily with any horizontal heater or will fit in a horizontal supply air duct. It may be installed in the crawl space, as shown, or in the basement or attic, as you prefer. With the air-cooled refrigeration section located outdoors, Conversion Weathermakers are notably quiet.



WITH COOLING ADDED TO WET OR RADIANT HEAT? The new Carrier Summer Weathermaker comes complete with its own fan and filter section. The package you see in the picture performs a complete summer air conditioning function. It is so compact it may be located centrally with a short run of duct . . . and with the air-cooled refrigeration section remotely located.

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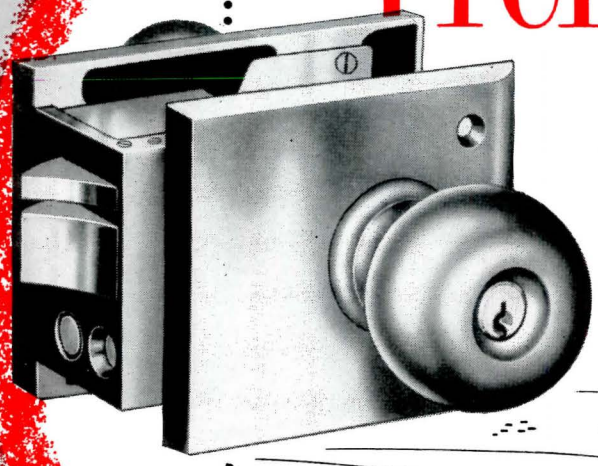

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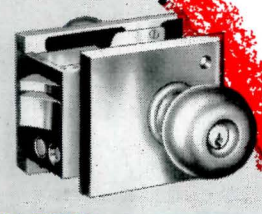

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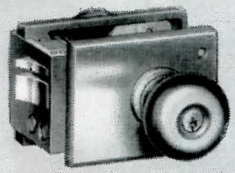
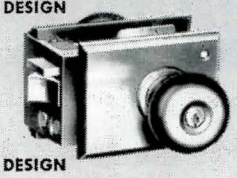


ENFIELD DESIGN



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out of school

(Continued from page 175)

done so a long time ago, but the practitioner seems to don some other hat the moment he enters the cloister. He accepts the fiction of separability of theory and practice as much as his more academic-minded brethren, including the Burdell Commission.

There are several danger spots in the whole concept of the candidate program, of which the worst is the office of the practitioner of architecture—its adaptability to a *system* of training under an infinite variety of personnel and economic situations. Within the academic walls, a curriculum is a system of educational practice. Whether or not a similar system can be created outside these walls remains to be seen. It is clear that the AIA, NCARB, NAAB, and ASCE all intend to devote their attention to creating such a system. With their joint effort and with the co-operation of the schools and local chapters, it is being given every opportunity. I, for one, will do my best to encourage the effort, in these columns and elsewhere. At this moment in our history this is an important expedient.

Specific action on the training of those architectural waifs now called "candidates" is contemplated by the AIA, although it is doubtful that all loose ends could be tied together before a year from the date of this article. Several committees of the Institute are involved, including the Education Committee and the Committee on Office Practice. Both of these will need to dovetail recommendations with those of the Chapter Affairs Committee, and finally with the Board itself. This will include acceptance of the "logbook" by all committees, as well as the Board, and a matching of it with the NCARB Syllabus now in review and available on application. Further, review procedures, discussed at great length at the Education Committee meeting last December 13 will need clarification. Relationships between educational experience and office practice, between education records and office records, between competencies and assignments, and all the rest, will need ironing out, and there is talk of an office-practice text book in addition to the NCARB Syllabus, the

"logbook," and the Chapter Manual section on the subject. This kind of thing could go on forever! It had better not or it will die aborning. At a set date, somebody will have to say, "This is it," and launch the ship, sink or swim.

In the AIA Special Report No. 2, dated January 2, 1955, summarizing the actions taken by the Board of Directors on the Commission for the Survey of Education and Registration on page 14, there is this following statement, which indicates at least an interest. It guarantees *only* a report from the Education Committee by the 1955 annual meeting.

"R-30, R-31. That AIA, with support of ACSA, NCARB and NAAB, develop and establish an AIA candidate-training program (Candidates to be given title 'Architect-in-training'), with a minimum of three years of experience, participation in all phases of professional service, the use of a logbook of experience, the periodic advisement of the candidate with a review of his logbook, which would be issued on graduation from an accredited school or upon certification by a chapter advisement committee, the whole program involving regular reports by this chapter committee regarding the status of candidates.

"The Commission's specific proposal is a modernized and articulated version of the Mentor system, which was promulgated and activated in a number of Institute chapters 20 years ago. The Mentor system worked in instances where it was taken seriously, but it lacked nationwide organization and promotion and was apparently killed by the depression. In anticipation of the Survey Report, the candidate program has been seriously studied by the 1953-54 Committee on Education.

"The recommendations are referred by the Board to the Chapter Affairs Committee and to a subcommittee of the Education Committee for report not later than the annual meeting in 1955.

"The Chapter Affairs Committee has carefully explored all of the possibilities and problems in the program and will collaborate with the subcommittee of the

(Continued on page 180)

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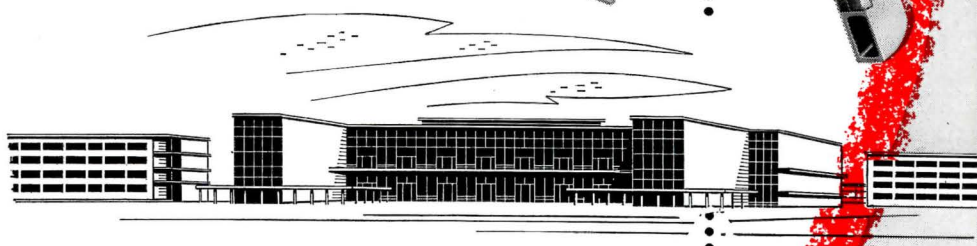

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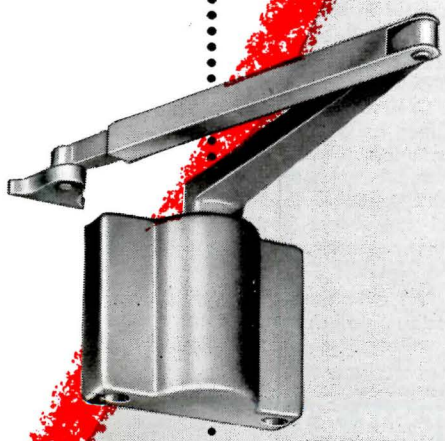
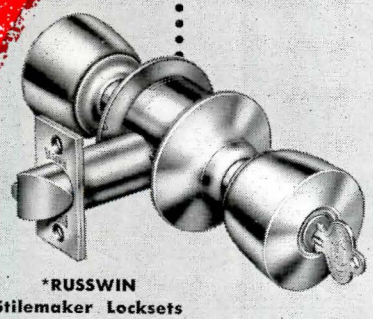
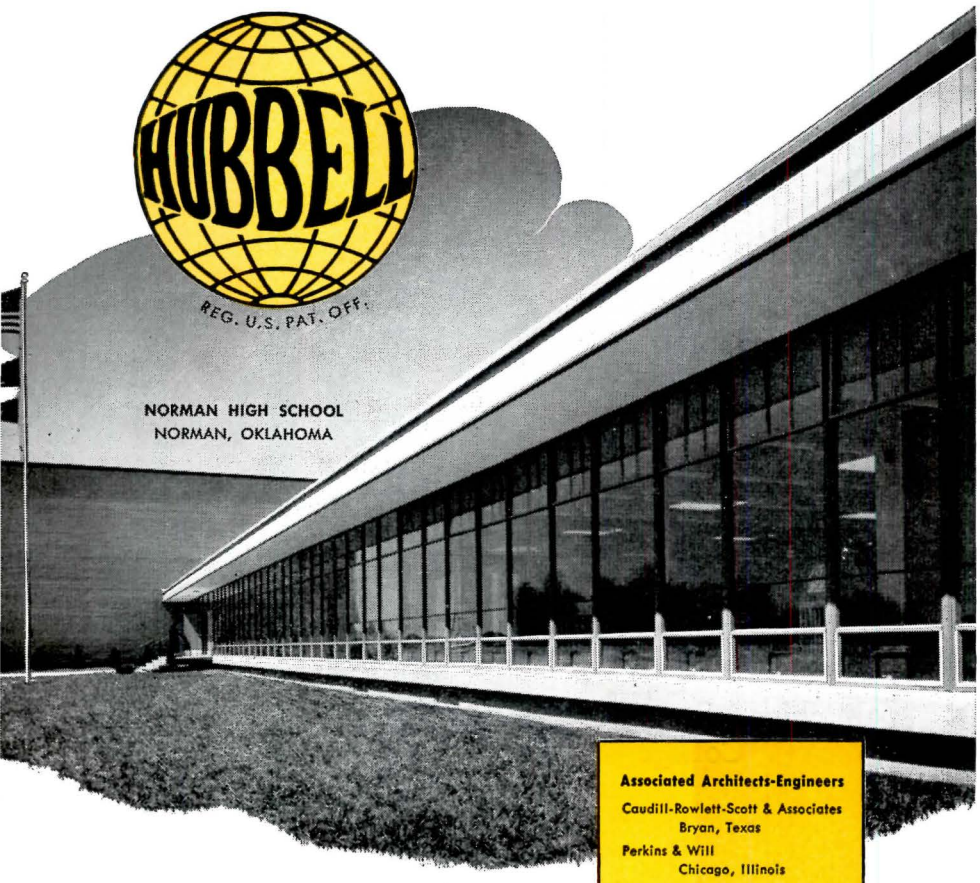
The heavy I beam construction of the door holder illustrated is one of the features that wins preference for Russwin. It assures maximum strength. Other long-life features include: track and slide made of extruded brass and hard-drawn brass or bronze arm. Every requirement for door holding can be met by the Russwin Line . . . the 600 "Triple Grip" Series concealed type; the 650 Series Surface Type; similar holders for heavy duty, plus free acting holders and door stays. Russell & Erwin Division, The American Hardware Corporation, New Britain, Conn.



*RUSSWIN "400" Door Closers



*RUSSWIN Stilemaker Locksets



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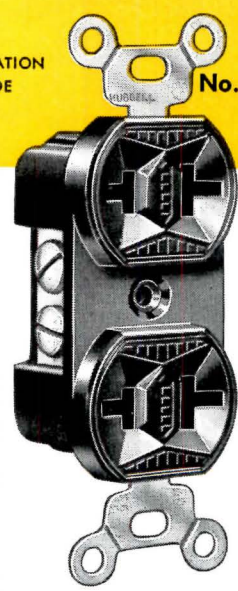

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1HH55

out of school

(Continued from page 179)

Committee on Education which will have the benefit of last year's work by the Education Committee on the 'logbook' and accompanying documents. The Education Committee emphasized the necessity of full co-operation by chapters and practitioners, and co-ordination of the 'logbook' and manual with the NCARB examination syllabus."

We'll watch this development carefully and report progress. Something should be done, even though it should be clear by now that I do not consider the candidate training program as a satisfactory or permanent educational concept—any more than I believe that architectural education should perpetuate an untenable hypothesis. Let us look behind our accepted rituals to see if we have not substituted them for a fundamental dogma.

tribute to schoolmaster

Dear Carl Feiss: It goes without saying that OUT OF SCHOOL has been, for some time, a strong source of delight and insight. As one who has gathered his share of familiarity with the "inside story" of our schools, I found your reports from the Theleme campus most charming. Sometimes your picture was perhaps too charitable. I wonder how many readers realized that behind the humorous words the truth was hidden. I surely believe that our schoolmaster has made a tremendous contribution to the knowledge of our educational problems.

May I also congratulate you on your policy of guest editorials. I hope that this discussion will become universal so that a large number of architects will involve themselves actively in a general concern with educational problems for their own, and the profession's advance.

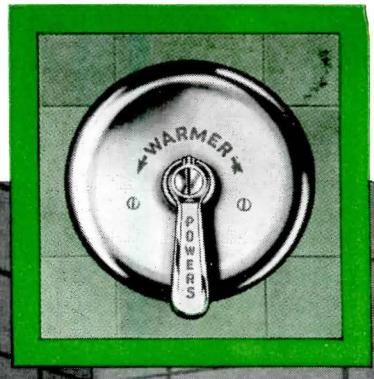
I should be grateful for being permitted to make my contribution by way of commenting on two outstanding guest editorials which caught my particular attention.

Robert Woods Kennedy's observations of situations which are "typical of architectural schools," confirm many of my own experiences gained in schools which

(Continued on page 182)

Showers Can Be Trusted

at FREEPORT, ILL., JUNIOR HIGH SCHOOL



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Powers Mixers Save Water. No time or water is wasted by bather having to get out from under shower due to fluctuating temperature. Water conservation makes them more economical.

(b59)

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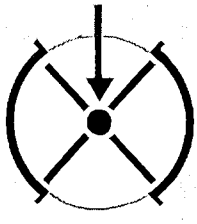
Send me without obligation my personal copy of the new 1955 International "Entrance-Planning Manual."

NAME AND POSITION_____
FIRM_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

HOW REVOLVING DOORS seal out drafts



At least two wings of a revolving door entrance always contact the circular enclosure wall. Thus a draft cannot be created through revolving doors, because they are *always closed—yet always open*—admitting only about 26 cubic feet of outside air each time used *97% less than admitted by a swing door entrance.*

Even in coldest weather, no drafts get past an "always open — always closed" revolving door entrance. There's no build-up of stack draft and wind pressure that make swing doors stubborn. No chilling blasts and clouds of dust whip down corridors and up stair wells. Instead, all floor space is made profitably usable right up to the doors . . . interiors are kept cleaner and more comfortable . . . with resultant savings on heating and redecorating costs which can soon pay for a revolving door entrance. And that's only part of the big cost-saving story contained in the new International Entrance-Planning Manual.



New International Revolving Door Entrance at O'Connor & Goldberg Shoe Store, Lincoln and Belmont, Chicago. *Sobel and Stein: Architects.*

INTERNATIONAL ALWAYS OPEN ALWAYS CLOSED VAN-KANNEL

See Sweet's Architectural File

REVOLVING DOOR ENTRANCE DIVISION
2052 EDGAR ST. EVANSVILLE 7, IND.

INTERNATIONAL STEEL COMPANY

out of school

(Continued from page 180)

I trust would be classified by Kennedy as "schools of reputation."

As far as undergraduate teaching is concerned, I feel that there is not too much difference between the schools, particularly in the much-standardized offerings of the lower division. Reputations are carefully built by administrative means and are related more to psychological warfare than to educational philosophy and practice. In most cases, the difference between schools is beginning to show in the fourth and fifth years, and is marked in graduate studies. Only a few schools are headed by great artists and fewer by great educators. For that reason, it would be important to "fit together standards of the school and the abilities of the students" in a way that the educational purposes are truly effectuated.

It is true that this aim can be fulfilled easiest if the student is suited for the profession. On the other hand, it is not always necessary that a student be a future candidate for the profession, as Architectural Accrediting Boards apparently like to think. Going to college should mean acquiring habits which would enable a person to think for himself and to develop his personality. During this educational pursuit, which should take place in a favorable and stimulating environment, certain knowledge and skills will be acquired as a matter of course. Architecture has been found by many to be a wonderful medium in becoming an educated person. Fortunately, many former architectural students found it easier with their background to go into related or even quite different fields. Architectural education must support the growth of the student's imagination: it is this imagination which is missing today in many walks of life.

Therefore, I would be more concerned with the student becoming an educated person than with his one-sided preparation for the drafting room, attractive as this goal may appear to the man in "business" or to the young man who is itching to get into it. Also, we need to further the student who is blessed with great artistic talent, although there is insufficient

(Continued on page 186)

BARBER COLMAN

UNI-FLO ENGINEERED

Air Distribution

Puts shoppers in buying mood at Burdine's . . .

It isn't often that a mechanical engineer says "The equipment has usually exceeded the performance of published data." Yet that's the comment made after Uni-Flo equipment was installed throughout the beautiful new home of famed Burdine's in Miami Beach, Florida. Not only was performance above par, but, as can be seen below, the Venturi-Flo Diffusers are small and inconspicuous in appearance, harmonize with the decorated ceilings, are easy to adjust. Experience indicates, too, that Venturi-Flo Diffusers keep ceiling smudge at a minimum.

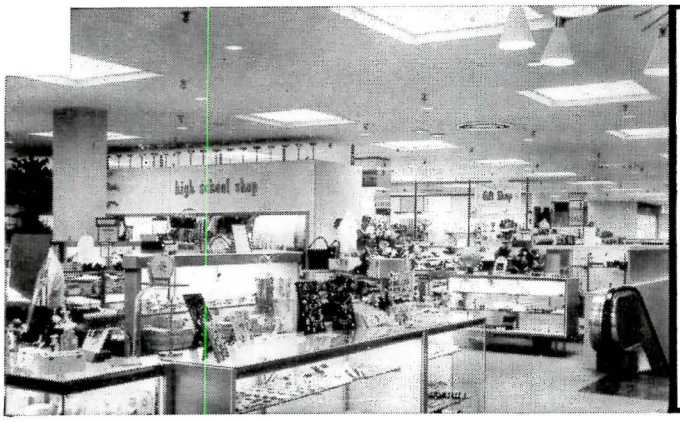
Architects: WEED, RUSSELL, JOHNSON, AND ASSOCIATES. *Interior Designer:* RAYMOND LOEWY. *Structural Engineers:* NORMAN J DIGNUM AND ASSOCIATES. *Mechanical Engineer:* R. L. DUFFER. *Air Conditioning Contractor:* HILL-YORK SALES CORP.



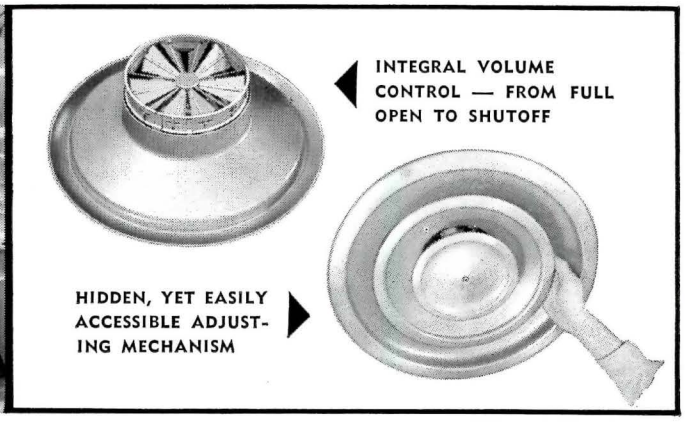
New, two-story building (83,400 square feet) covers approximately a city block, provides an ultra-modern, luxurious setting for Burdine's "Sunshine Fashions."



Entire store is air conditioned for shopping comfort. Venturi-Flo Diffusers distribute the conditioned air quietly, unobtrusively, efficiently.

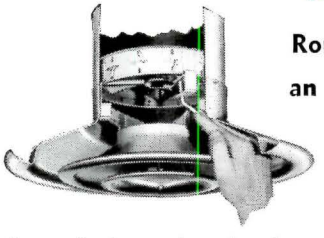


Using from 15% to 100% outside air, the atmosphere throughout the building is kept fresh and inviting for personnel and shoppers, regardless of store traffic and weather conditions.



Venturi-Flo Ceiling Diffusers provide efficient diffusion, rigid construction, quiet operation, easily adjustable deflection and volume control, advanced styling.

BLAZING THE TRAIL TO BETTER AIR DISTRIBUTION



Round Ceiling Diffusers . . . an early pioneering success

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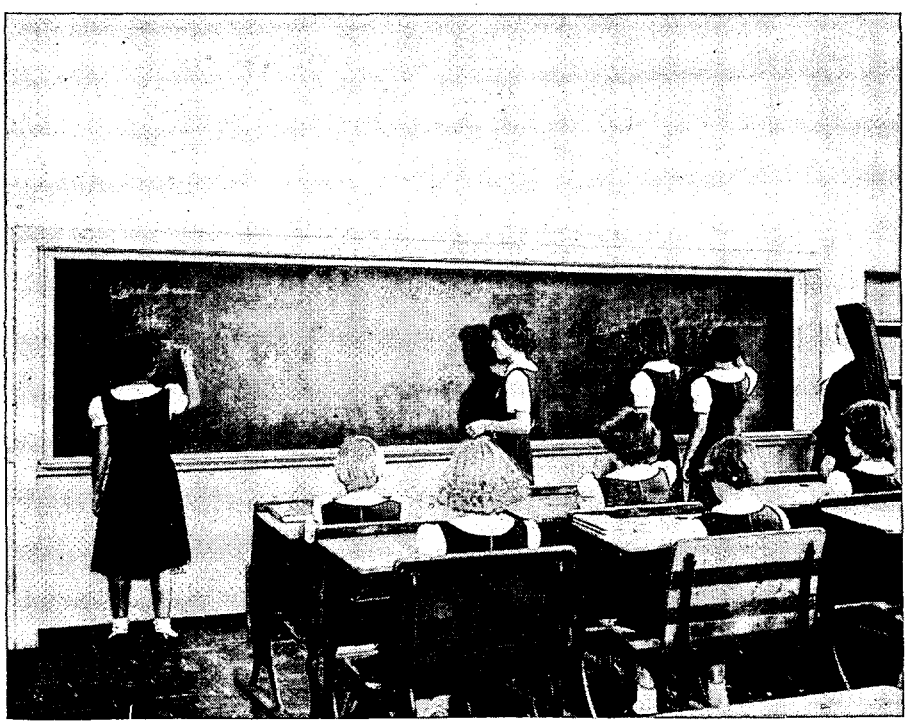


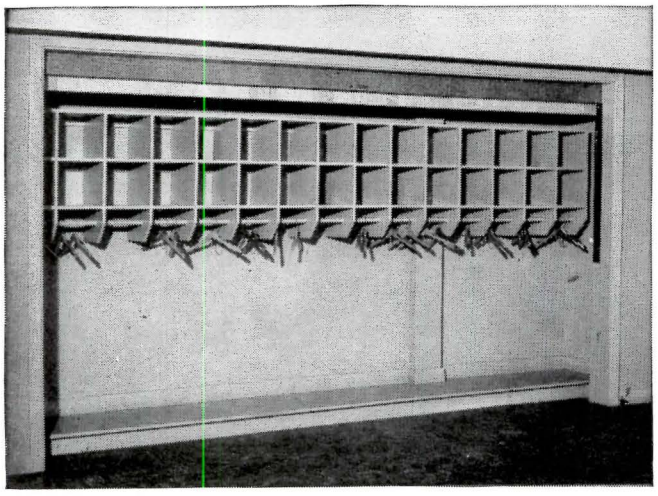
MORE FLOOR AND WALL SPACE is usable in this classroom through installation of a Barcol WARDROBEdoor. Shown here equipped with a chalkboard, its wide, unbroken, flat surface can also be furnished with a tackboard or combination of the two, or with any desired veneer finish. Note examples on opposite page. Conserves classroom area too—space-saving, vertical-action WARDROBEdoor requires no extra floor space for clearance.

Left: St. Augustine School, Rochester, N. Y.

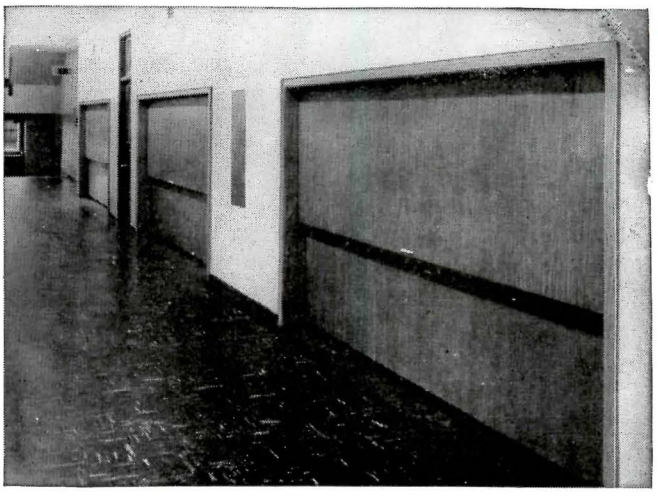
UNOBSTRUCTED CLOAKROOM ACCESS is afforded by the Barcol WARDROBEdoor, which opens vertically into the wall. Annoying door interference with clothing and rubber footwear is eliminated. Absence of pivots, hinges, and other hardware makes cleaning easier. Full-view opening gives the teacher complete control of the "cloakroom rush." Standard coat hooks or any desired custom-built storage arrangement can be provided.



Right: Heuvelton Central School, Heuvelton, N. Y.

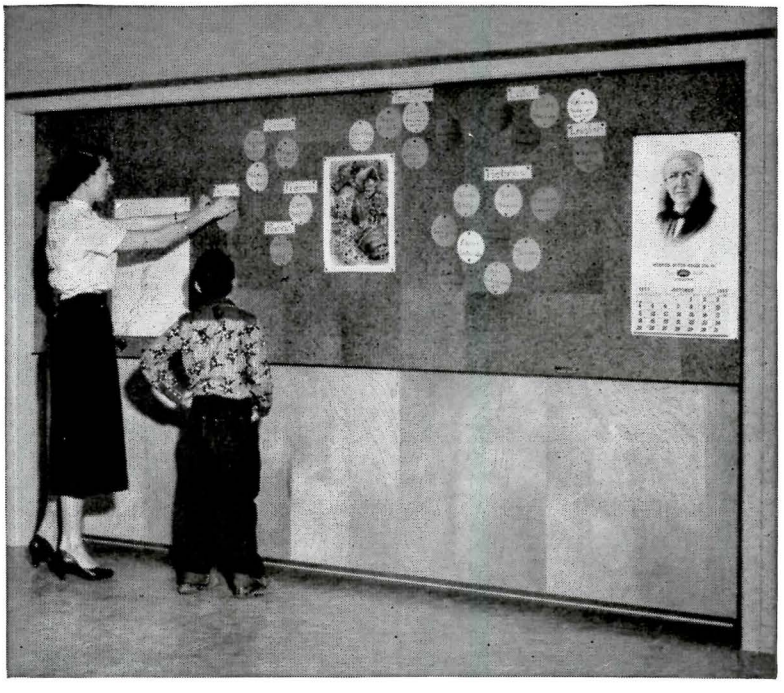


Note footwear ledge in custom interior at Craig School, Schenectady, N. Y.

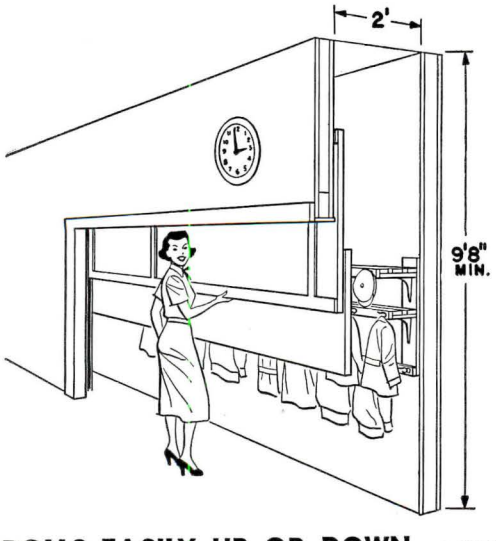


Hallway installation of WARDROBEdoors at Amherst School, Snyder, N. Y.

EASY, FINGERTIP OPENING of Barcol WARDROBEdoor is made possible by accurate counterbalancing of its weight plus high-precision manufacture of the operating unit. Quiet operation is assured by nylon rollers running in continuous steel tracks. A chain and sprocket arrangement links the door sections and counterbalancing weights. The bottom section rises at twice the speed and clears the opening at the same time as the top section. A variety of decorative effects is obtainable by the use of beautiful veneers on the bottom section or both sections of the WARDROBEdoor to match interior trim. Two standard sizes are available—12′ x 6′, for 48 students and 10′ x 6′, for 40 students.



Cork tile on tackboard area at Craig School, Schenectady, N. Y.



ROLLS EASILY UP OR DOWN—complete dimensional data and specifications on request.

ARCHITECTS WHO SPECIFIED Barcol WARDROBEdoors for installations shown here are:

Frank Quinlan, Rochester, N. Y.—St. Augustine School

John C. Ehrlich, Geneva, N. Y.—Heuvelton Central School

Sargent, Webster, Crenshaw and Folley, Syracuse, N. Y.—Craig School

Wm. C. Lurkey, Buffalo, N. Y.—Amherst School

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out school

(Continued from page 182)

use for him in our materialistic age. He is the student to whom integration of the arts is a natural thing and who wonders why the school's departments are so carefully guarded from each other by the device of required courses.

All these students, suited for the profession or not, will show varying degrees of talent and of temperament. All of them should, however, have a strong inner urge to enter the chosen field. Students who have a burning desire to become architects notwithstanding hardships and financial insecurity stand a better chance to do important work, if only of modest size, than those who seek privileges to make a business success of themselves. By furthering the sincere student, the schools could perhaps do much to help raise our architectural standards. Business men certainly would commission the artistic and educated designer, who is an originator and not a "firm," if he were the typical product which the schools release into the profession.

As far as selecting and obtaining talented students, a critical self-evaluation of the student is worth more than any testing device. Idealism and integrity are visible immediately to the right teacher, but they need guidance, protection, and an outlet. Nothing astonished me more than the experience I had with a student who came to me as his advisor. From his papers it was evident that he had tried unsuccessfully in various departments of the college. When I asked him what made him think that he wanted to study architecture, he honestly said that he didn't know. He had taken an aptitude test and they finally had decided that he should take architecture. And, therefore, he came to enroll.

The question of talent, also among the eager students, is often difficult to determine. Since the brilliant student has the ability to show superficial skills and quick reaction, he can take care of himself in reaching standardized curricular goals. He is easily becoming the preferred student. He is also bound to be successful wherever competitive methods are employed, therefore, learning to do better than the other fellow, rather than doing his best. The "average" student is an ambiguous fellow and less liked by those teachers who find teaching troublesome and are in a habit of doling out grades and degrees as prizes to the successful winner. Indeed, few of the "average" students are average. I found some of the most unusual personalities with deep-seated talent among "average" students. One has to be interested in people in order to be a teacher. Slowly developing students suffer often unnecessarily from neglect or misunderstanding. Many are hard searchers for true form and are thrown off balance if the critic tries to impose his preconceived notions. They are sometimes the outsiders who "unexpectedly" do the unusual things when their arrested talents become free in later years. Those slowly developing students

(Continued on page 190)

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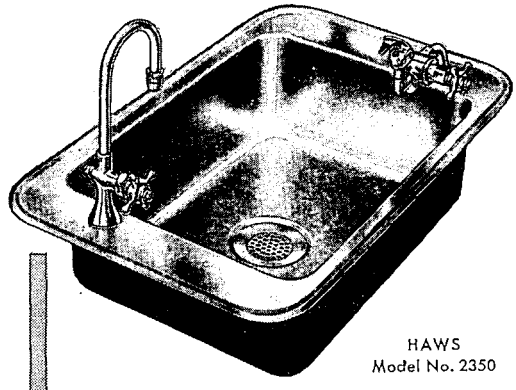
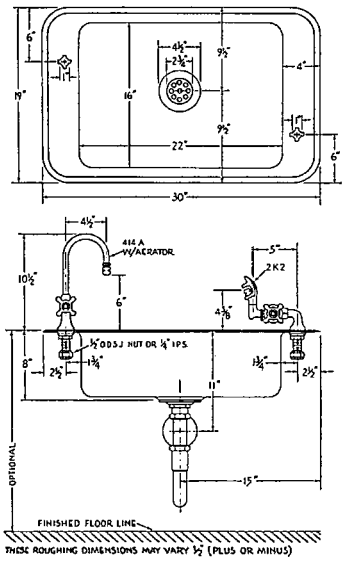
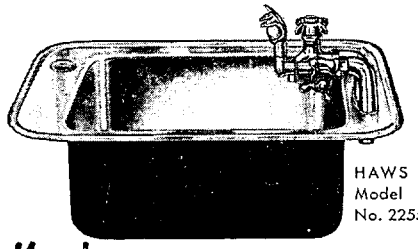


HAWS Model No. 2350

in STAINLESS STEEL



HAWS Series 2300, Model No. 2350 (Pat. applied for)



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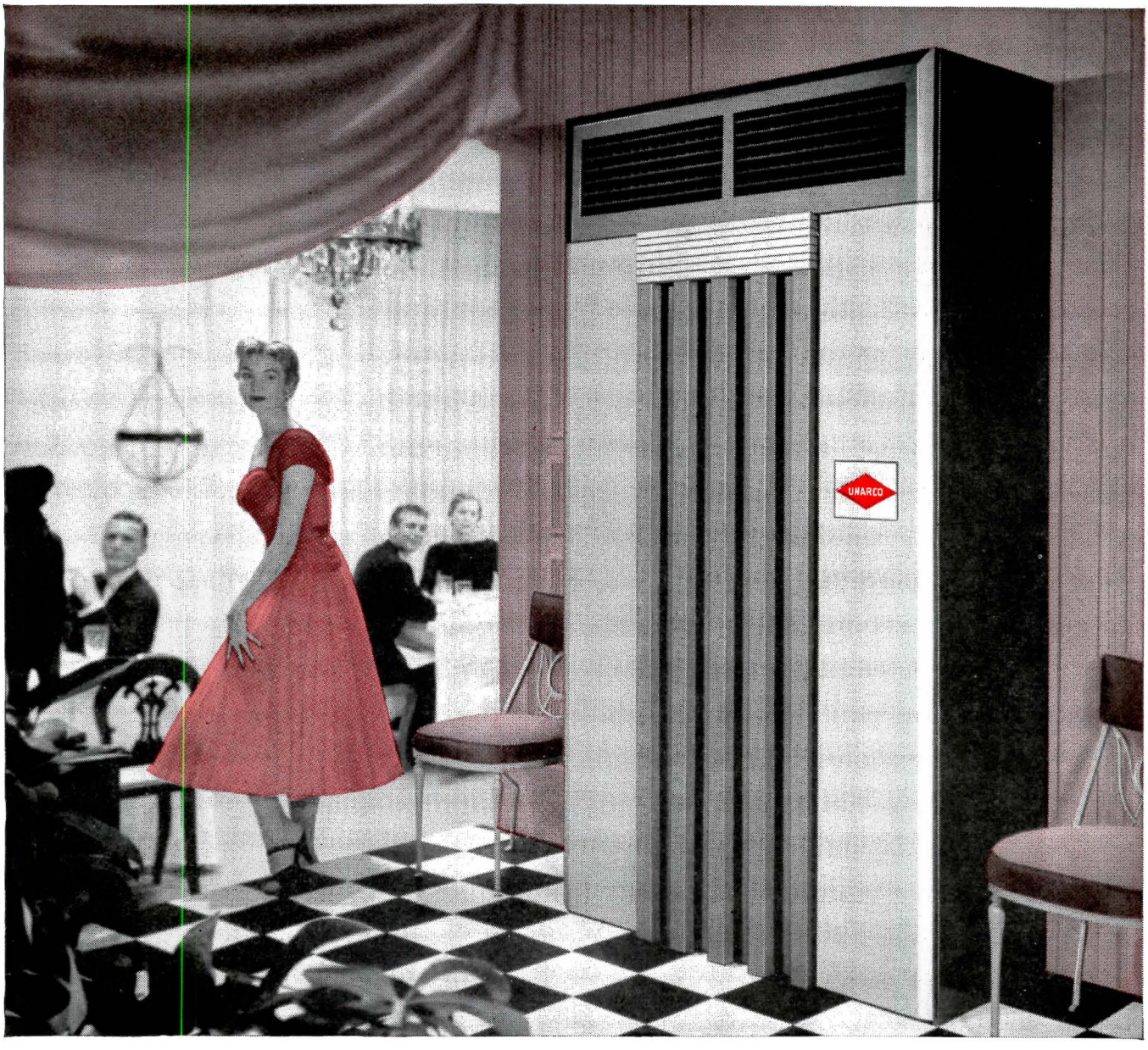

UNARCO **ROYAL-AIRE** *a distinctive conditioner featuring UNARCO "pump-down" control system*

It is doubtful that any air conditioner can match the efficiency and beauty of the UNARCO ROYAL-AIRE. This all-new conditioner provides "just right" cooling comfort, adding distinction to *any* setting.

Oversize cooling coils . . . accessible, hermetic motor-compressor units... and the exclusive UNARCO "pump-down" control system, which prevents compressor damage... are but a few outstanding features of the ROYAL-AIRE line.

Available in five capacities (3 to 15-ton) the ROYAL-AIRE is *balance-engineered!* This insures full cooling capacities and quiet operation under all conditions, producing a pleasurable climate and atmosphere for any size room.

The ROYAL-AIRE is eminently suited to comfort-cool dining rooms, taverns, drug stores, clothing stores, and offices... to cool wherever the *ultimate* in efficiency and long life is desired. Address Heating & Cooling Division for descriptive literature.

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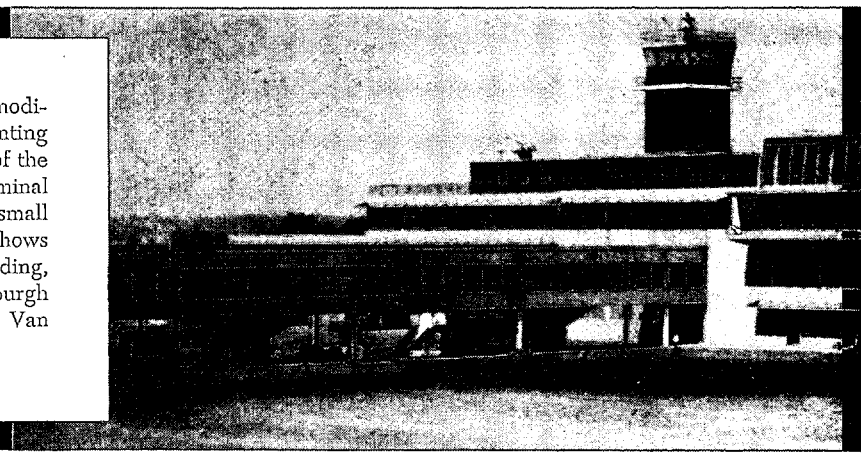
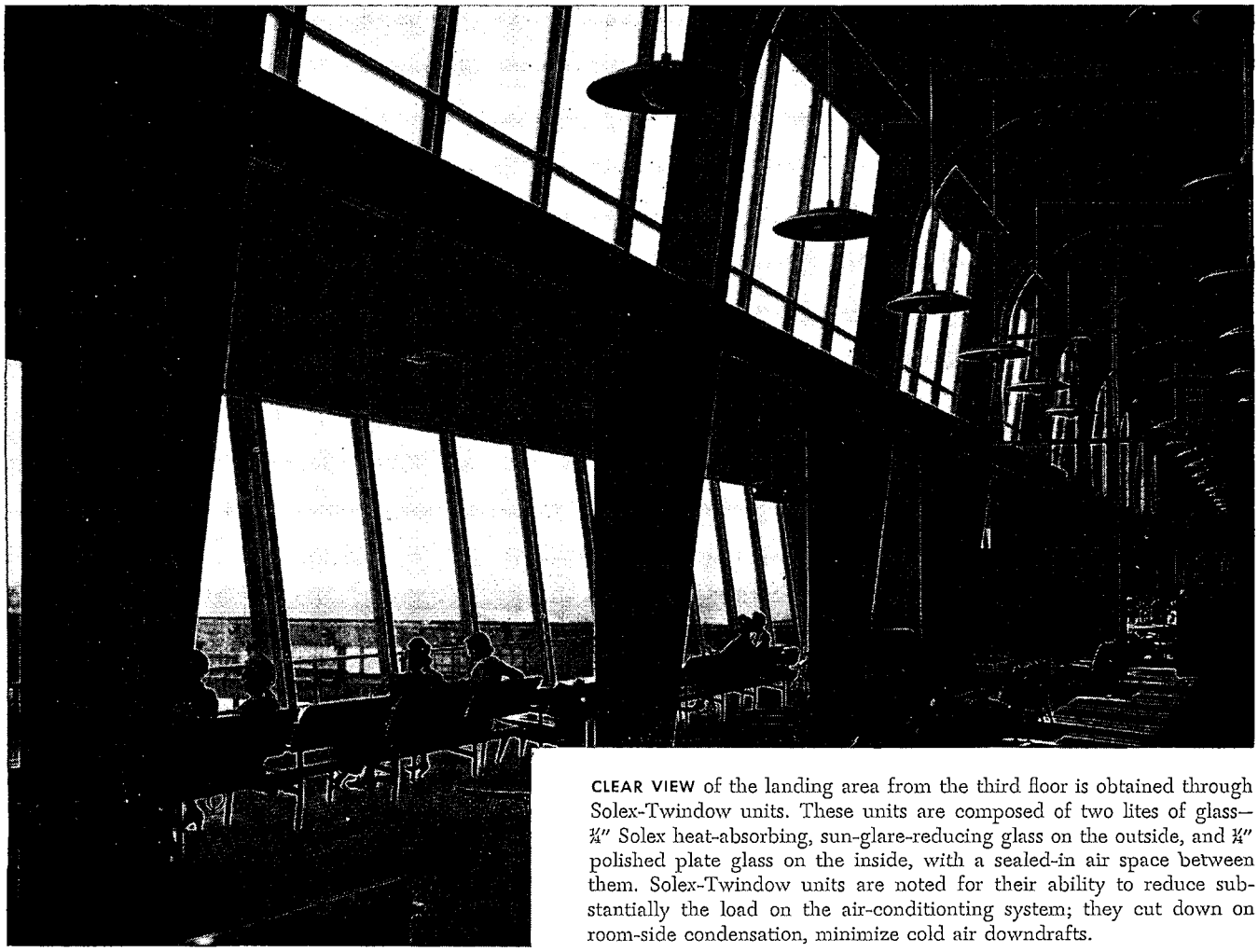
the *finest* in heating and cooling products *at no extra cost*



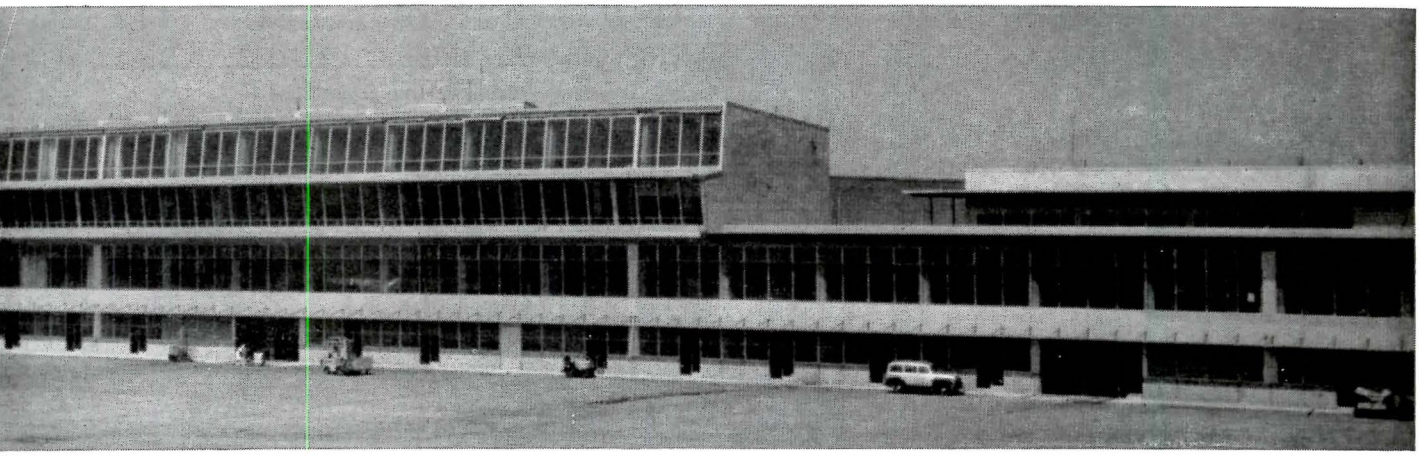
BASICALLY CONSTRUCTED in the form of a modified "F"—with the two short arms representing the passenger loading piers—the main part of the new Philadelphia International Airport terminal building is three stories high, topped by a small fourth floor and control tower. This view shows the over-all field side of the terminal building, with its impressive application of Pittsburgh Glass. Architects: Carroll, Grisdale, and Van Alen, Philadelphia, Pennsylvania.

New Terminal Building at I
makes extensive use

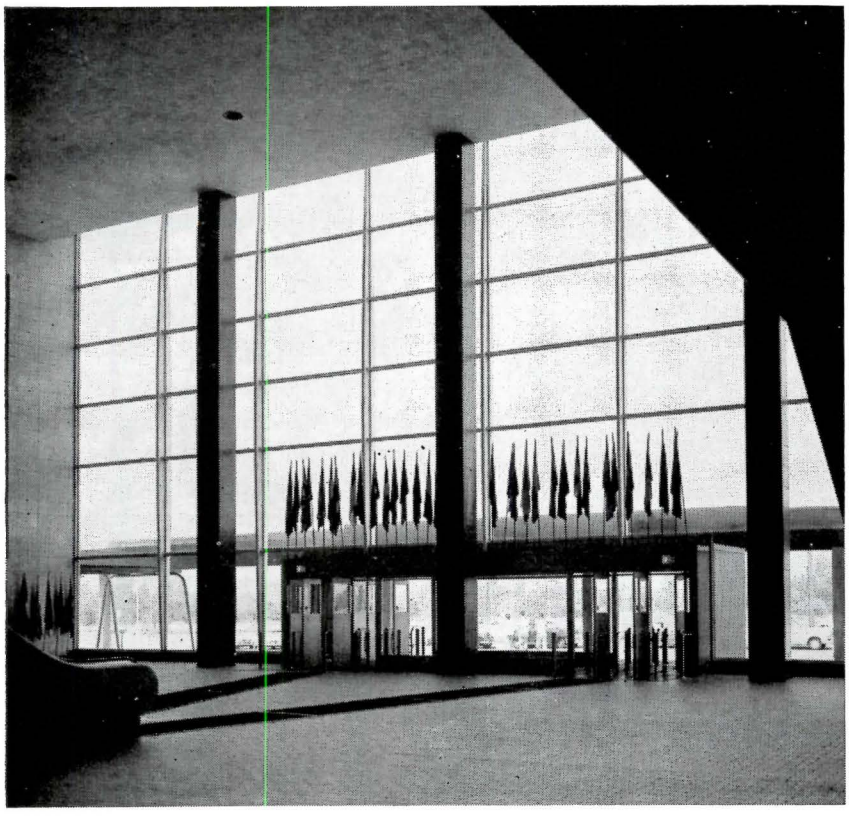


CLEAR VIEW of the landing area from the third floor is obtained through Solex-Twindow units. These units are composed of two lites of glass—¼" Solex heat-absorbing, sun-glare-reducing glass on the outside, and ¼" polished plate glass on the inside, with a sealed-in air space between them. Solex-Twindow units are noted for their ability to reduce substantially the load on the air-conditionting system; they cut down on room-side condensation, minimize cold air downdrafts.

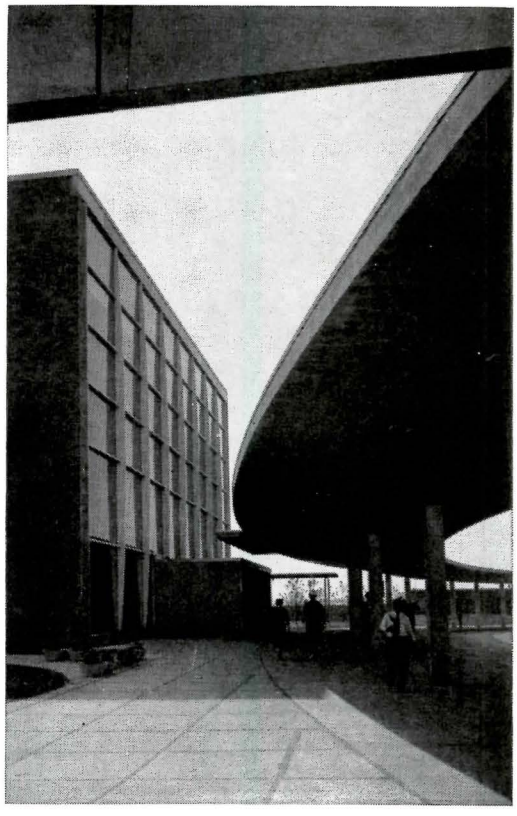
Design it better with **Pittsburgh Gl ss**



hiladelphia International Airport of PITTSBURGH GLASS



FRONT LOBBY of this new airport building, with its 41-foot ceiling, is entirely glazed with Pittsburgh's Solex-Twindow units. This means the maximum in glare-free daylighting, as well as added comfort for passengers and personnel.



THE COMBINATION of the sweeping overhead canopy and the soft, green-tinted Solex in the windows emphasizes the graceful lines of the exterior . . . achieves a modern, functional environment at the Philadelphia International Airport.

Your Sweet's Architectural File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 6a, 15d, 20, 12e, 15a.

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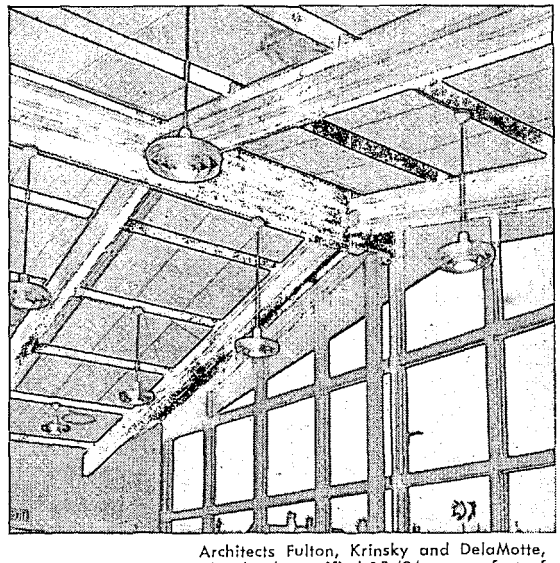
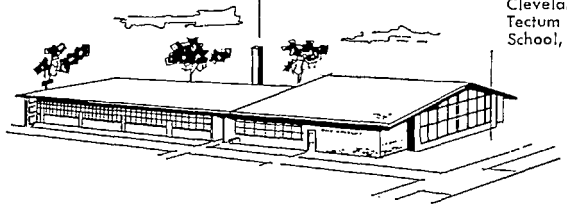


Architects Fulton, Krinsky and DelaMotte, Cleveland, specified 15,494 square feet of Tectum on Benjamin Franklin Elementary School, Euclid, Ohio, shown here.



Everyone Likes This "Teacher's Pet"—Tectum 9-Value Roof Deck

Tectum® is the favorite because it beautifies, serves, and saves 9 ways on the Benjamin Franklin Elementary School, Euclid, Ohio. Single layer Tectum Deck absorbs noise, prevents its transfer from room to room — assures fire safety by being non-combustible, and cuts fuel costs because of its high insulating value. The textured exposed underside of the deck allowed architects to simplify wall and window design, eliminated need for suspended ceilings — all at substantial savings.

Tectum values reduce construction costs — effect maintenance economies that last for years — because 9 properties are combined in a single layer deck: textural, acoustical, insulative, non-combustible, stable, structural, lightweight, low cost, termite and fungus proof.



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out of school

(Continued from page 186)

are often considered dull, while dull students are considered average ones. While some schools feel that it adds to their prestige if they turn their brilliant students into primadonnas, other schools worship the dull student under the pretext that the school has to produce the "average practitioner."

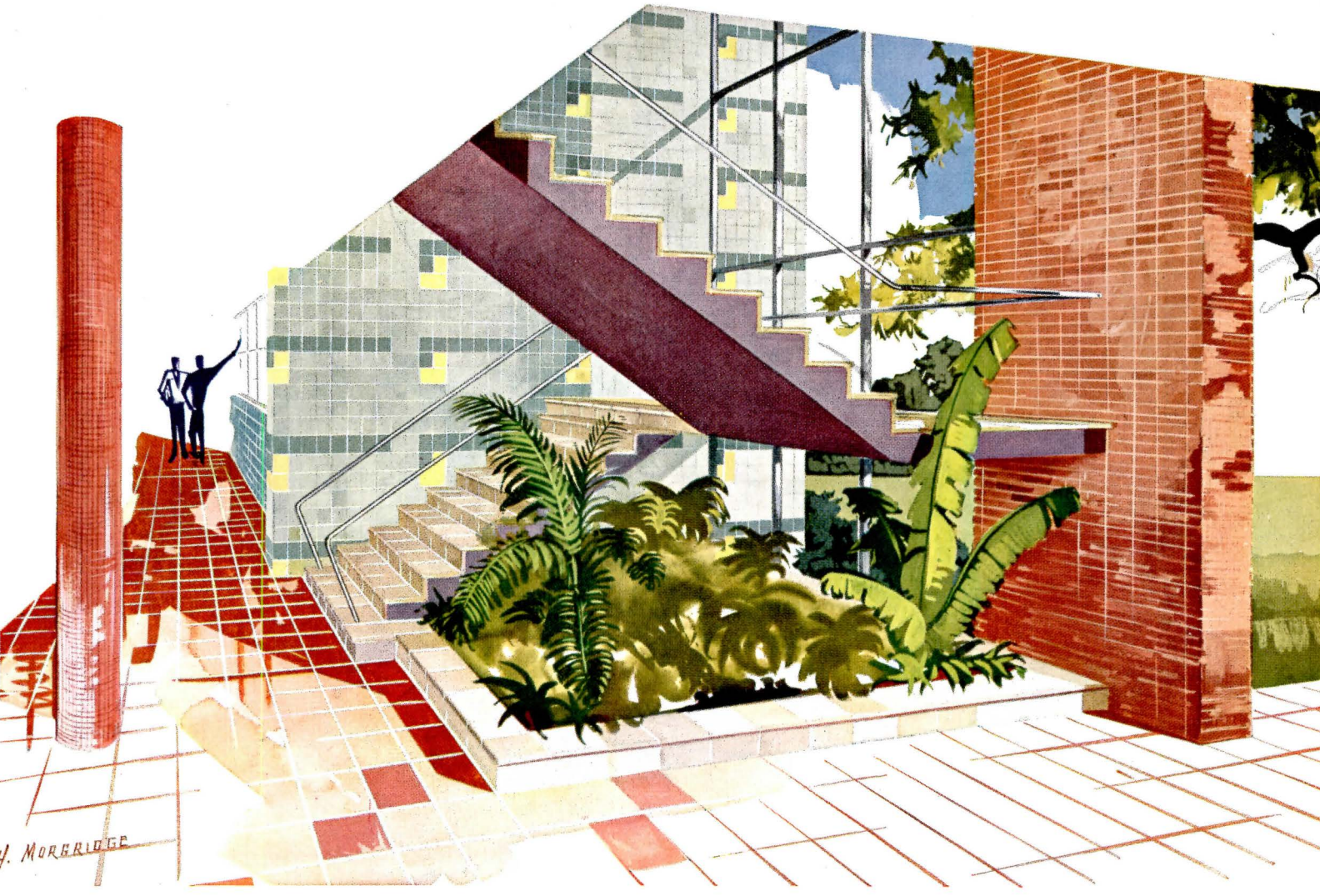
It is true that many students are not plagued by deeper problems and are "better adjusted socially," to quote Kennedy. Since they are primarily studying for a material purpose, they are able to fulfill society's expectations without further complications. Therefore, to avoid complications, schools often find it expedient to transmit the safe accomplishments of yesterday and today, in preference to the exploration of future possibilities.

Students wouldn't be young people if they were not interested in the background of the present and in better things to come. It would be failing in fundamental educational philosophy if we did not put trust in the student's willingness to absorb theory and to develop his critical facilities. I witnessed many such "average" students making wonderful and quite natural progress in this direction, only to fall back into characteristics of the example which, according to Kennedy, needs precepts as soon as he joins his own social environment again. The school was apparently not enough of a counterweight or it was representing middle-class culture too strongly.

Kennedy's contention that the student of the average talent reaches his maturity sooner than the more talented student is most interesting and could prove to revolutionize some of our psychological axioms. It would need, however, very exacting psychological investigation not only to prove the validity of this contention but also to find the reasons for such differences in maturity. There is perhaps a possibility that social class attitudes are just as influential as innate talent or temperament.

Having talked about brilliant and dull students, it may be fitting to add an ob-

(Continued on page 193)



Design for a school corridor and stair well by Marsh, Smith & Powell, Architects.

"Clay Tile Meets All Tests: Quality, Permanence & Design."

MARSH, SMITH & POWELL per HP

West Coast architects Marsh, Smith & Powell found clay tile a good collaborator to work with in their design for a modern school corridor with stair well. This rendering shows how clay tile performs a permanent double service of function and design.

The important check points: low-upkeep tile floors to take generations of student traffic—glazed tile walls that keep maintenance down and good appearances up for decades—tile treads and risers which absorb footsteps unmarred for years, and ceramic mosaics on the corridor columns which offer a striking treatment that is maintenance-free.

When you approach your next school project, keep clay tile in mind. It's the ideal high traffic, low maintenance floor covering. It gives you and your clients a permanent solution for easily-cleaned, decorative walls that never need replacement. And it is flexible enough to give you unique, custom designs with standard units.

So be sure to check today's range of clay tile colors, shapes and types—the widest of any modern building material. When it is a clay tile installation, it never fades, burns, stains, scratches or needs refinishing or redecorating —all the cost is figured in at the start!

The Modern Style is GENUINE CLAY tile

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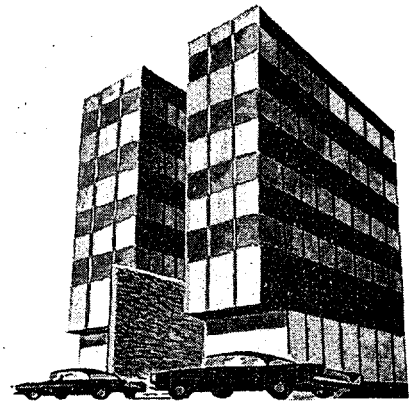

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The *ultimate* in heating comfort—*a thermostat* in every room—is both simple and practical with the Iron Fireman SelecTemp heating system. Occupants of each room or office can select any temperature desired, at any time. Rooms stay at the selected temperatures. Each room unit automatically compensates for heat gains and losses caused by changes in outdoor temperature, cold winds and warmth from the sun—increasing or decreasing heat output.

SELECTEMP HIGHLIGHTS

THERMOSTAT IN EVERY ROOM. Temperatures can be varied in every room to fit the "activity plan" and personal preference of the occupants.

MODULATED HEAT. Air circulation is continuous. Both temperature and volume of air are automatically modulated, as required to offset heat loss from room.

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BOILER LOCATION. Boiler can be placed in any desired location, with proper distribution of heat to every room. Year-around domestic hot water coils available.

LOW POWER COST. No electricity required to operate circulating fans. Nonelectric thermostats.

LOW INITIAL COST. Easily installed in either new or old construction. Small soft copper tubing (¼ inch I.D.) carries steam to individual room heater units. Return lines are ⅛ inch. Substantial savings in installation costs.

LOW FUEL COST. Temperature easily reduced in unused rooms. Also eliminates overheating.

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Regardless of the type or size of structure; office building, hotel or apartment house, school, hospital, or house, SelecTemp heating can be economically and efficiently installed. Flexible copper tubing, smaller than your little finger, carries low pressure steam to each room unit.

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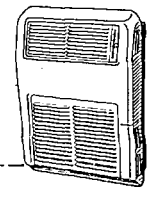

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out of school

(Continued from page 190)

servation on their relationships to their respective teaching counterparts. The dull teacher admires the brilliant studen who, in turn, feels flattered. Also, the dull teacher is embarrassed by the dull student, who is looking for better help, particularly if the student is below average. The brilliant teacher, however, feels challenged by the dull and by the slow student. He is little tolerated by the brilliant student who thinks he knows the answers and doesn't want to be disturbed except by admirers. If he is brilliant both as a teacher and designer, there is the danger that he is dominating the student who is in need of heln.

The problems of the school situation have been described aptly by Kennedy. I agree that our attention has to turn towards progressive methods in education which will help students and faculty alike to foliate freely without being plagued by conformism, competitive standards and artificial design precepts. Students can develop only when they study for their own good, and schools only if they help to create a climate favorable to these studies and if they restrain their interest in propagandistic window dressing.

The other article which captured my attention was by G. Holmes Perkins. It is a wonderfully lucid piece. Although I do agree with almost all of his opinions, I should appreciate being allowed to comment on some of his points.

Dean Perkins is calling the apprenticeship method "truly reactionary in its failure to recognize the technical and organizational complexities of architecture today.

I am glad that he brought up this issue because I have given considerable thought to it and have taken steps to accept apprentices. I think that no one actually wants "to return" to apprenticeship methods as a general means of architectural education. I agree that as a "method" it is medieval, for better or worse, and is probably insufficient, as is any kind of schooling.

There is particularly one kind of apprenticeship, often called internship,

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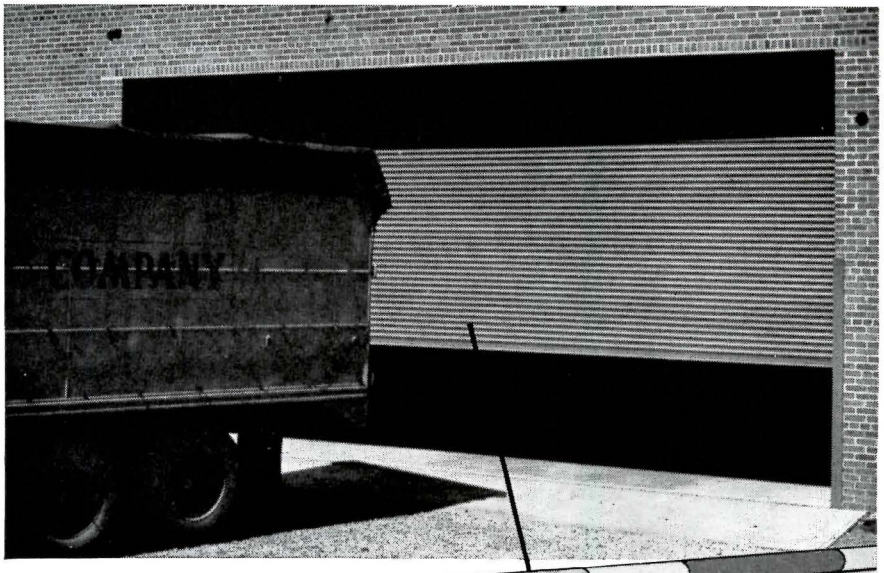
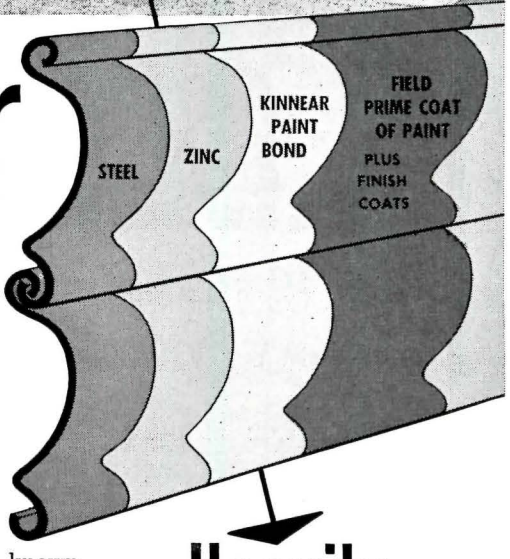


Kinnear Steel Rolling Doors



Heavily Galvanized

Kinnear Rolling Doors are as well known for *extra years of service* as for convenience, space-economy and protection.

Two of the major reasons for this are shown in the drawing above at right.

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Then Kinnear's Paint Bond, a special phosphate solution is applied to make sure paint applied later will *cover thoroughly, adhere immediately, and stay on longer.*

That's why Kinnear Rolling Doors cut maintenance costs to the bone, and deliver peak efficiency year after year!

Opening straight upward, Kinnear Rolling Doors coil compactly *out of the way* above the doorway. Materials placed within inches of the face of the door curtain won't hinder its smooth, easy operation. Surrounding floor and wall space is fully usable at all times.

Kinnear Rolling Doors are built to fit openings of any size. Kinnear Motor Operators add the convenience of push-button control, with remote-control switches at any number of points, if desired.

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out of school

(Continued from page 193)

which is the only one with a legal status today. This service of three years in an office after graduation, as required by many registration boards, is certainly a farce in most cases as far as educational value is concerned. Most offices have no time for educational endeavors, and principals are not always equipped to be teaching masters. Thus, the young man is more often than not used as a junior draftsman.

Yet, while agreeing with Dean Perkins that the apprenticeship method is an inappropriate one in our age of complexities, I question also the ideal usefulness of schools as avenues for social understanding. The conditions in the schools are changing, of course, from time to time according to the political climate in general. I wonder, however, whether just this shortcoming of our institutions has stimulated new thought in the direction of the atelier or workshop. This in itself is no return to medieval methods but a convenient and useful expedient to tide over bad times, now or any time. Today our institutions of higher learning are marked by conformism and do not stimulate greatly unprejudiced inquiry or independent thinking. In architectural schools we find an increasing tendency towards a convenient formalism which applies to any building type in any climate, a new kind of academism with clichés which lack even the proportional care of the old classicistic school. Art movements of the '20s which have outlived themselves in painting and sculpture continue to be offered in architecture in a pontifical manner. Technical experimentation has been invited and proved to be a shot in the arm, while social planning and design have to be neglected in a time which is not sympathetic to social experimentation.

It seems to me that under these circumstances there should be some quiet places where a few students could settle, search for themselves, and experiment in the workshop with some of their ideas. Most of our great architectural leaders, who influenced social development and its architectural expression, had their de-

(Continued on page 198)

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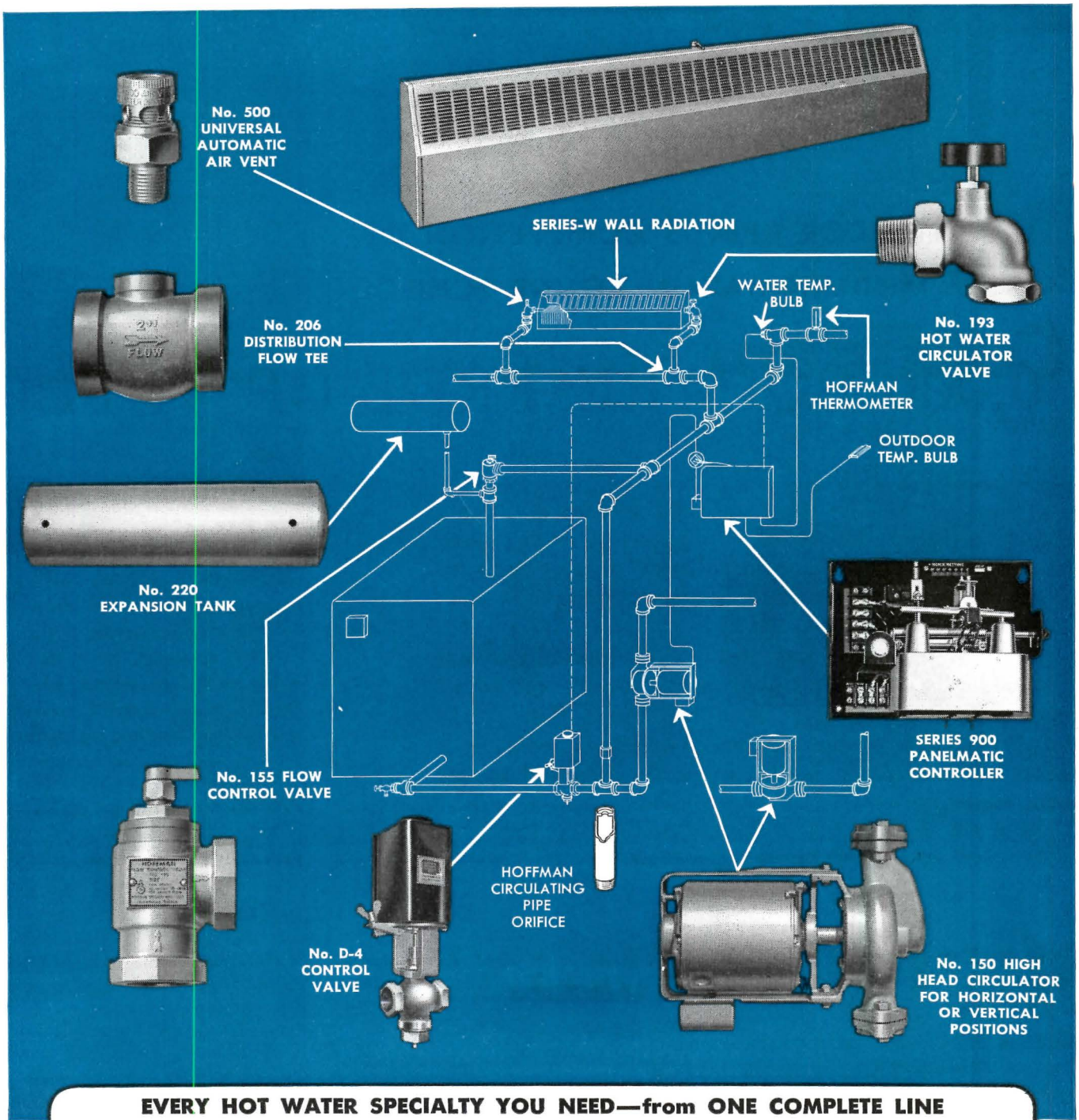

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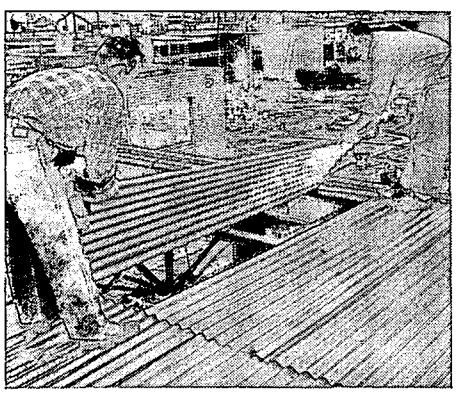
Roofing-Contractor's Superintendent (at left)
JACK OWEN says, "You've got a roof of superior strength when Corruform and Tufcor are used. Big savings in time and labor costs because these materials are easy to place and weld."

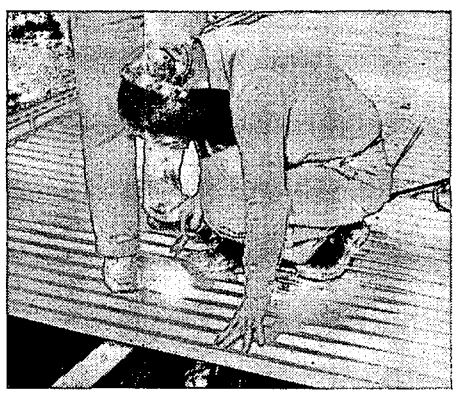
Contractor's Representative (at right)
HAROLD HERES says, "Corruform and Tufcor keep the entire job moving ahead on schedule. That means savings in construction costs."

TUFCOR SPEEDS COMPLETION OF MODERN BATON ROUGE SCHOOL

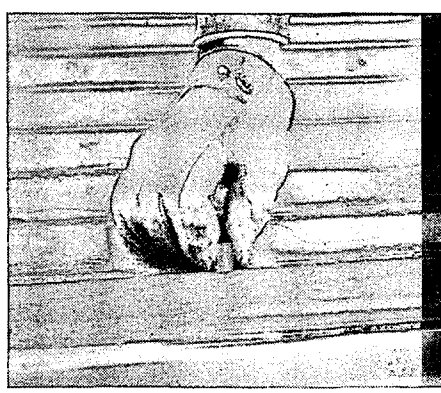
30,000 SQUARE FEET OF TUFCOR



Quickly Placed. Tufcor and Corruform sheets are delivered to job site pre-cut to fit framing. A crew of two or three men can easily place 5,000 to 10,000 square feet, in a single working day.



Lightweight High-strength Steel Deck is welded to purlins. Deep-corrugated Granco *tough-temper* steel has high load carrying capacity—permits wider joist spacing, reduces framing costs.



Vent Clip Prevents Vapor Pressure Build-up Granco vent clips, inserted on lip of each shee one between each support, prevent vapor build up in roof slab under intense summer sun.

Granco Products keep job on schedule, reduce labor costs, save time.

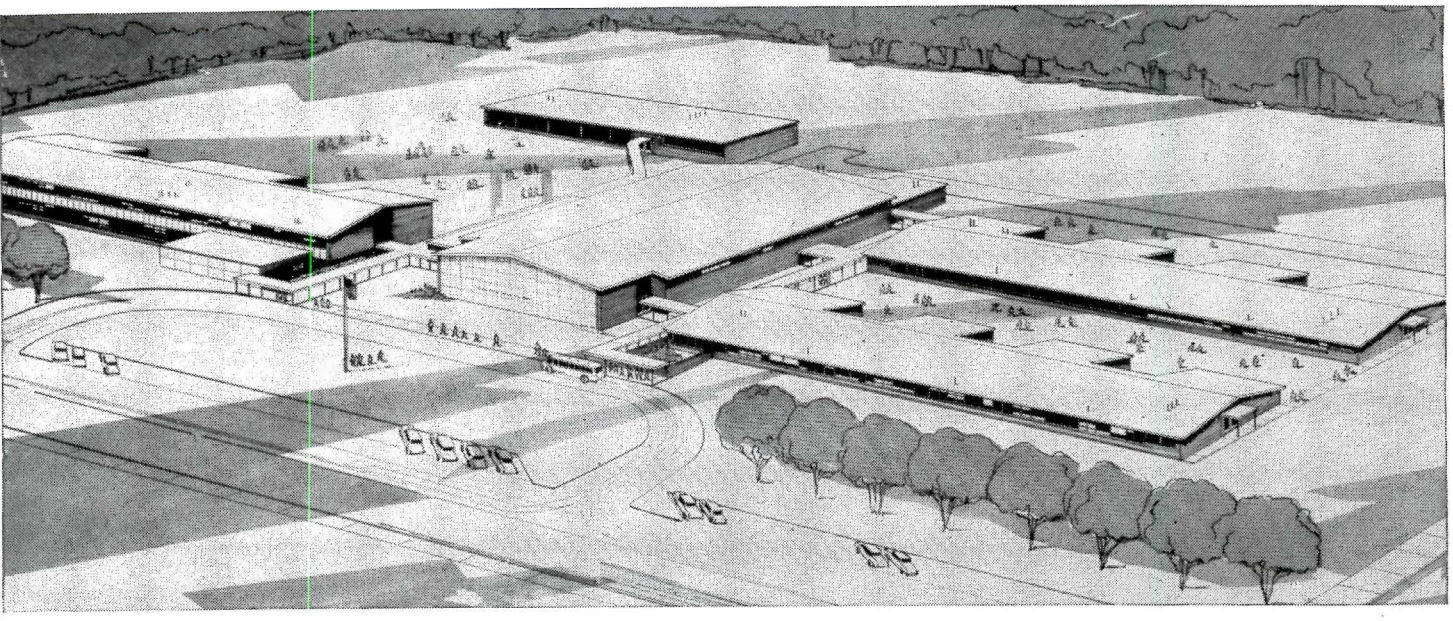
BATON ROUGE, LOUISIANA—One of Louisiana's most modern schools is scheduled for fall completion. Situated on the northern edge of this capitol city, the Glen Oaks School consists of five buildings, connected by covered walks.

Heavy Duty Corruform and Tufcor, specified for the buildings' roof slabs, contributed to substantial savings in time and labor costs. For example, on two of the Glen Oaks buildings, 30,000 square feet of Tufcor was laid in 30 hours.

Harold Heres, Vice President of Caldwell & McCann, contractors on the new Glen Oaks School, says, "there are no unexpected slow-ups when Tufcor or Corruform are specified. That's what we like about these materials—you can be sure you've got a tough, strong roof and construction is much faster."

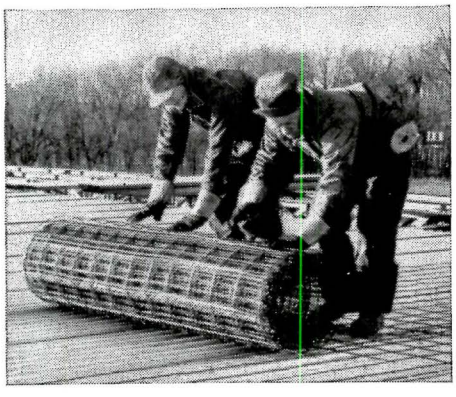
Pre-cut to fit the building frame, Tufcor and Corruform sheets arrive at the Glen Oaks building site read for placing. As soon as structura steel frame was completed, crew were able to place and weld unit to frame and the concrete placin operation started immediately.

Tufcor and Corruform make roo construction a simple, fast operation resulting in time and material sav ings. For information, estimates o costs on your building plan, contac home or district office, attentio Dept. P-2.

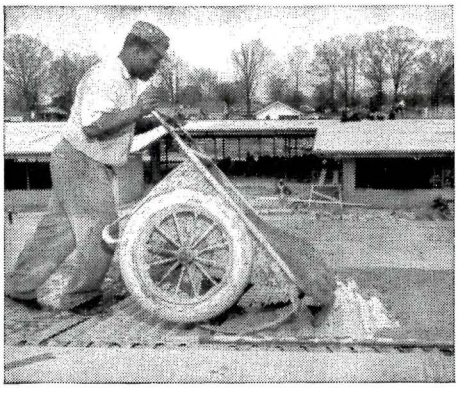


Glen Oaks School, *Baton Rouge, Louisiana* • Architects: *Manson and Thompson, Baton Rouge, Louisiana*
Associate Architects: *Goodman and Miller, Baton Rouge, Louisiana* • Contractor: *Caldwell & McCann, Baton Rouge, Louisiana*

ROOF DECK LAID IN 30 HOURS



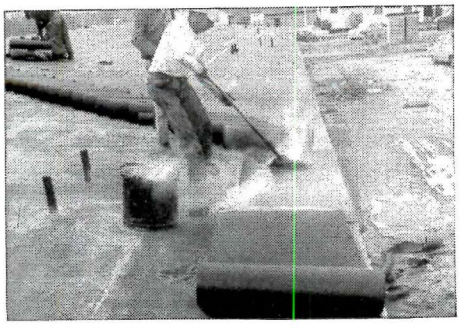
Immediate Working Platform. In place, Tufcor and Corruform provide an immediate safe, usable working surface. Light mesh is added for shrinkage control of lightweight insulating concrete.



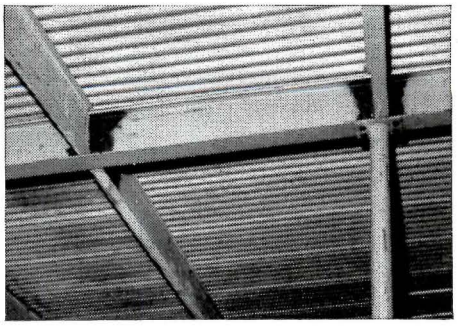
Insulation Placed on Tufcor in fast operation. Lightweight insulating concrete (4-5 lbs. psf) on steel deck provides insulation. Bond occurs between concrete slab and galvanized sheets.



Permanent, Incombustible Roof Deck is provided by cast-in-place slab. When concrete is screeded to depth of 2½″-3″, load tests show safety factors of 6 to 8 for finished deck.



Ideal Base for Built-up Roof. This deck is ideal from two standpoints — a good deck for the roofer to work on—more important, throughout the life of the building, it is an inorganic permanent base for the built-up roof.



An Economical, Fire-Safe Roof. Finished roof offers maximum in permanence, fire safety. Bright galvanized surface gives lasting protection; affords light reflection when left exposed. However, any normal ceiling treatment may be applied.

see our catalog in
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or write for copy

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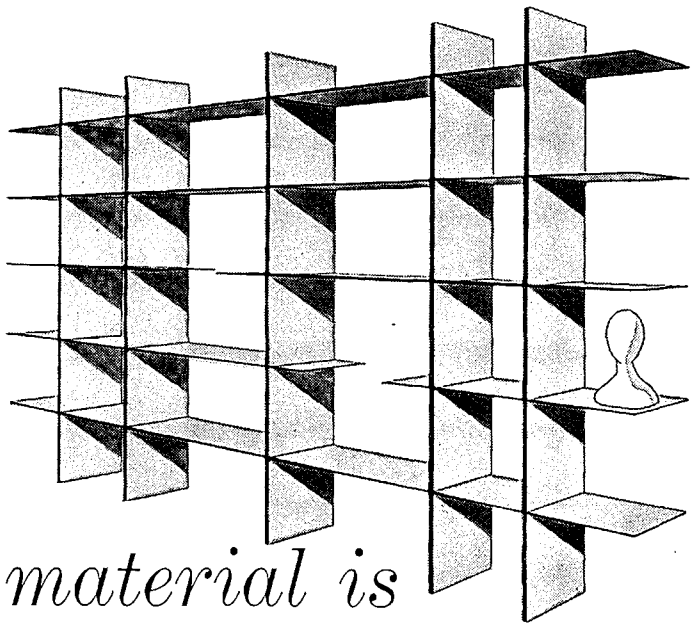
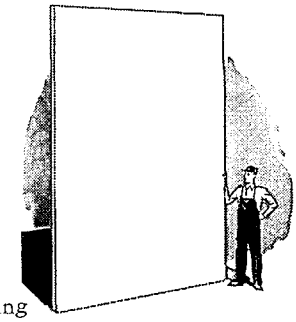


This material is

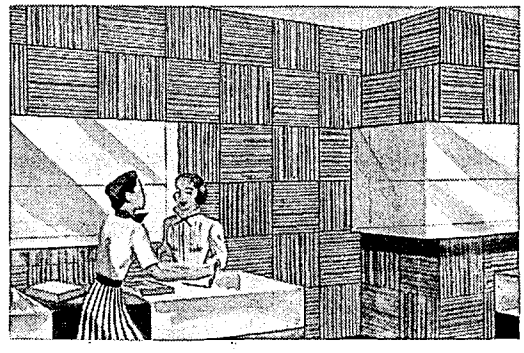
ADAPTABLE

A wide range of sizes, surfaces, densities and thicknesses makes Homasote the ideal material for both temporary and permanent construction of many types



In the egg-crate construction pictured above, sheets of Homasote are cut half-way through and interlocked. Even without nails, this room-divider has great structural strength... The illustration at the right indicates that this material has SIZE; its Big Sheets—up to 8′ x 14′—abolish many former size limitations... The wall paneling in the illustration below is of Striated Homasote, cut and positioned as tiles. (Wood-textured Panels are also available.)

In 15/32″ and 21/32″ thicknesses, this material is available in the 8′ x 14′ Big Sheets. It also comes in 2′ x 8′ size, 21/32″ or 15/16″ thick, V-grooved and giving the effect of beveled planks. The Striated and Wood-textured Panels are 8′ long, 16″, 32″ and 48″ wide. In all forms, it can be supplied in special sizes and shapes — to your order.



We urge you to take a new look at Homasote — the oldest and strongest insulating-building board on the market. Homasote is still made in the original 8′ x 14′ sheets—15/32″ thick. But today, Homasote is also made in six other thicknesses—with the densities and sizes necessary to meet every requirement from underlayment to finished flooring, interior and exterior walls, partitions and ceilings, sheathing and roof decking.

We would like to send you illustrated, specification literature covering Homasote in all its forms — together with samples applicable to any of your current needs. Kindly address your inquiry to Department C-32.

HOMASOTE COMPANY

TRENTON 3, NEW JERSEY

out of school

(Continued from page 194)

cisive educational experiences off the beaten track.

I agree that there is an ideal concept of an ideal school which should provide for all individual needs as well as for common social experiences. Maybe better things are in store for us. Judging from the rumblings all over the world, we can expect new things to come, including architecture. Without doubt the time will come when not only apprenticeship methods but also all academical institutions will lose their usefulness.

We need to cherish individual imagination as a colorful and necessary ingredient of our social life and in our education. We have given our lives and our buildings the clear stamp of a rigid machine age. We have listened to the machine and are governed by its rhythm. We have yet to suggest to our students subordination of the machine to man.

H. H. WAECHTER
Creswell, Ore.

notices

appointments

THE AMERICAN INSTITUTE OF ARCHITECTS has named six members to represent the AIA as participants in activities of the BUILDING RESEARCH INSTITUTE, Washington, D.C., technical society of the building industry. They are: WALTER A. TAYLOR, Director, Research and Education Department, AIA, Washington; NORMAN J. SCHLOSSMAN, Chicago; FRANCIS R. SCHERER, Rochester, N. Y.; C. E. SILLING, Charleston, W. Va.; ALFRED S. ALSCHULER, JR., Chicago; and THOMAS K. FITZPATRICK, University of Virginia.

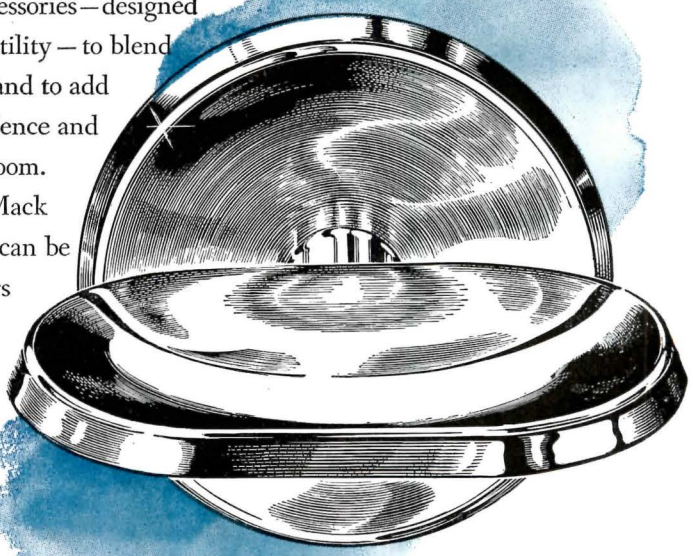
fellowships

THE SCHOOL OF ARCHITECTURE, COLUMBIA UNIVERSITY has announced that the WILLIAM KINNE FELLOWS MEMORIAL FELLOWSHIP FUND, established in 1953, has now been increased to $652,202.56 by a recent grant. The School is now in a position to grant each year, to six or eight of its graduating students, fellowships ranging from $2500 to $4000 for travel and study abroad.

Bathroom beauty ...smart and lovely

The gleaming lustrous beauty of Hall-Mack bathroom accessories creates a bathroom of distinctive charm. In Hall-Mack's complete selection you'll find many unique, special accessories—designed to combine beauty with utility—to blend with any style or color—and to add the final touch of convenience and permanence in any bathroom. When you specify Hall-Mack bathroom accessories you can be sure of quality—and years of useful service. Specify Hall-Mack always!

ARISTOCROME SOAP HOLDER



...in sparkling lustrous *Chrome*



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bathroom accessories

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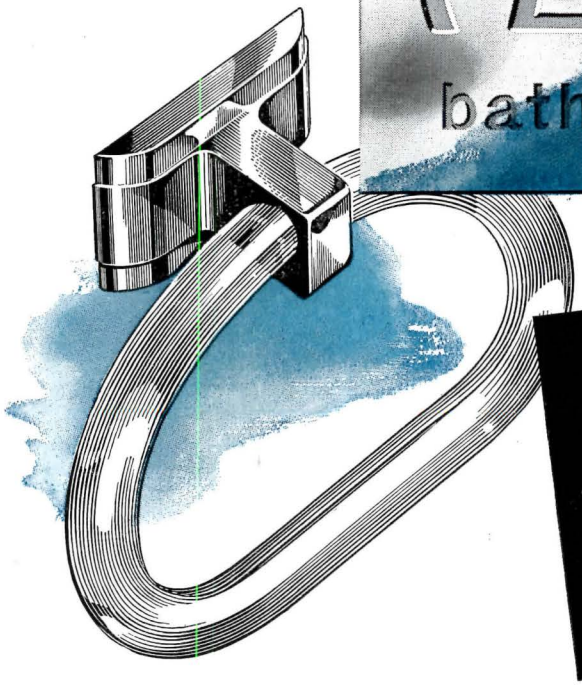

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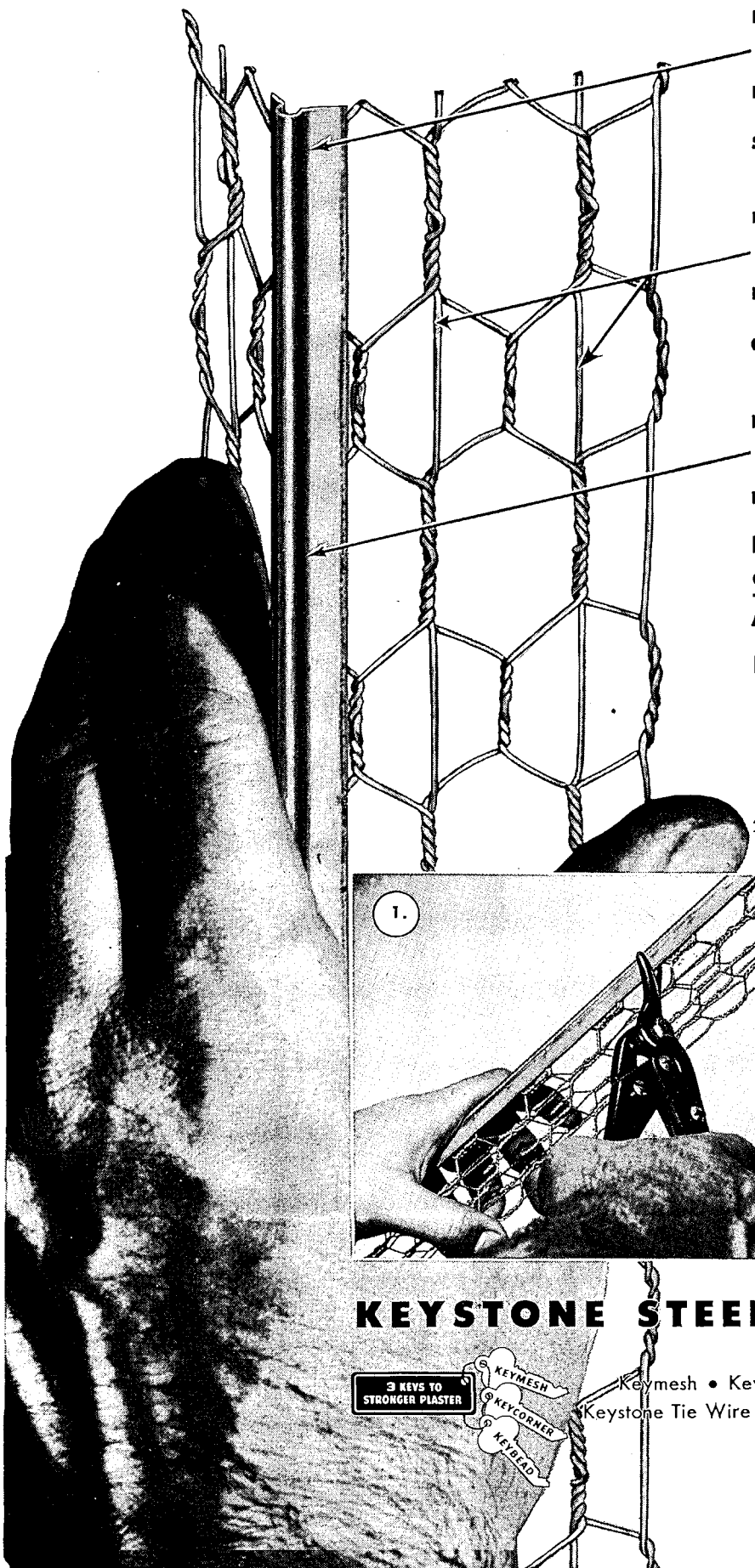

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stronger, heavier galvanized nose

NEW...

extra reinforcing wires

NEW...

KEY Z BEAD—with solid zinc nose, also available.

Ask for it by name—KEY Z BEAD!

Beats problems of outside exposure and corrosive atmospheric conditions inside.

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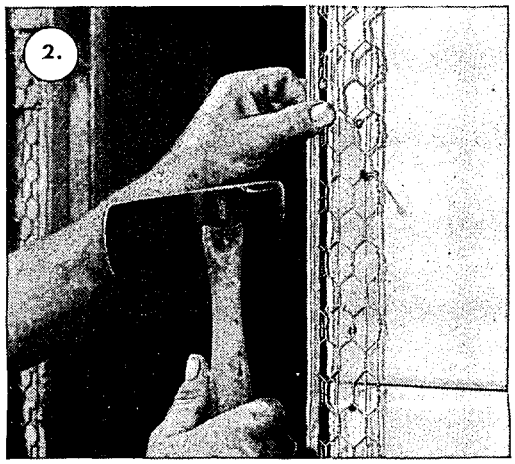
2. Keybead is easy to apply...so easy on the hands, too.



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Keystone Tie Wire • Non-Climbable and Ornamental Fence

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see our CATALOG in SWEET'S FILE

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you get more for your money

Figure it any way you want—new Keybead is by far your best value in corner bead.

New Keybead nose is 23-gauge steel. No other standard corner bead provides such protection against shock. The reinforcing mesh flanges are tough and strong, make new Keybead very rigid, easy to true up. New Keybead is straight end to end—no waste. And the nose is double electro-galvanized against rust, including all edges.

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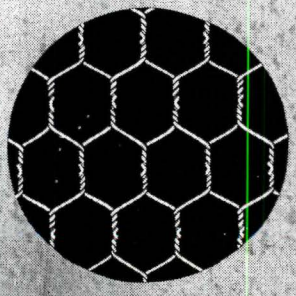
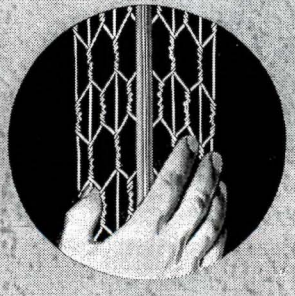
You do get more for your money with new Keybead. Ask for it by name!

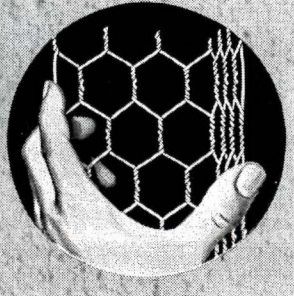
better yet... use all 3 keys to stronger plaster



1. Keymesh woven wire galvanized reinforcing lath—applied over the gypsum or insulating lath on the entire ceiling; for highest quality, over all walls, too. This network of multidirectional reinforcing increases strength; increases fire safety 50%. Keymesh assures a uniform thickness of plaster, and guards against cracks.



2. Keybead woven wire galvanized reinforcing lath with the precision-formed bead — applied at all outside corners—or zinc nose for outside applications. Open mesh of Keybead wings permits plaster to completely embed steel wires. Full, solid corners result. Available in standard lengths; easy to splice.



3. Keycorner preformed-for-corners, convenient width, woven wire galvanized reinforcing lath—applied at corners, joints and ceiling-wall junctures. Fits snugly in corners when you flex it. Lies flat, too, for stripping wherever required. Same multidirectional reinforcing as Keymesh for maximum crack resistance.

books received

Useful Objects Today. Greta Daniel, Assistant Curator of Design, Museum of Modern Art, New York, N. Y. Distributed by Simon and Schuster, New York, N. Y., 1955. 16 page introductory text; 40 gravure plates, $2.95

Plastics Engineering Handbook, 2nd Edition. The Society of the Plastics Industry. Inc. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y., 1954. 813 pp., illus., $15

School Design. William W. Caudill. F. W. Dodge Corp., 119 W. 40 St., New York 18, N. Y., 1954. 288 pp., $12.75

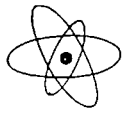
Materials of Construction. M. O. Withey and G. W. Washa. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y., 1954. 896 pp., illus., $9

Arkitekten Arne Jacobsen. Johan Pedersen. Arkitektens Forlag, Bredgade 66, Copenhagen K, Denmark, 1954. 97 pp., illus., $5

500 Million years—Young...

natural slate





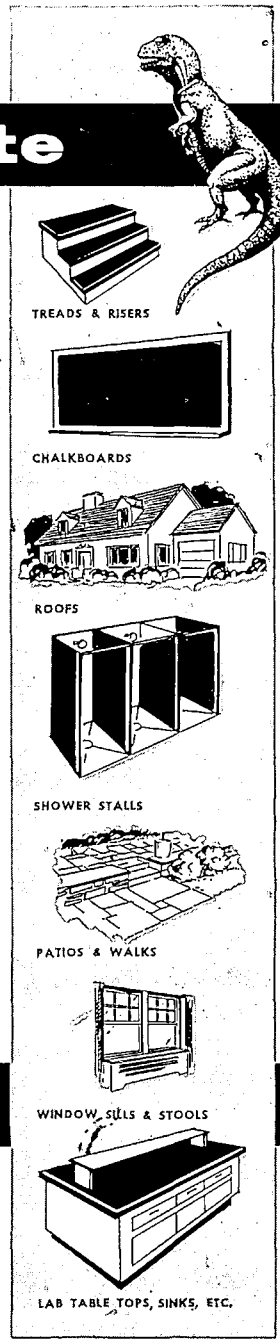
Belying its age-old origin, Natural Slate is recognized today as a perfect complement to modern design and decor. Its neutral color, finished to a velvet-like smoothness, injects a rich, subdued effect to colorful decorating schemes.

As a natural material, Slate fits well with today's designing trends . . . yet provides the dependable service possible only in a product of Nature. It is sanitary, durable, strong, non-absorptive and will not contract or expand.



For your protection insist on Slate quarried in Pennsylvania, U.S.A.

NATURAL SLATE BLACKBOARD CO.
and THE STRUCTURAL SLATE CO.
Pen Argyl, Pennsylvania



evaluating "Victorian"

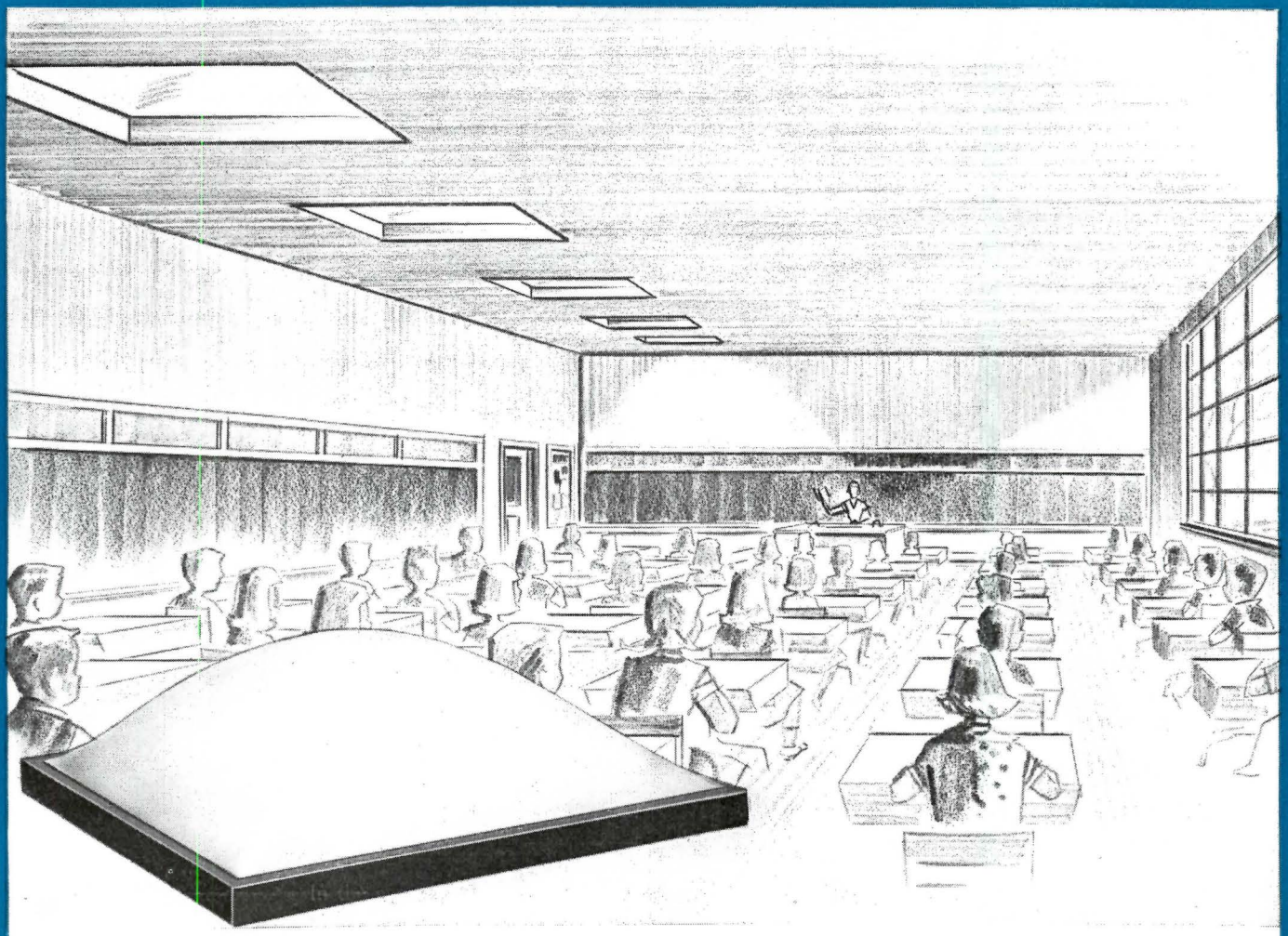
Early Victorian Architecture in Britain. *Henry-Russell Hitchcock. Volume I., 635 pp., text. Volume II., illus. Yale University Press, New Haven, Conn., 1954. Two volumes, $20*

If an author is so far superior in knowledge of his specific topic to any possible reviewer, the latter's role must certainly be a modest one. Thus it is not the task of this review, destined for architects rather than for historians, to discuss any details, but to outline the basic structure of the work and the general approach of Prof. Henry-Russell Hitchcock.

The architecture of the Victorian Age as a whole needs no apology today, since the self-confident exuberance of the youthful functionalism of the 1920s and 1930s has given way generally to a more objective and relativistic approach toward the preceding periods, with their eclecticism. Today we are aware that every period, including our own, is eclectic to a higher or less degree, and that not the 19th Century alone has to carry the blame for this approach. And we also learn from Professor Hitchcock's work that the Victorian Age can be considered a totality as little as the period from Louis XIV to Louis XVI. Even Reginald Turnor, in his *Nineteenth Century Architecture in Britain,* confuses the reader somewhat in this respect, as do so many monographs. The variety of concepts during this period, or at least the great change in the 1850s, cannot be understood if only a sequence of the most monumental public buildings of the whole era is shown, as is mostly done in more general surveys.

Thus, it is the greatest merit of Professor Hitchcock's two-volume work, the result of more than a decade of special research, that he does not limit his interpretation to the most impressive churches, town halls, parliament buildings, museums, concert halls, clubs, etc. He also devotes much of his analysis to the architecture of commercial and office buildings, of warehouses, railroad stations, and (most interestingly) of mid-century housing. That he discusses at full length the industrial and technical architecture as it should develop from the Crystal Palace by Paxton—in some surveys the

(Continued on page 206)



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The most practical way to provide an even level of daylight throughout a room is to use skylight units equipped with PLEXIGLAS domes. Installed over areas farthest from windows, they bring the amount of daylight into balance, reduce electric lighting costs, permit lower ceiling heights.

By specifying skylights with domes formed from PLEXIGLAS acrylic plastic, you obtain:

One-Piece Construction—The entire opening is covered by a single leak-proof dome. Joints, sealing compounds and opaque cross members are eliminated.

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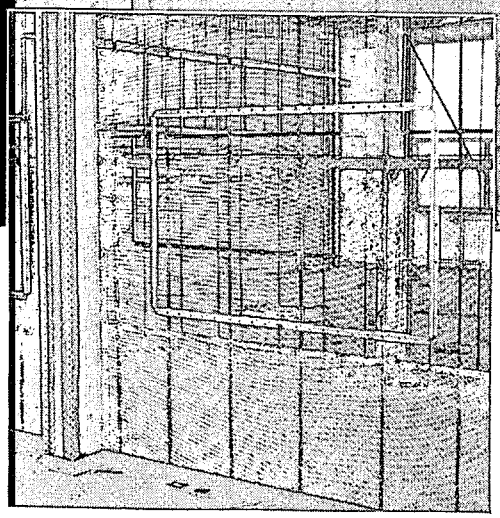

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A steel-reinforced, vertical slab of plaster, 2 inches thick. Cold-rolled steel channels that run from floor to ceiling reinforce the partition vertically and hold the metal lath to which plaster is applied. The metal lath reinforces the partition horizontally and diagonally.

Milcor Housing Base acts as plaster grounds, eliminates the need for base screed, and firmly resists damage at floor level.

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(1) Material costs are less, because there are no studs. Instead, Milcor Stay-Rib Metal Lath is erected so that its ribs provide vertical reinforcement.

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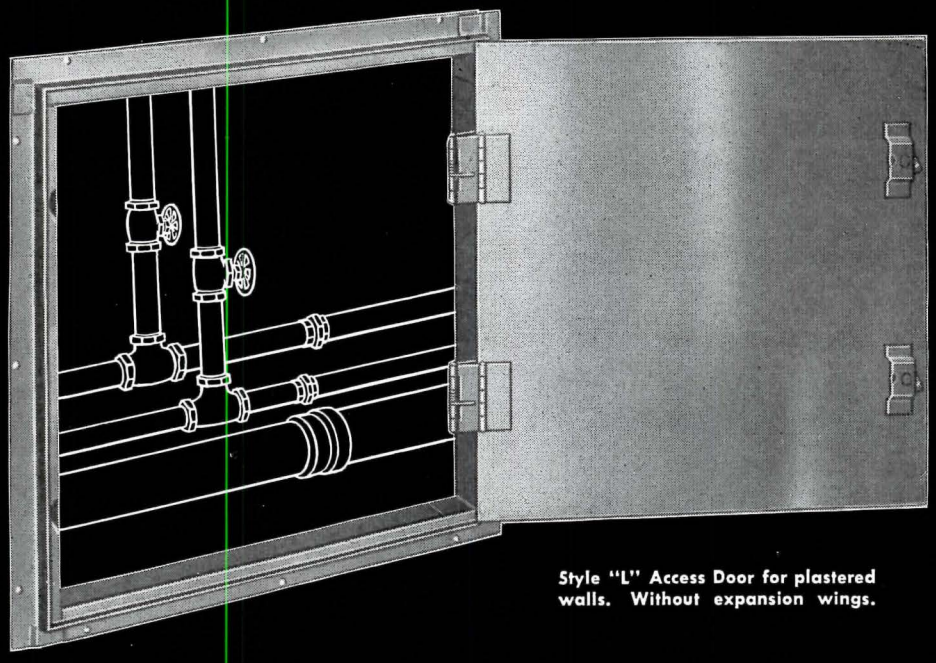
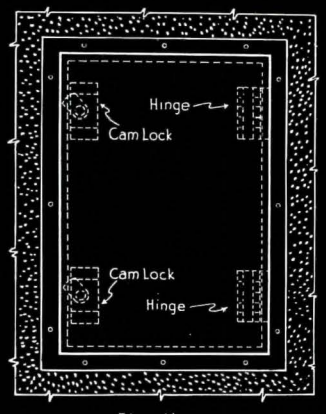
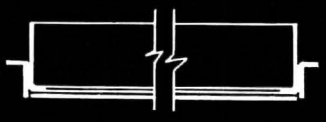


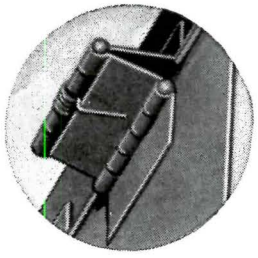
Style "L" Access Door for plastered walls. Without expansion wings.



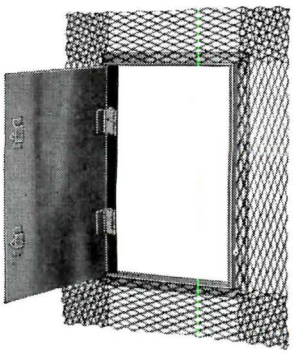
Elevation



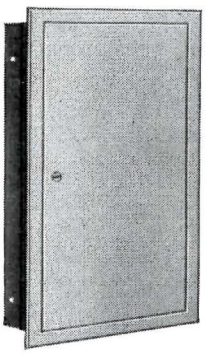
Detail of Panel Without Expanded Metal Wing



Exclusive spring hinge lets door open 175°. Door is removed quickly by extracting hinge pin. Number of hinges and cam locks is determined by the size of the door.



Style "K" Access Door for plastered walls. With expansion wings.



Style "M" Access Door for masonry, brick, stone, tile, wallboard, etc.

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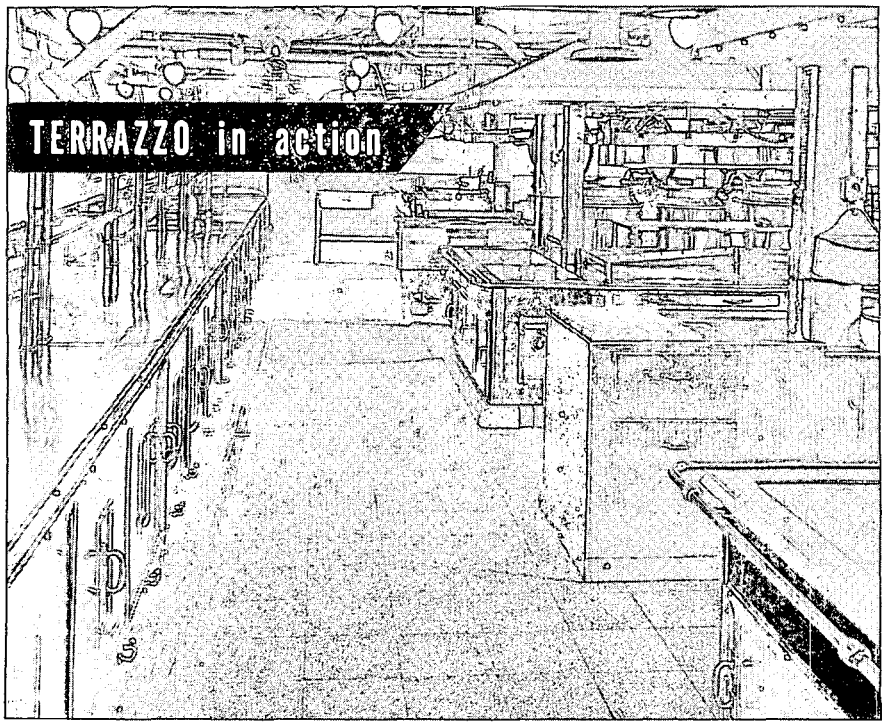
M-127C



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reviews

(Continued from page 202)

only 19th Century English building mentioned—goes without saying. The comprehensive broadness of the subject matter, in contrast to the usual selective method presenting only high points of the respective developments, makes it understandable that the personalities of a Pugin, Barry, Paxton, et al, never come to life. Obviously, it was the author's purpose to deal with palpable realizations of esthetic and stylistic tendencies rather than with the conditions of the creative process proper. It is left to the reader to compile the historical background which, certainly, for very few readers will be so matter of course as for the author.

One great problem remains unsolved, and the tremendous material, which for the first time is deployed and often very strikingly juxtaposed in Professor Hitchcock's book, does not help to clarify it; why there exists such a wide difference in esthetic and architectural quality between the more or less Classicist solutions of this ambivalent period and those of the Gothic Revival? They are equally eclectic; both, in a certain way, "secondhand"; both appeal to historical and sentimental associations, rather than to the impact of immediate sensuous perception. The general spiritual tendencies in England, from the Oxford Movement to Ruskin's Mediaevalism, the common Romanticism, the emotional atmosphere should have found theoretically their more adequate expression in the revival of Gothic, rather than of Classical forms. And yet Barry's Bridgewater House, Shrubland Park, and Cliveden seem to us today superior to his Gothic Highclere Castle and Dunrobin Castle—to mention only examples by one individual architect. Is our evaluation based on the artistic conditions of our time or does it reflect, as every architectural historian would like to believe, actually an objective judgment? Perhaps one day the author may try to solve this enigma. Since he, a quarter of a century ago, opened the eyes of Americans to contemporary architecture, with his *Modern Architecture* and *The International Style*, Professor Hitchcock would be the man to do it.

PAUL ZUCKER

(Continued on page 208)

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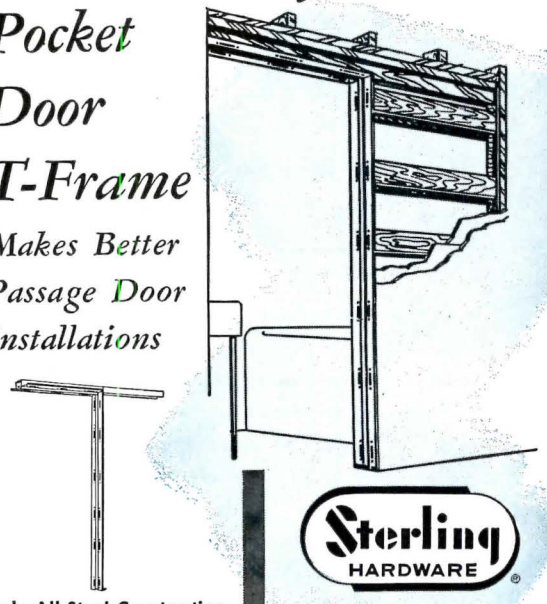

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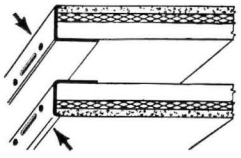
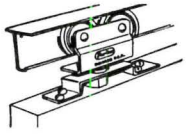


Section Through Split Jambs Showing Heavy Gauge Steel



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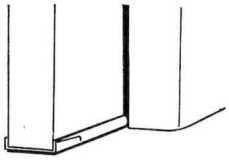

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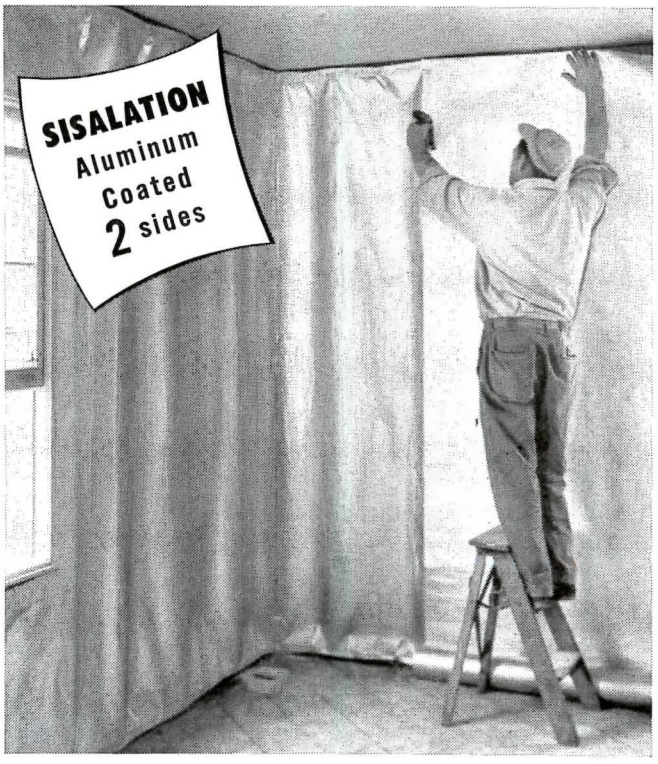

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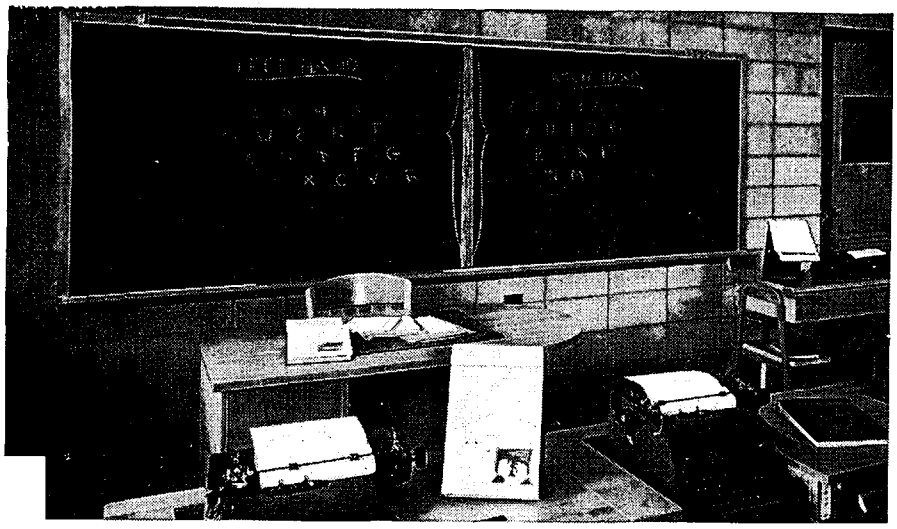

TYPING CLASSROOM in Valhalla Junior High School, Valhalla, N. Y. Architect: Robert A. Green

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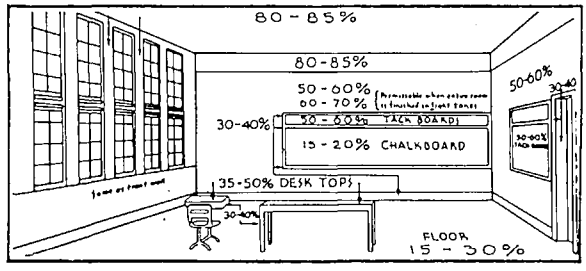

DIAGRAM from "American Standard Practice for School Lighting" recommends reflectance factor of between 15-20% for chalkboard.

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reviews

(Continued from page 206)

worldwide cross-section

New Furniture. *Edited by Alvin Lustig. George Wittenborn, Inc., New York 22, N.Y., Vol. 2, 1954. 139 pp., illus., $8.50*

Idea 54, International Design Annual. *Edited by Alvin Lustig. George Wittenborn, Inc., New York 22, N. Y., Vol. 2, 1954. 132 pp., illus., $8.50*

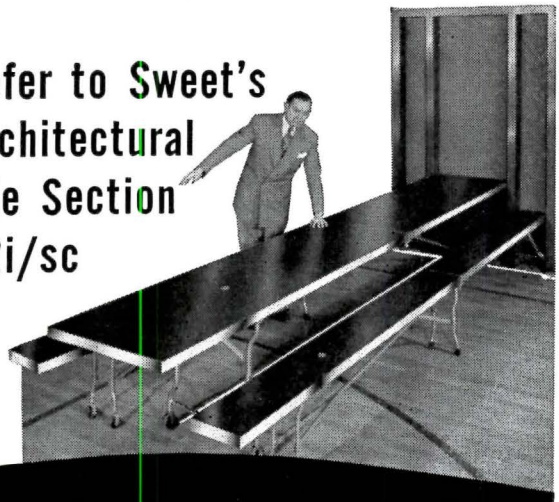
The purpose of these two annuals is to give a worldwide cross-section of high-standard modern design, in photographs arranged for easy reference. The organization adopted, grouping them by function, materials or type was the only one that could be truly effective, and the editors and publishers have filled a need which, if not already felt, they have created. Like many conveniences, we will doubtless wonder in retrospect how we used to get along without them.

Every reader will have his own purpose as he peruses these albums of excellently photographed chairs, armchairs, coffee tables, shelves, desks, storage walls (to mention but a few of *New Furniture's* categories), or the fine porcelain, photogenic glass, the elegant flatware and numerous stoves, slicers, or clocks in *Idea*. Some will peruse them for the sheer enjoyment of seeing materials competently, often brilliantly, used in an intoxicating variety of solutions. Others will find the 300 to 400 pictures in each volume forming a most practical file of ideas and experiences, or a useful guide to selection (designers and manufacturers are listed, with addresses, but prices are not given.)

The hand of the purist is visible here—that is, as pure as one can be when selecting so many objects in a single year. One can safely say that every item here bears witness to an honest, workman-like attempt to solve its problem. Though often overdynamic, overstudied or, self-consciously luxurious by this reviewer's somewhat idiosyncratic standards, the selections will surely meet with professional approval. Even the reader least given to esthetic speculation will be compelled to ask himself what finesse of rhythm, what nicety of proportion, what reminiscence or metaphor of design makes for just this

(Continued on page 214)

Refer to Sweet's Architectural File Section 22i/sc



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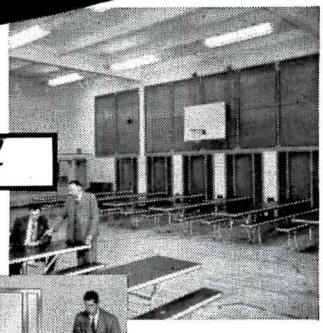

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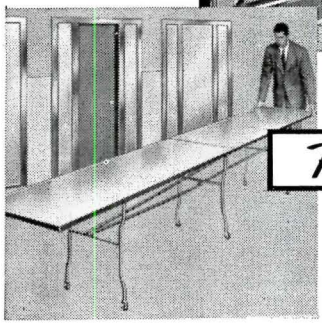

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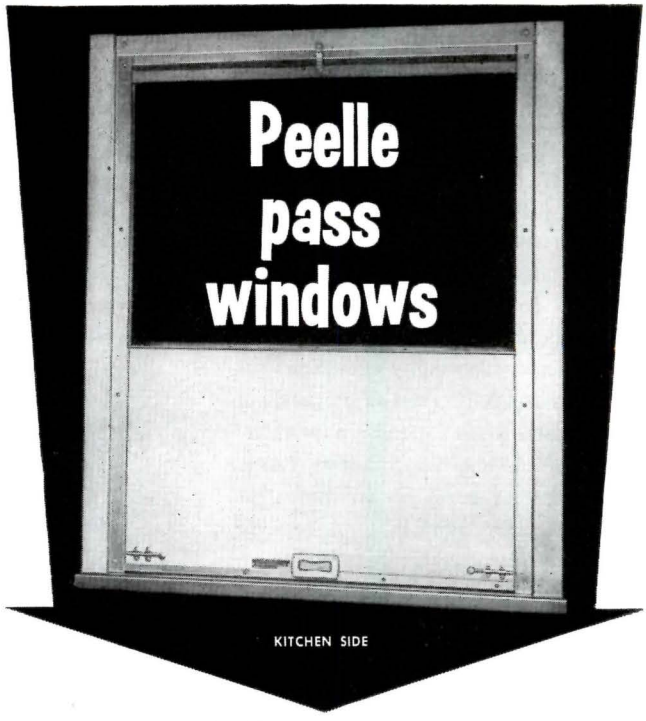

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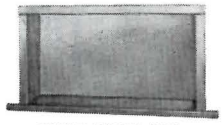

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Standard architectural details and specifications furnished on request. For further description, refer to Sweet's Catalog 32C—Pe, page 10.

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(Continued from page 208)

or that quality, for the editing has been done silently, but with a sure touch.

One is, of course, tempted to look for national trends. It would be nice to label British designs as "restrained," Italian as "dramatic"; but like Cinderella's ugly sisters, this would mean tailoring the foot to fit the shoe. Too many exceptions disprove the rules in this age of international give-and-take, when Japanese and Americans find one another mutually exotic. The further we move toward *industrial* design, the less significant do regional differences become. While architecture tends to geographic, climatic, cultural differentiation, the object of industrial design (witness the irons and typewriters in *Idea*) tend to cosmopolitan uniformity. Some of our cultural anthropologists say that we have too long looked for differences. At most, let us look for those areas where a nation is most self-confident, incisive and free: Danish chair design, Italian lighting and shelving, German and American glass and ceramics. But even these generalizations break down!

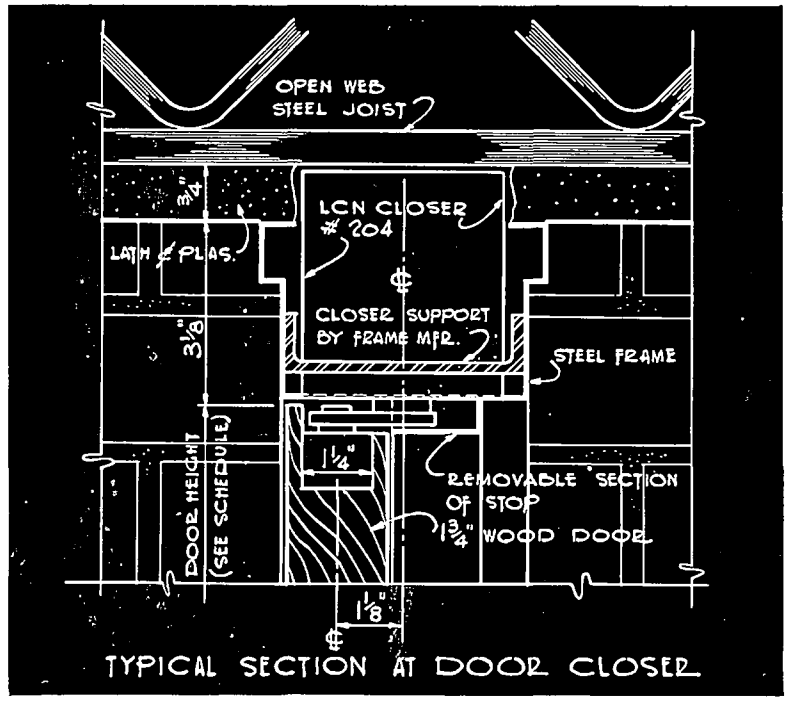
An excellent feature of these volumes—they should provide more of same—are the short essays by editors from the various countries represented on topics such as public taste, the role of museums, industry, and the schools. Often they are severely critical of the status quo. As Max Bill points out, there is not in the whole world today an institution that is equipped materially and intellectually to give designers the broad humanistic and technical education that such sensitively placed persons should receive. Despite all the progress of our century it is still almost "impossible to find a practical, universally utilizable door-knob, a practical, and beautiful lamp." Adding, "If we sum up the results of our proselytizing, they have been small enough."

The great popular flowering of "modern" should not delude us into thinking that the fight for pure design has been won. As Alvin Lustig notes:

"whereas before the enemy was usually the unbeliever, now he is the superficial devotee either as a designer, producer or consumer, who by his unquestioning acceptance of a few shibboleths makes possible a great wave of mediocrity in the name of design." ". . . the pressures of fashion, with its constant need of the new, force many to think of 'this season's' furniture and attempt to create artificially changes of style that are meaningless."

To make matters worse, " it is never too long before a more shabbily made and cheaper copy will follow any original design." Lustig suggests that a moratorium on invention be declared; that the revolutionary period of design is at an end (as most of us have suspected); and that the next advances will take place not by inventing new, but by perfecting old forms. Far from being discouraged by all this, the designer should see the greatness of the challenge: the challenge to design, in Max Bill's words, "something that shall have permanent value, for instance a perennial tea-cup, an ever-comfortable chair, a coffee-pot to end all coffee-pots." The editors could not be on safer ground, and their message is as valid today as it was in 1900 or in 1920—now that our furniture often apes sculpture instead of Eclectic

(Continued on page 216)



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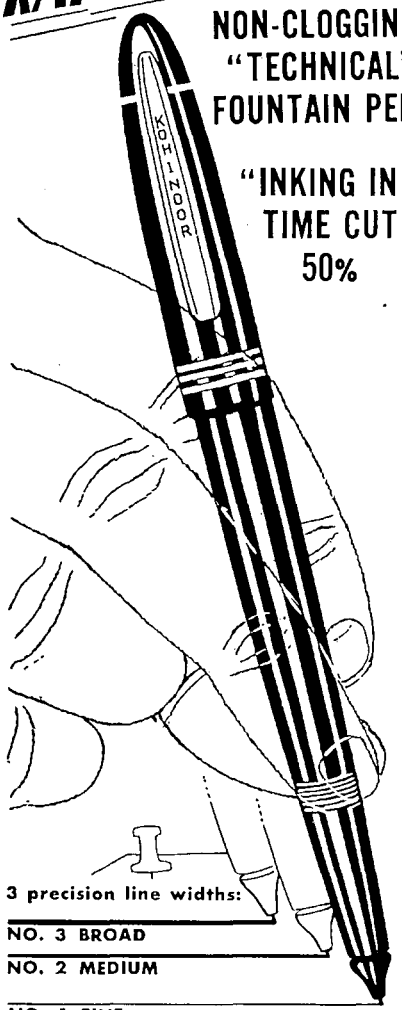

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reviews

(Continued from page 214)

façades, and our worst-designed appliances take their cue from Futurist monuments. MARTIN JAMES

unrestrained—as usual

The Natural House. *Frank Lloyd Wright. Horizon Press, Inc., 220 W. 42 St., New York 36, N. Y., 1954. 223 pp., illus., $6.50*

This book is a potpourri of opinions, statements, musings, drawings, and sketches by the famous architect; all more or less related to the subject of the small house.

The author's original, forceful architectural attainments merit our admiration: one wishes his literary attainments were equally meritorious. This, his latest book, sadly points up again the great distance from his stature as a designer to his standing as a writer.

His literary style, unrestrained by the common rules of grammatical construction and clarity, is somewhat more than unusual and somewhat less than clear. To pick a few examples at random.

"The buildings (writing about reactions to his first houses) were already off the main track. The clients themselves usually stood by interested and excited, often way beyond their means," and, "To that ubiquitous egotist there was something about the owner too, now, when he had a house like that, 'the rope tie around the monkey's neck' "; (writing about ornamentation) "But concerning higher development of building to more completely express its life principle as significant and beautiful, let us say at once by way of warning: it is better to die by the wayside of left-wing Ornaphobia than it is to build any more merely ornamented buildings, as such; or to see right-wing architects die any more ignoble deaths of Ornamentia. All period and pseudo-classic buildings whatever, and (although their authors do not seem to know it) most protestant buildings, they call themselves internationalist, are really ornamental in definitely objectionable sense."

(Continued on page 218)

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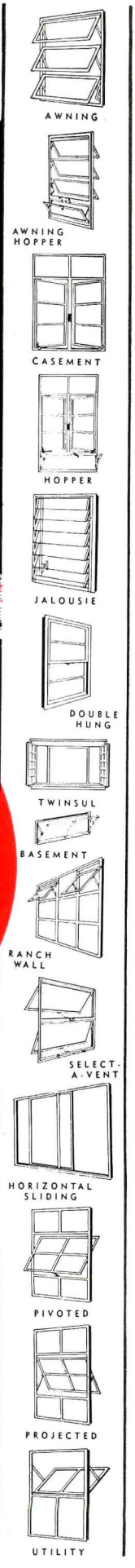

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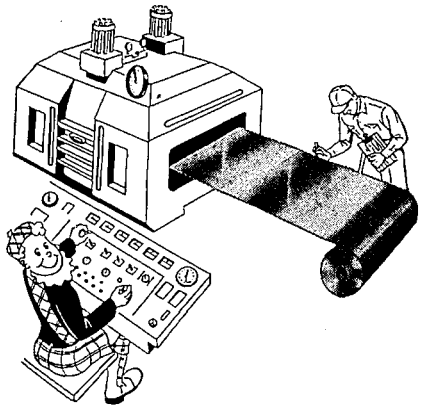

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reviews

(Continued from page 216)

If one can overlook the author's literary manner, some rich architectural thoughts are available again in these pages. While perhaps the houses illustrated are not the famous architect's best work, some of them are exceptionally good. The illustrations are poor; and undoubtedly are not fair to the houses illustrated; to one not familiar with his better work, this book would not be a fair introduction.

The author deserved a better book from his publisher—and from himself.

LAWRENCE E. MAWN

creating a home

Inside Today's Home. *Ray Faulkner (in collaboration with Sarah Faulkner). Henry Holt and Company, 383 Madison Ave., New York 17, N. Y., 1954. 653 pp., illus., $8*

Starting with the premise that home planning and furnishing have four distinct goals—use, economy, beauty, and individuality—the author has produced a book that is encyclopedic in scope, thoroughly contemporary as to content, and refreshingly presented. At the outset he states in concise terms just what he means by each of the four goals. For the home owner, this is an immensely practical book, since it is full of suggestions, effectual guidance, and the solution of many problems associated with the development of interiors.

"A liveable home is fundamental to satisfying home life," Faulkner remarks. Naturally, there are no ready-made answers to all situations that will satisfy all people as to "liveability," nor would the author have his readers believe one can accomplish a complete home furnishing and decorating job simply by reading a book. His aim is to assist in achieving a home best suited to personal and family needs, to stimulate in the analysis of those needs, to point out the basic principles, and to provide the necessary information to obtain the results. In this endeavor he is eminently successful.

FRANK A. WRENSCH

(Continued on page 220)

How to Fire-Proof Children
surround them with
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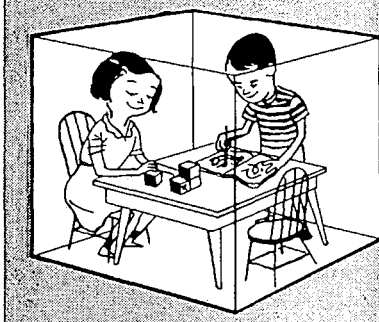

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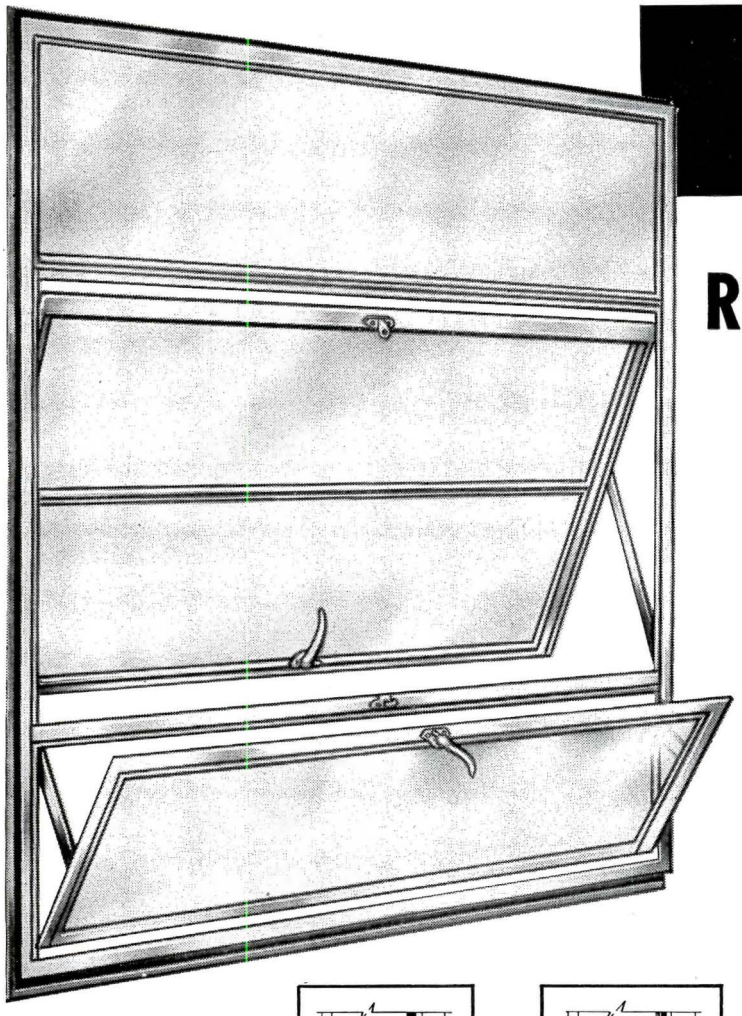

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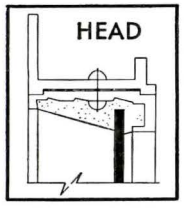

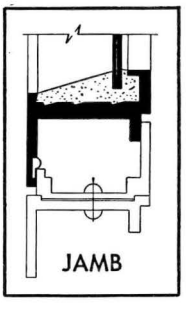

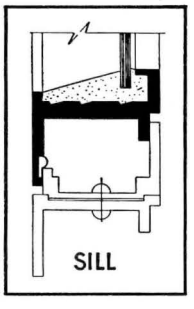

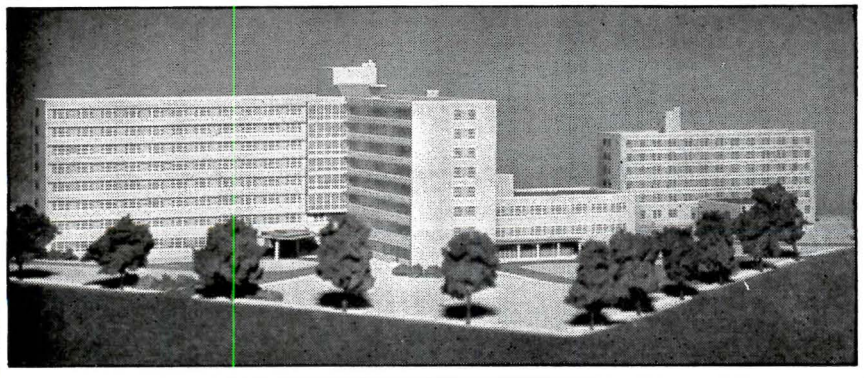

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(Continued from page 218)

images of our dilemma

The Passport. *Saul Steinberg. Harper & Brothers, 49 E. 33 St., New York 16, N. Y., 1954. 176 pp., illus., $4*

Sir Henry Wotton, the 17th Century Ambassador to the Ducal Court of Venice, shares with Louis Sullivan of Chicago the sad fate of being quoted to death (and beyond) on one bon-mot ("Firmness, Commodity, and Delight") while he actually produced a good many original definitions of architecture, among them: "The architect is a diver into causes."

Saul Steinberg's *The Passport* is a cause history of the modern dilemma, told without words by the architect turned cartoonist. It seems frighteningly fitting in the era of the Managerial Revolution that he starts with the cradle-to-grave documentation of human existence: the flourish, the compact write-up, the seal and the stamp—calligraphic *trompe-l'oeil* signifying nothing. We are licensed to live by the authentic image of the word, by the right ink splotch and wrinkle in the paper that a master craftsman can render with hilarious precision. From this First Cause spring consequences of unending deception. Thumbprints, so dear to authority, turn into birds, the graph paper of the statistician is a climbing screen for anthropomorphic cats, the "metallic precision" of the automobile turns out to be a squashy hunk of pastry or a decorative atrocity, and the "wonders of technology"—the girders, trusses, viaducts — buckling spiderwebs, untrustworthy and accidental.

In this spurious world, entered with spurious documents, Man meets his fate. At his best, he flies in a breathless feat of two-dimensional space organization at the upper rim of a page, with the moon at his elbow and the dark ugly world in immeasurable depth 14 inches below, at the lower edge of the book. At his worst, Man meets Woman. Steinberg's world is really quite simple: all women are monsters, all dogs are vermin, all cats are good, and all men are captive. And what women does Man meet! The pageant of baroque variations in vulgarity is stunning. Bloated equestriennes ride by on bloated horses; fantastically twisted Majorettes, hostesses, carve themselves into the bodies of their helpless dancing partners; bar flies, five times the size of the miserable male, are but a few specimens of the female world. But old or young, linear or voluminous, their pose is victorious; while the abject male winds through the pages, fumbling and vanquished. He balances the candle on one knee while wrestling with the visitation of a buffet supper on the other; he is blotted out in a superb pointillist drawing by the mists of the pool room; he is "straight man" in a haunting series of family portraits that sports all the capricious incarnations of righteous womanhood. The only solace he can find is by identifying himself with the virtuous cat—the bland, sweet, aristocratic, amusing, dignified cat; while the horrid female only has dog to align herself with—the mangy, scrubby, ugly dog, dragged on strings across the pages, too low to have a definite outline, too abominable to be shown on one sheet with the beautiful cat.

(Continued on page 222)

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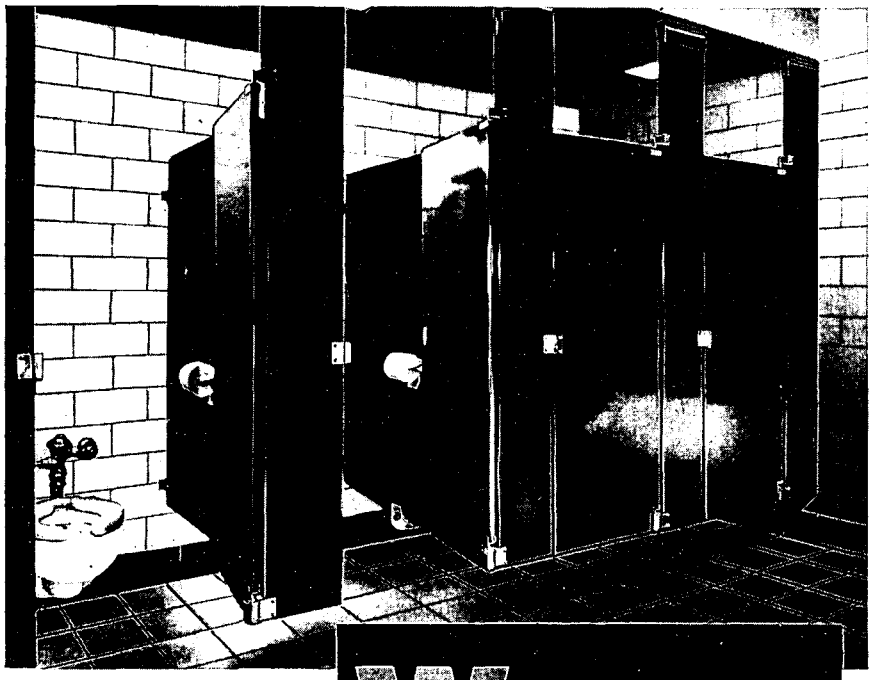

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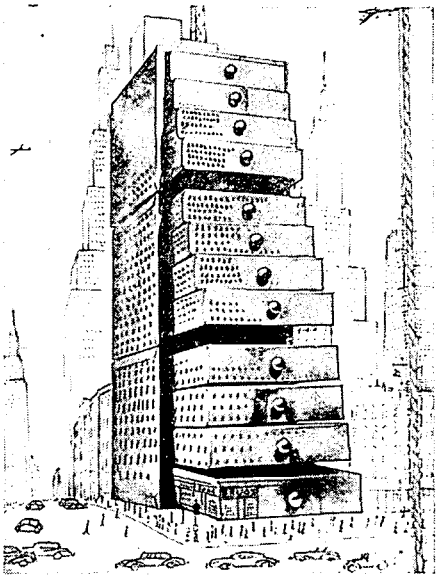
reviews

(Continued from page 220)

But this world of mutually repelling poles fades into phantasmagoria before the actual and inexorable reality of architecture. Like Zombies, the creatures and machines crawl between the towering misdeeds in stone, wood, stucco, and concrete. Faceless men slink past Quonset Huts with Gothic façades, the Florida mansion with the exterminator's truck in front, the functional Harvard Box (already crumbling with decay) houses that look like player pianos and Victorian sideboards, the Manhattan Ziggurat (that reveals itself as an untidy chest of drawers) the World's pride, the UN Building (a mere piece of lined paper, two-dimensional, precise and empty). In other combinations, the frightful women are twin-sisters to the monstrous houses; and then again even the brazen female pulls her neck into her fur collar to escape the towering horror of the town. Tomes on city planning, the million-odd man-hours of architectural conferences, the self-righteous wrath against The Condition of Man, evaporate before Steinberg's indictment. The straight-edged ruler of life is the Cornice. The Cornice, it becomes evident, is too absurd for linear abstraction. It is rendered in photographic precision as if even the most outrageous imagination could not match its imperious imbecility. Under these brackets, scrolls, dentils, moldings, and festoons marches the



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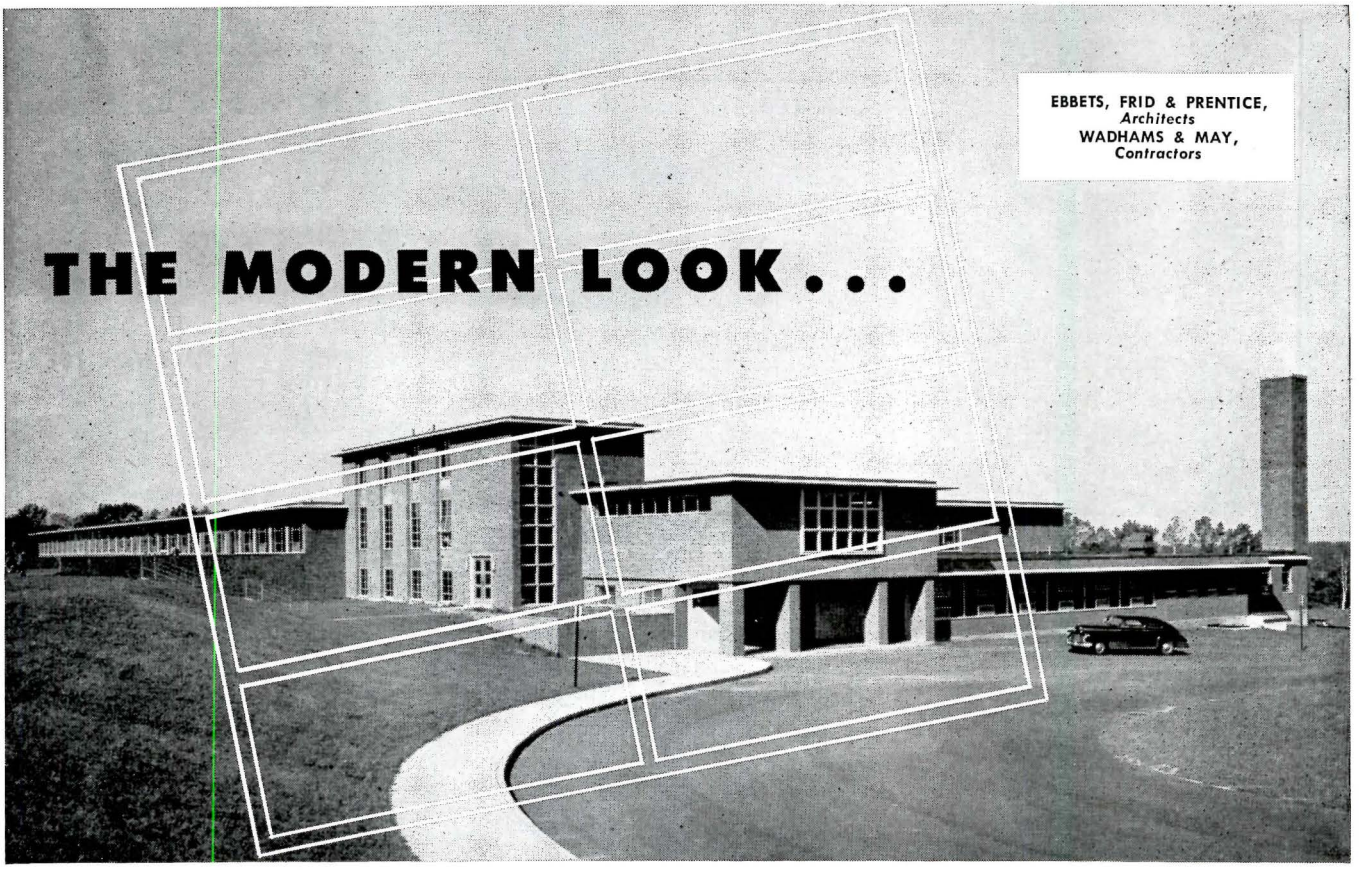

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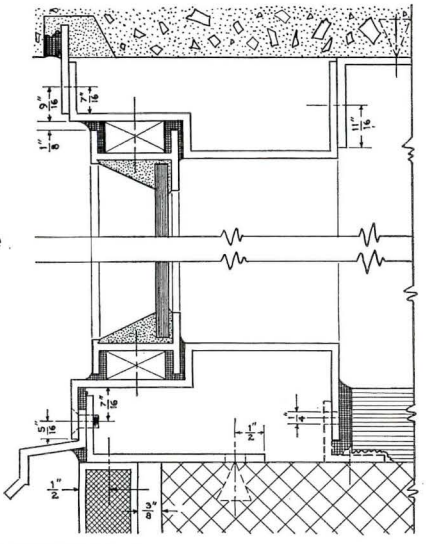

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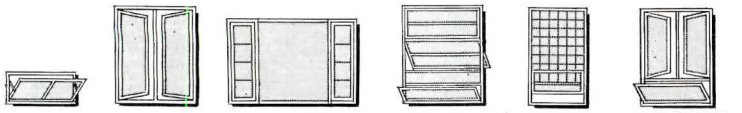

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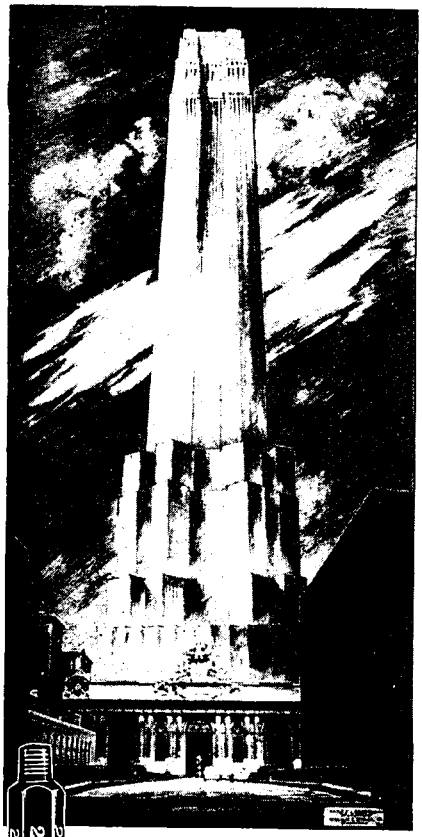

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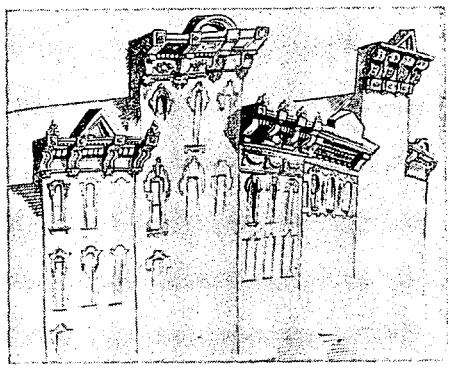
reviews

(Continued from page 222)



passing parade of contemporary men—caught between the visual deception of the imitation Grand Seal and the imitation architectural façade.

There exists a curious analogy between Steinberg and Chaplin. Humor is accusation, flung through the image and not through the ambiguous word. Goya was the first master there, and then came Daumier and Busch. Every Philistine can shout and rail, but only the subtlest mind can orchestrate despair with laughter. America never quite understood this process—and turned its back on Chaplin. Steinberg is of the same breed and his insights are no less acute. The slick glass-crapers, Connecticut jewel boxes, and Bay region rustic charm are reduced to red herrings, diverting attention from the monster of the Cornice that has first to be slain before we can claim any victories for modern architecture.

A thoughtful book indeed for those who build! SIBYL MOHOLY-NAGY

arts—no architecture

Art of Asia. *Helen Rubissow. Philosophical Library, Inc., 15 E. 40 St., New York 16, N. Y., 1954. 237 pp., illus., $6*

Mrs. Rubissow has written an historical survey of Asian Art from earliest times to the present, for the general reader or beginning student. The art of China is discussed in 23 pages, India 36 pages, and Turkey and Islam (Allah be praised) in 11 pages. As much of this space is devoted to quotations from authorities and a disproportionate attention to prehistoric art, the reader is provided a most peculiar view of the book's formidable subject. HEATH LICKLIDER

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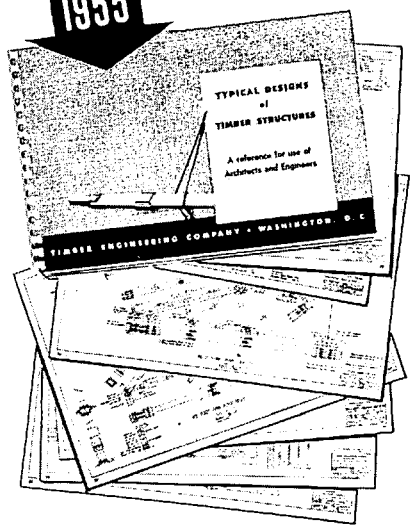

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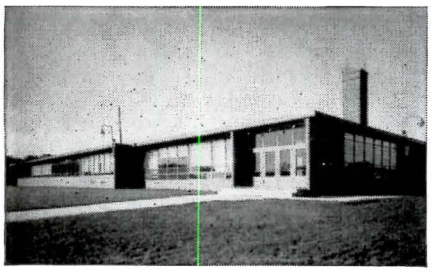
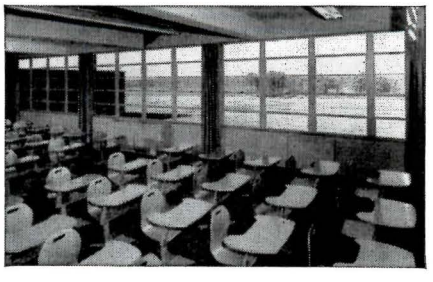
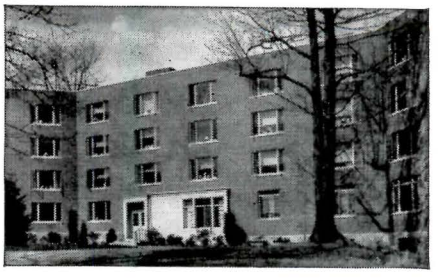


INDIANA. Orchard Park Elementary School, Highland, Indiana. *Architect:* Bachman & Bertram, Hammond, Indiana. *Contractor:* John F. Rahn, Inc., East Chicago, Indiana.



ILLINOIS. Lincoln Way High School, New Lenox, Illinois. *Architect:* Childs & Smith, Chicago, Illinois. *Contractor:* Robert G. Regan Co., Joliet, Illinois.



MASSACHUSETTS. LaSelle Junior College, Newton, Mass. *Architect:* J. Williams Beal Sons, Boston, Mass. *Contractor:* Park Construction Co., Inc., Boston, Mass.

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. . . with this new structural panel it's *built right in!*

Here's a ceiling with a "built-in silencer"! It's formed of remarkable acoustical-structural, cellular steel, long-span Fenestra* Building Panels with an *integral* acoustically perforated steel ceiling surface. An efficient sound-deadening material is enveloped within the cells—no acoustical material need be "stuck on"—there's nothing to come loose and fall down. And you don't spend an extra penny for special labor for this acoustical treatment!

This "package" unit acts as the ceiling and the joist and deck support for finished roof or—if your building has extra stories—a strong, sturdy subfloor for rooms above. Fenestra Steel Panels are noncombustible, are durable for the life of the building and handsome enough for the finest building. Maintenance washing or painting won't affect the acoustical efficiency. Little wonder there's such tremendous economy in using these versatile Fenestra Building Panels!

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Architectural, Residential and Industrial Windows • Metal Building Panels
Electrifloor† • Roof Deck • Hollow Metal Swing and Slide Doors

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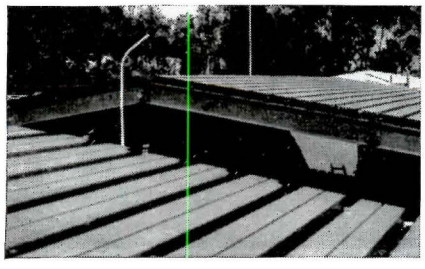
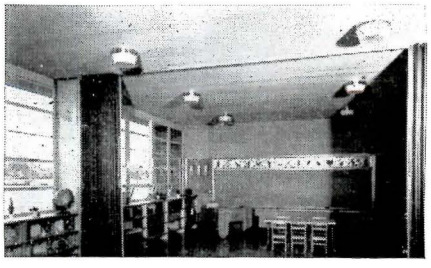
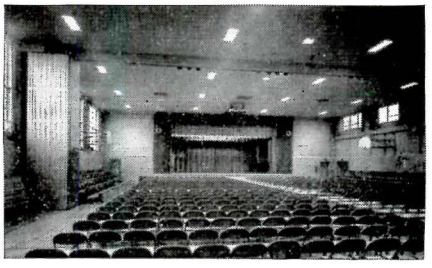


PANELS are laid over the rigid steel frame during course of erection, combining in one unit acoustical ceiling, joist and deck. Be sure to investigate before you plan your next building! Once your building is started, it's too late!

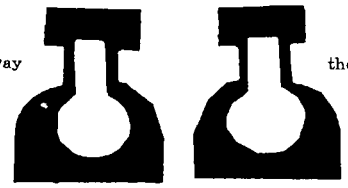


MORE AND MORE schools are using this acoustical-structural material. Willard Elementary School, Willard, Mo., uses 20,000 sq. ft. Architect: I. Dale Allmon, Springfield, Mo. Contractor: DeWitt Construction Co., Springfield, Mo.



ANOTHER SCHOOL INSTALLATION in Trumbull Elementary School, Trumbull, Connecticut, uses 14,000 sq. ft. Architect: Lyons & Mather, *Bridgeport, Connecticut.* Contractor: E. R. Smith, Inc., Stratford, Connecticut.

curves can make a big difference...

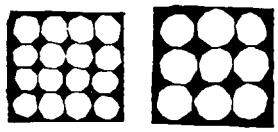
the old way  the gotham way

even in lighting... particularly the curve of the reflector in the new gotham recessed low-brightness downlite. This Alzak reflector throws the light downward in a broad cone instead of the usual narrow beam you get from other recessed downlites. The new reflector curve is optically precise; it's patent-pending.

... it delivers:

the old way  the gotham way

wide-angle downlighting. More illumination is spread over a wider area, without hot spots, with softer edges to the light pool than other comparable downlites can produce. Yet the light source is completely hidden and glareless from a normal viewing angle (45°). No lenses are needed, no diffusers, no louvers ... just an inconspicuous opening in the ceiling.

the old way  the gotham way

at a lower cost. Because of the wider throw, a complete ceiling of these new gotham downlites need 25% fewer units for even illumination (and 25% less upkeep) than any other recessed Alzak-reflector-type downlite.

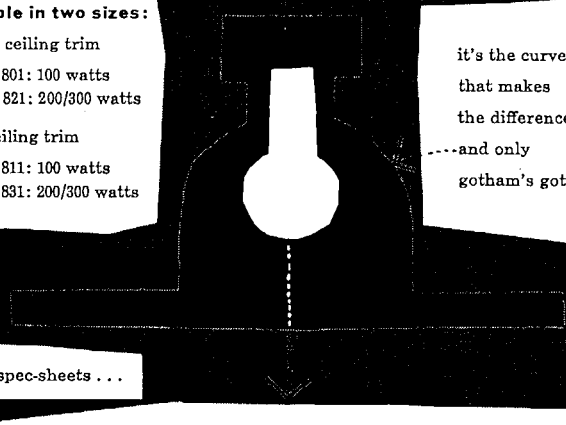
the old way  the gotham way

with greater lighting efficiency. From an ordinary cheap-to-replace incandescent bulb, this new reflector directs more light down than the best competing low-brightness downlite, trapping less within the fixture itself. You actually get more footcandles from the same bulb.

available in two sizes:

surface ceiling trim
no. 801: 100 watts
no. 821: 200/300 watts

flush ceiling trim
no. 811: 100 watts
no. 831: 200/300 watts



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that makes
the difference
----and only
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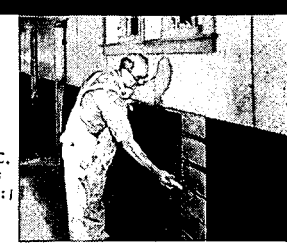

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They are electrical specialists.

Their assignment is to help you solve electrical problems—from classroom lighting in a school to a complex electrical system for an industrial plant.

Check the examples on the next three pages.

THE MAN WITH THE FACTS

He's the construction sales engineer in your nearby Westinghouse office. His assignment is to analyze your electrical problems, then quarter-back the team of specialists that help you solve them. We call him *The Man With The Facts*. Why don't you call him? DP-5010-A

YOU CAN BE **SURE**...IF IT'S

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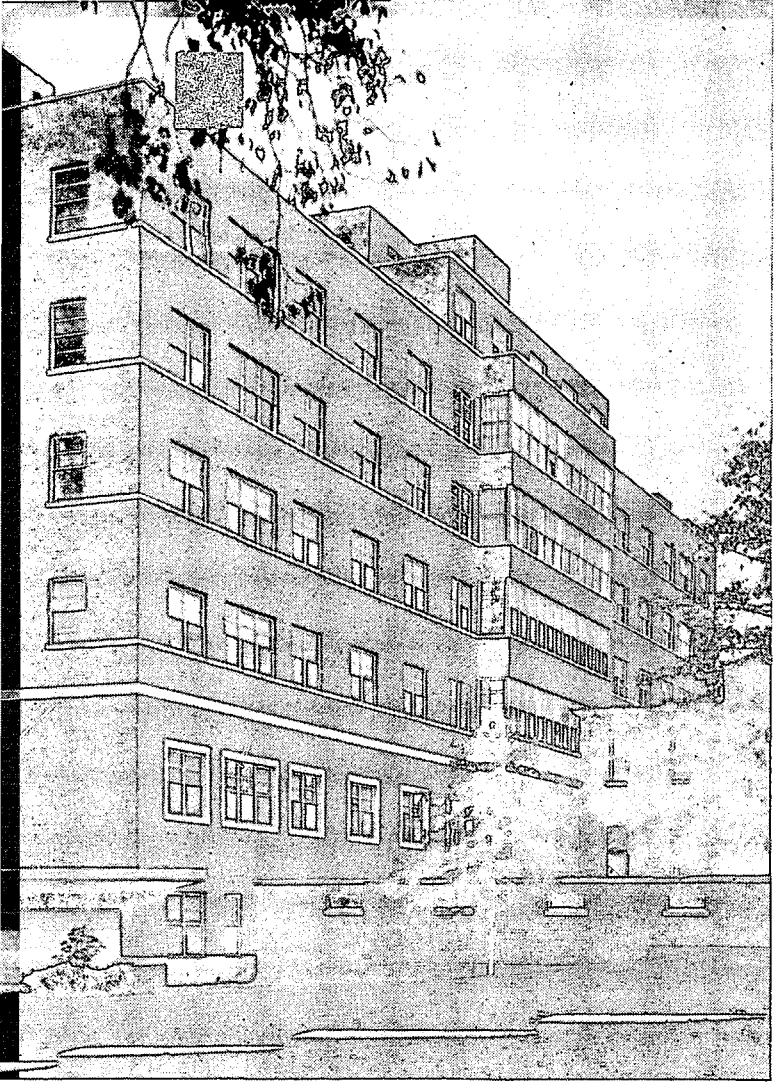
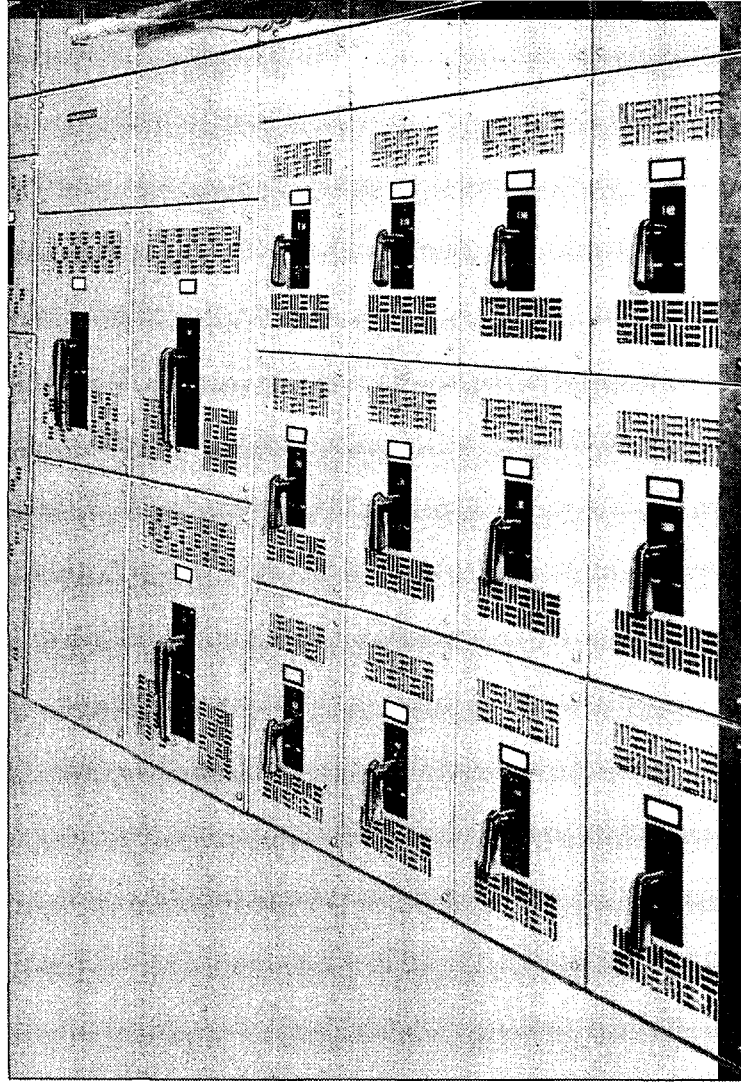


Genesee Hospital, Rochester, N. Y. Architects (for new section): Waasdorp & Northrup. Consulting Engrs: Crocker, Cherne & Dickason, Associated Consulting Engineers.



Building-type switchboard is a factory-assembled unit containing modern circuit breaker protective devices. Switchboard is compact and completely safe.

FACT: THEY ASSURED DEPENDABLE SERVICE THROUGH CIRCUIT BREAKER PROTECTION

Dependable electrical service, to insure trouble-free operation of patient services, was a paramount consideration when the Genesee Hospital extension was planned. Proper protection of valuable equipment and operating personnel was a necessity.

A Westinghouse apparatus specialist was asked for advice on an electrical system that virtually eliminates outages. The foundation is a Westinghouse building-type switchboard with circuit breaker protection for the 24 feeders. In case of a fault or overload, service is restored quickly. A flip of the breaker handle does it.

Why not have your Westinghouse specialist help you with similar problems?

DP-5010-B

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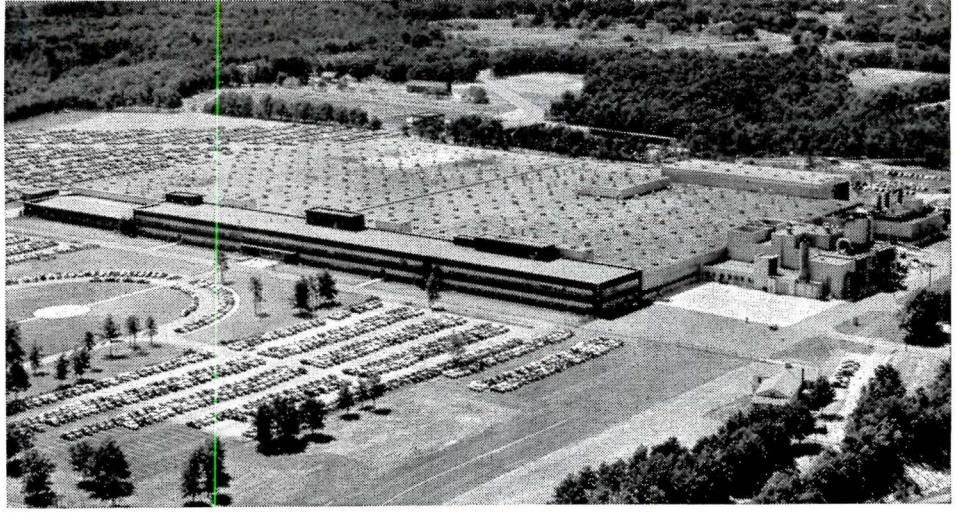


Hamilton Standard Division of United Aircraft Corp., Windsor Locks, Conn. Architects and Engineers: Albert Kahn Associated Architects & Engineers, Inc.

FACT:

THEY MET RIGID PRODUCTION REQUIREMENTS WITH HIGH-VOLTAGE DISTRIBUTION

For efficient operation of a plant's production line machines, voltage must be held constant.

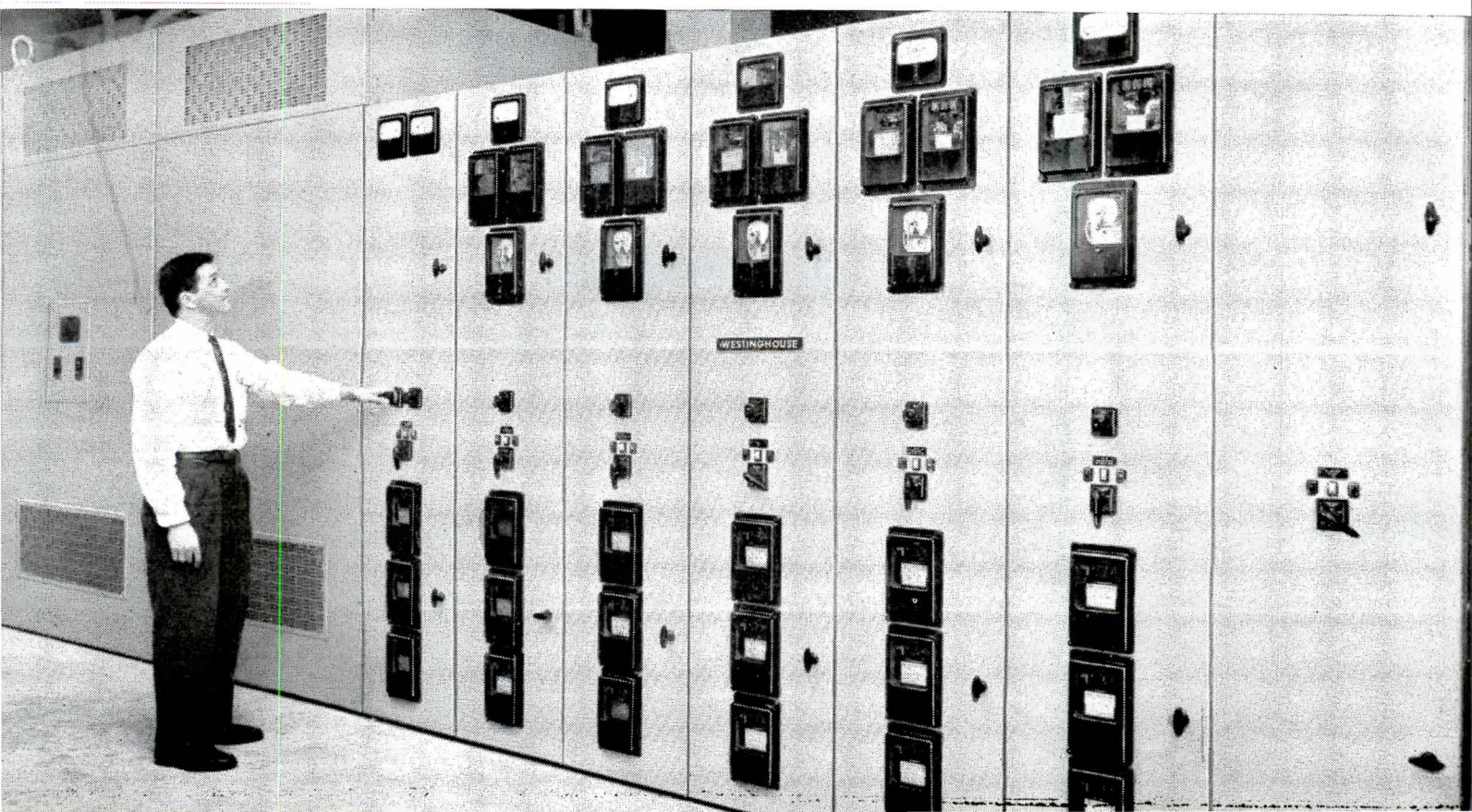
This Westinghouse installation incorporates an electrical system that utilizes a main high-voltage switchgear station. Each high-voltage circuit breaker in the switchgear line-up protects a feeder to a production load area.

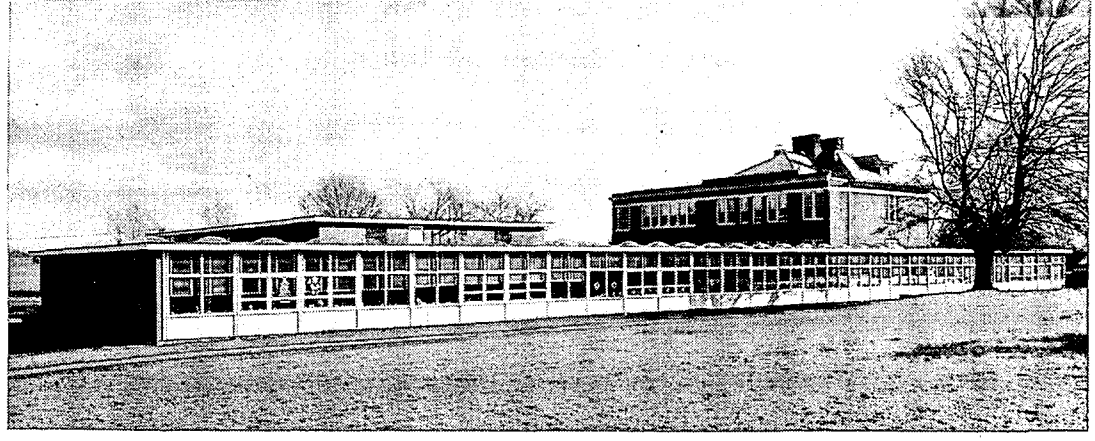
At each center of load, a step-down power center provides operating voltage, distributed in short runs. Voltage variations are minimized.

Your Westinghouse specialist can work with you on similar electrical problems. Call him in through your Westinghouse construction sales engineer.

DP-5010-C

High-voltage switchgear station is the hub of the electrical system. It provides maximum protection and efficiency.





Elm Hill School, Newington, Conn. Architects (for new extension): Carl J. Malmfeldt & Associates, Hartford, Connecticut. Consulting Engineers: Henri B. van Zelm & Associates, Hartford, Connecticut.

FACT: THEY SOLVED SHADOW PROBLEMS CAUSED BY LOW CEILING JOISTS

Main support joists in this new classroom created a lighting problem: the possibility of shadows due to the broken ceiling surface.

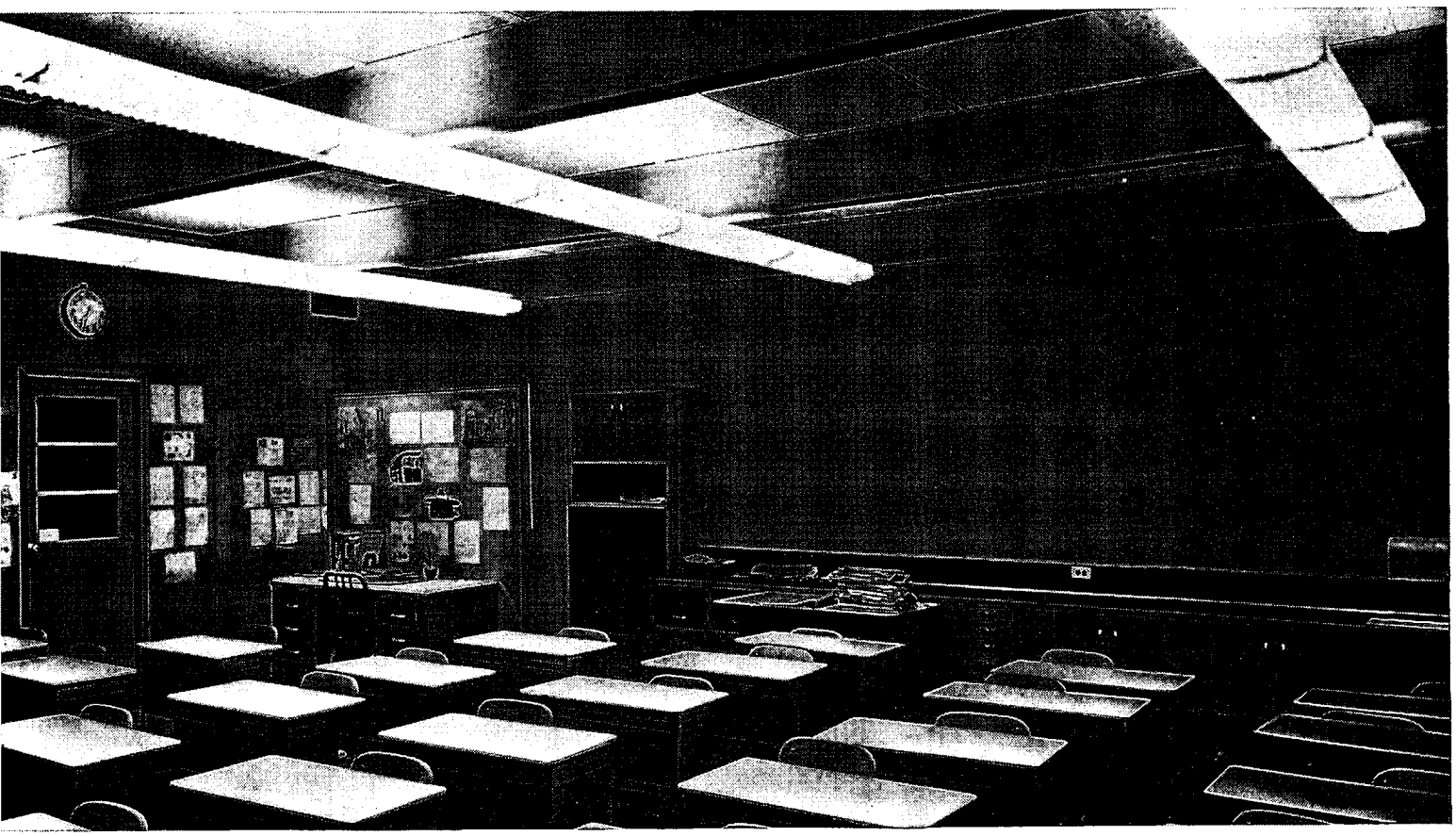
The architect and consulting engineer approved the new Westinghouse LC luminaire, mounted in continuous rows perpendicular to the ceiling joists.

Shadow problem: solved. In fact, 50 foot-candles of shadowless, direct-indirect illumination were provided—a result you, too, can secure.

Why don't you call your Westinghouse specialist to help you solve similar problems?

DP-5010-D

LC fluorescent luminaire, a direct-indirect type, provides high illumination in all parts of the room.



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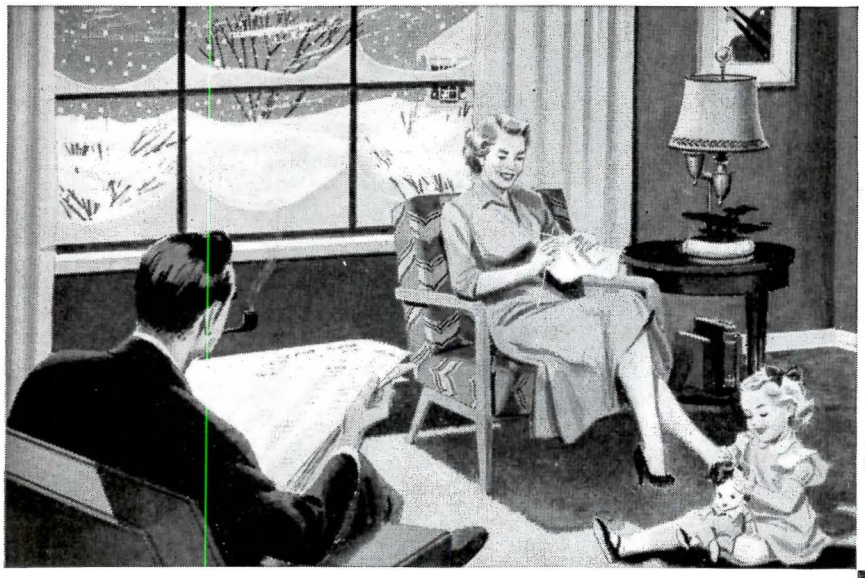

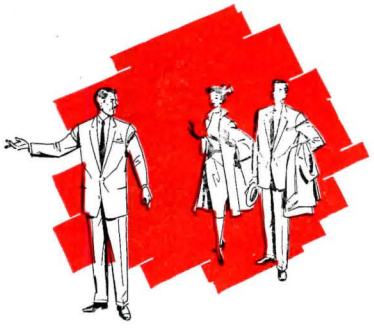

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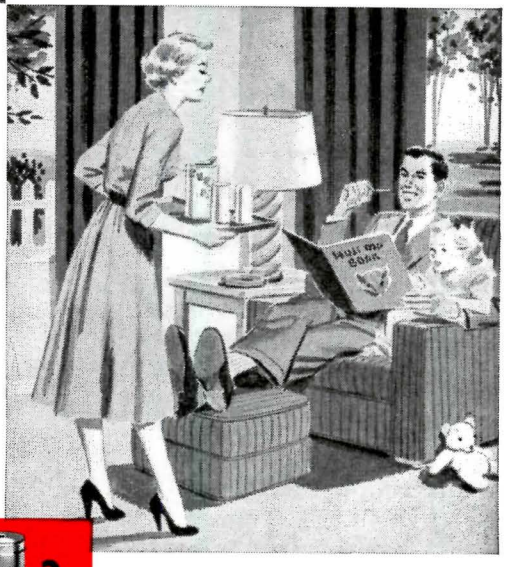



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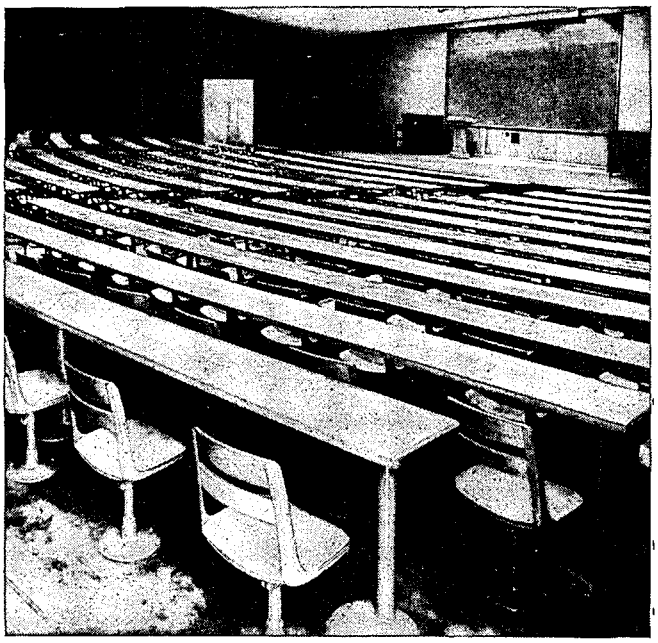

Walker Hall, University of Florida, Gainesville, Fla. Architect: Guy C. Fulton

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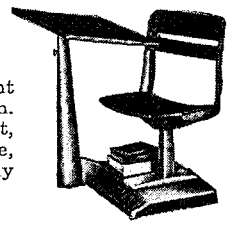

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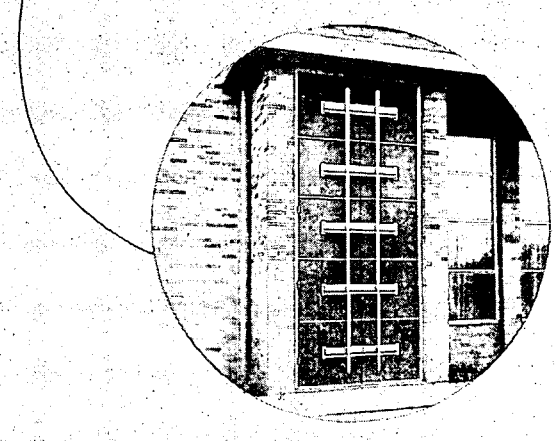

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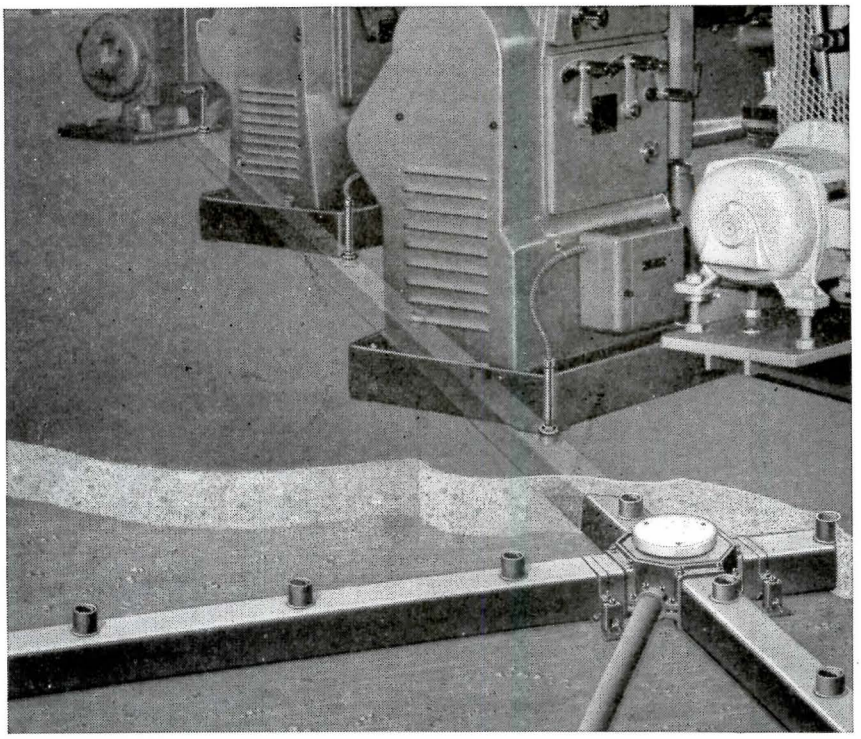

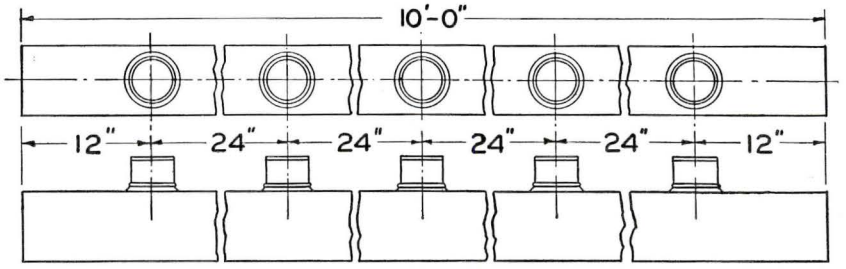

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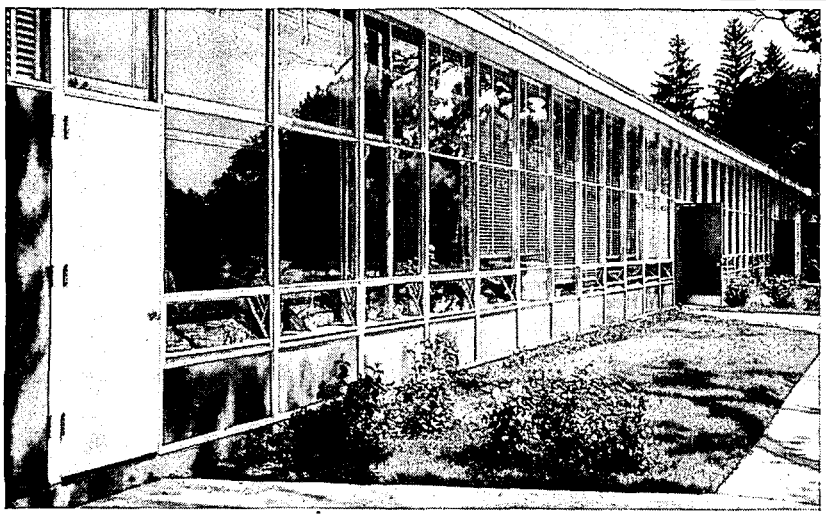

North Street Elementary School, Greenwich, Conn.
Sherwood, Mills & Smith, Architects; A. Barbaresi & Son, Inc., Builders.

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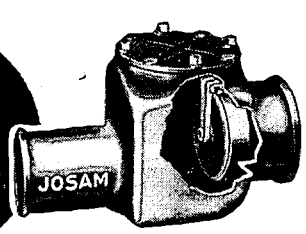

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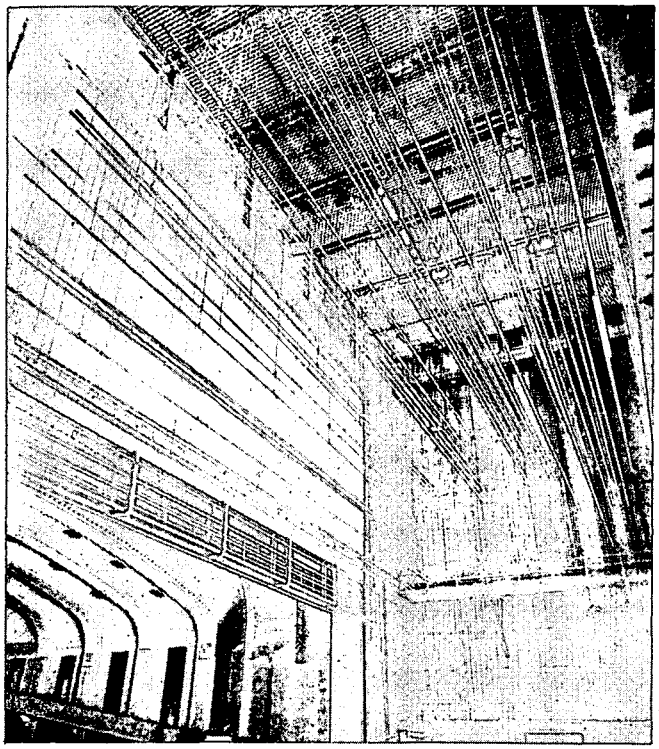

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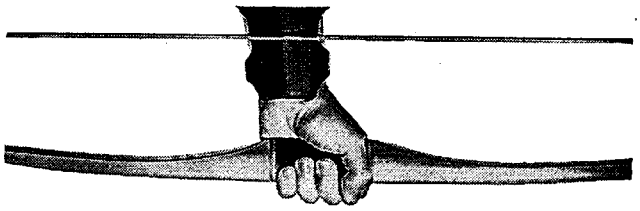

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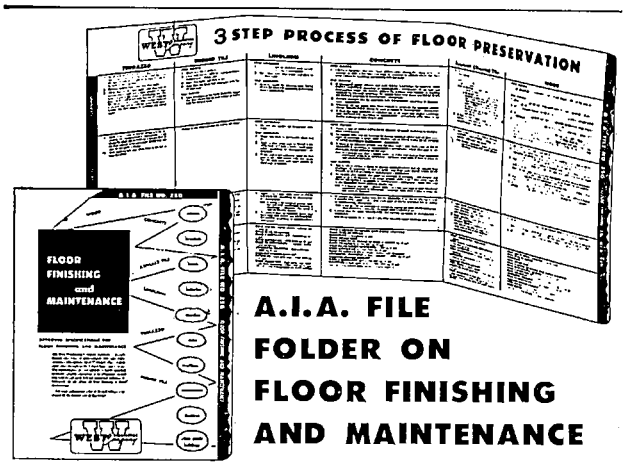

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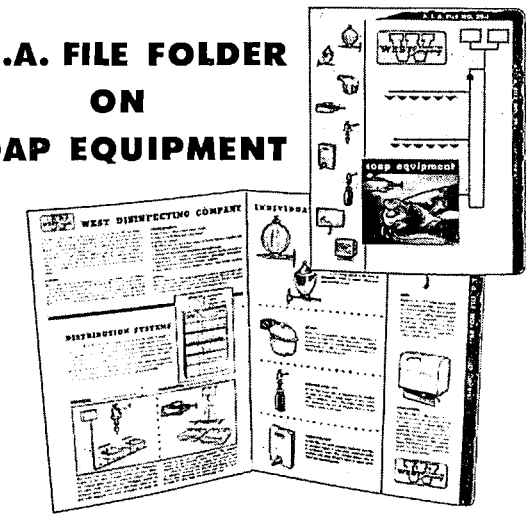

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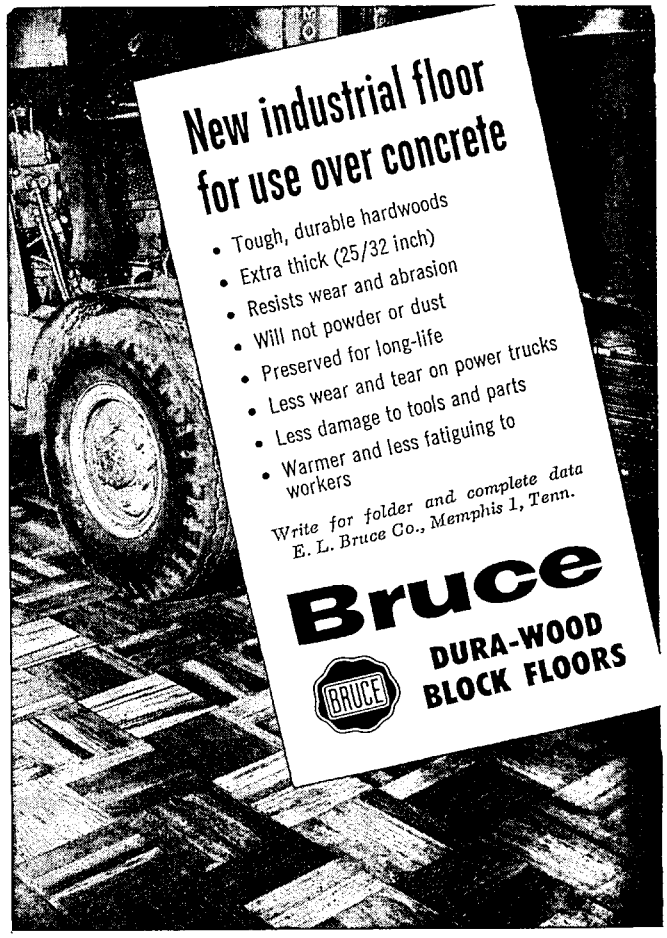



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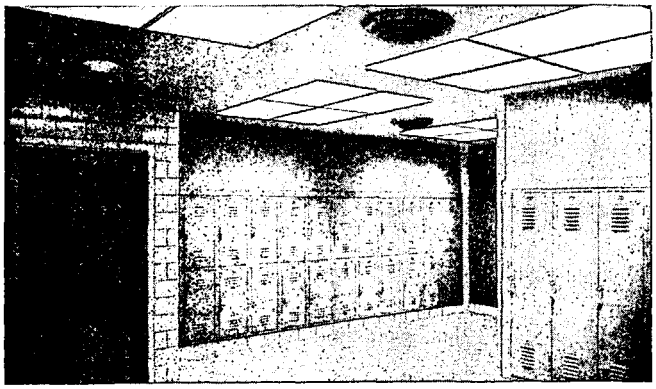

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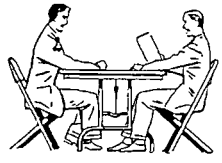

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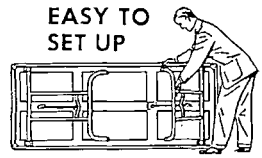

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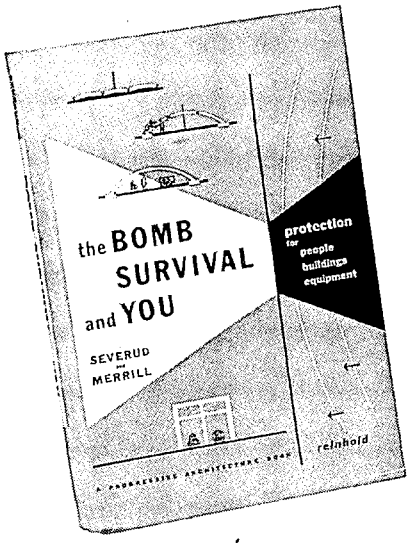

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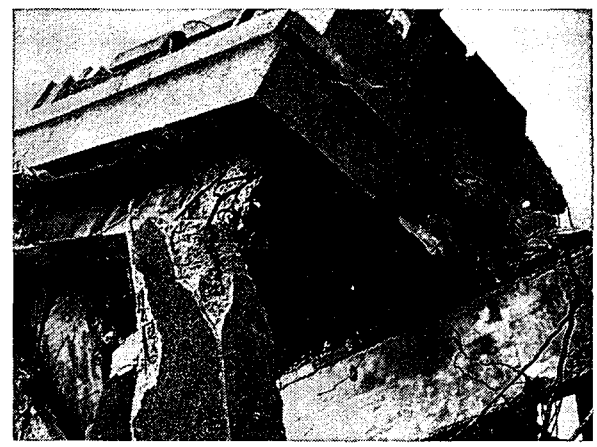

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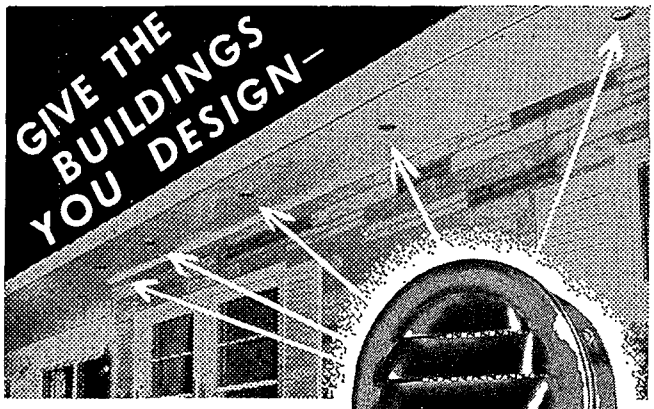

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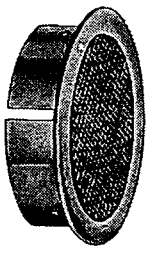

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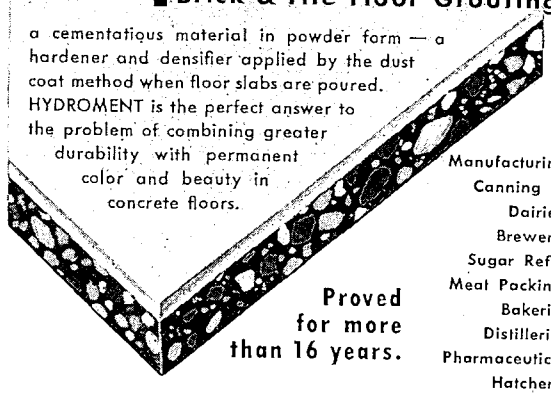

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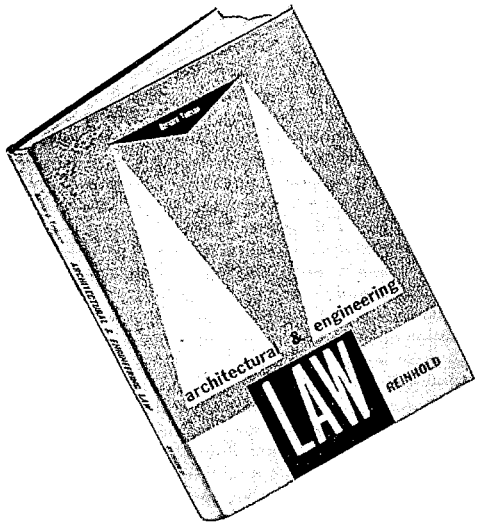

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In the past few years, Bernard Tomson has lectured on architectural and engineering law before several chapters of the American Institute of Architects as well as at regional conferences of that organization. In 1951 Mr. Tomson served as a visiting lecturer in the Architectural School at Massachusetts Institute of Technology.

The author of ARCHITECTURAL AND ENGINEERING LAW is a member of the New York and Massachusetts bars and is admitted to practice before the New York Federal Courts and the United States Supreme Court. He is a partner in the New York law firm of Bernstein, Weiss, Tomson, Hammer and Parter. His clients include architects, engineers, builders and others concerned with real estate. Mr. Tomson is the author of a monthly column "It's The Law" in *Progressive Architecture* and a contributor to other magazines. ARCHITECTURAL AND ENGINEERING LAW is his first book.

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P.S.



International Steel Company President gives plaque to P/A Technical Editor.

A great many public relations items have come across the desk. In Seattle, for instance, the *Seattle Times* and the AIA Chapter named winners in their annual joint Home of the Month competition. Winner for the year was 28-year old architect Gene K. Zema. "He was awarded," says the release, "a sculptured bird, symbolic of visionary design in residential architecture."

Another notice has come to our attention, regarding one of the winners in P/A's own Design Awards Program. George F. Pierce, Jr., of the firm of George Pierce & Abel B. Pierce—designers of the office building for a lumber company shown on page 100 of our January issue—was one of the Five Outstanding Young Texans selected by the Texas Junior Chamber of Commerce. He flew to New York to receive his Citation from P/A's Jury, then had to leave at once for Texas to be honored at a dinner in Midland.

The Association of Stamford Architects, of Stamford, Connecticut, recently ran an exhibition of work by local architects, in the Stamford Museum. I went up to see it and to attend a reception the night before the public opening, and was much impressed. Almost every building type was represented, and a well-designed panel on one wall told in text and drawings "the architect's story"—his training, his accomplishments, his way of working. To stimulate local interest in the show a program of receptions, talks, and so on was planned concurrently.

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Manufacturers of building materials are continuing to do a good job of public relations for the architect in a number of ways. Minneapolis-Honeywell's series of "institutional" advertisements pointing out the value and the importance of architectural services is a tremendously valuable assist. It is dignified, informative, and appealing. Reynolds Metals Company has several times used its "Mister Peepers" show on NBC-TV as a widely-seen medium for similar statements. Rex Marshall, announcer for the show, said in a recent broadcast, for example, that he wanted to call attention of the audience to "the work of some thoughtful men and women who are too modest to advertise for themselves" and went on to say that he meant the architects of America, who "combine a knowledge of art and engineering with civic pride and hard-boiled business sense." He ended up by saying that "it just makes sense to consult your architect."

The U.S. Gypsum Company is about to begin promoting the work done at Research Village near Chicago, by six architects working with six builders to produce a group of houses filled with ideas in construction, planning, and siting. I went out recently to see these houses (which we showed you in preliminary form as the PROGRESS PREVIEW in March 1954 P/A) and I was tremendously impressed by the results. A further report on several of the houses will be made later, and you will see much about them in the consumer press. Unfortunately, the original promotion idea—to publish, in wide advertising, a picture of each house, a statement that these results were obtained through close co-operation of a builder and an architect in each case, and then to show a picture of each builder and each architect—could not be carried through because of a specific ruling by the Board of the AIA that it would be "unethical" to use the architect's picture. So the general public will see the house and the builder, but not the architect.

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I think that this is unfortunate because it is in the builder-house field that the value of the architect is least appreciated. And it is here that the greatest number of ordinary citizens come in contact with "architecture." Neil A. Connor, new Director of Architectural Standards for FHA, put his finger on this when he talked before the NAHB Convention in Chicago in January. In a speech in which he spoke happily of the fact that he was "working closely with the AIA on encouraging good design," he said:

"There is usually a lag before enough people know about and accept a new idea to create a market that can give the idea value. The need, under the law, for a sound market, tends to work against ideas of individuality. The answer to the problem is better education of the public in elements of good design. So, since FHA has few direct ways of reaching the general public on design questions, we try to encourage dissemination of good design ideas through magazines, newspapers, and periodicals."

Since architects are "too modest to advertise," as "Mister Peeper's" announcer says, it would seem sensible to encourage and assist those who have the same interest in good design, less modesty, and larger budgets. And it seems to me further that promotion of "the architect" (a many-hued individual, as we all know) can go just so far, and that beyond that point it must be permitted that individual architects accept promotion for individual achievements. I feel sure that this will benefit the larger group.

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P/A itself was honored recently when the International Steel Company, largest manufacturers of revolving doors, celebrated the Diamond Jubilee of that type of door by presenting plaques to magazines that the company considered worthy of citation for "educating architects, builders, and engineers in the use of the revolving door." Burt Holmes, P/A's Technical Editor, received our plaque in Evansville, Indiana, at a conference which included TV and radio appearances and all manner of celebration.

International Steel Company has supplied some interesting data about revolving doors which (if Ben Small will pardon the intrusion in his field) I will pass on to you. The door with sections that turn around with the user was invented by Theopolis van Kannel, of Philadelphia, who found the temperature of that city so unpleasant in the winter of 1879 that he felt impelled to eliminate the drafts coming into his office when visitors opened the door. Mr. van Kannel devised the revolving door, patented his idea, and then began to manufacture it. The first installation was in the Great Northern Hotel in Chicago in 1895. The 15,000th installation was in the Hotel McCurdy, in Evansville, on the day the picture on this page was taken. Burt Holmes walked right out through it and looked at the Ohio River, he tells me. So did Walter G. Koch, President of International Steel Company. No drafts got into the hotel lobby at all.

Thomas H. Creighton