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CONTENTS

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Clair W. Ditchy Re-elected Institute President at A. I. A. Convention

With a sizable majority, Clair W. Ditchy, Detroit, was re-elected President of The American Institute of Architects at the 86th Annual Convention, defeating John W. Root, Chicago. Mr. Ditchy now enters his second term. The five-day convention was held in Boston, June 15-19, with headquarters at the Hotel Statler.

Earl T. Heitschmidt was elected First Vice-President, succeeding Norman J. Schlossman of Chicago, who had withdrawn as a candidate. Howard Eichenbaum, Little Rock, Ark., was re-elected Second Vice-President, and George Bain Cummings, Binghampton, N. Y., was re-elected Secrtary. Leon Chatelain, Jr., Washington, D. C., defeated Edward L. Wilson, Fort Worth, Texas, for the office of Treasurer, succeeding Maurice J. Sullivan who did not run for re-election.

Members of the Wisconsin Architects Association will be glad to learn that distance will be no interfering factor so far as their attending next year's A.I.A. Convention is concerned. It is to be held in Minneapolis, Minn.

* * *

Recently Deceased

RUBENS F. CLAS	A.I.A.
DONALD L. KLIESE	A.I.A.
FERDINAND J. BRIMEYER	A.I.A
JOSEPH H. VOLK	H.P.A.C.C.

Leigh Hunt, Secretary of the Wisconsin Architects Foundation, reports that many contributions are being received in memory of our deceased colleagues and friends. Recently, $2,100 were awarded in scholarships to architectural students, of which a full report will be made in the next issue of the Wisconsin Architect.

Contributions in memory of our colleagues may be sent in amounts of $1.00 and up, to the Wisconsin Architects Foundation, c/o Leigh Hunt, Secretary, 759 N. Milwaukee St., Milwaukee 2, Wis.

The Institutional Kitchen of Tomorrow

By WILBUR H. TUSLER, F.A.I.A. - A.H.A.

(The following talk by the former North Central States Regional Director, Minneapolis, was given at the Annual Dietetic Association held in Minneapolis, Minnesota. In conclusion, he said, "I don't expect you to agree with me 100 per cent, or even 50 per cent, but if this talk has given you something to think about, I have accomplished my purpose." Just so, it might well give Architects something to think about.)

For an architect to speak to a group of dietitians on kitchen planning is a presumption which can only be justified by gathering information from the foremost kitchen designers, architects, suppliers of equipment for kitchens and food distribution.

My work in the office is concerned principally with hospitals, and if I approach the subject from that point of view, you will have to forgive me. Your chairman informs me that the majority of the dietitians present are from hospitals and possibly many from small hospitals.

For sometime I have been of the opinion that we architects, assisted by suggested plans from the U. S. Public Health Service, were over-designing the kitchens for small hospitals, making them too large and with too much equipment. On checking, I find this is not so and that the trouble, if any, is lack of knowledge by the person in charge of the kitchen.

We, or the equipment suppliers, are negligent in not explaining the use of the various items and their functions. You must keep in mind that I am talking mostly of small hospitals in rural areas. When I say too large or too much equipment, I am referring to the present method of food preparation and distribution.

In discussing the kitchen of the future, there are many angles to be considered: purchasing, storage, food preparation, and food distribution. If we go far enough in the future, we might add eating habits. There is an interesting and somewhat humorous aspect to future predictions if they are far enough in the future — I cannot with the slightest degree of accuracy prove that any prediction I make is right, but by the same token you cannot prove that I am wrong.

The people who were contacted are of two schools of thought: one that kitchens will be entirely mechanized, meat will be delivered frozen, vegetables and other food will be prepared, cooked, frozen, and held for future use. The other camp feels that mechanization is too costly, that the human element should not be forgotten but should, in fact, be played up. The latter group are by far the minority.

In considering this subject of new methods and its bearing on kitchen designs, we note that Manhattan's airlines terminal Lunch-O-Mat Corp. installed a new food vending machine which uses a Raytheon radar stove to cook and serve a hamburger, a baked ham sandwich, a frankfurter, and coffee, within 15 seconds after coins are dropped in the slot. We also note that the machine costs $2600.

The Pennsylvania Railroad cooks the food, divides it into portions, then cools it very rapidly. The portions are held at 38-40 degrees and individually heated in an electric range. Other railroads are using frozen, precooked, preportioned food.

Dehydrated foods are making rapid progress — cake and pudding mixes and potato powder are already used with success.

Joseph W. Janson of INSTITUTIONS Magazine quotes a hospital director as stating "the hospital kitchen of the next several decades will be reduced to a mere shell of its former self, utilizing frozen food and electronic heating equipment applied to preportioned quantities." He further refers to disposable plastic surface dishes as a material labor saving device.

Mr. Claesgens of Joesting & Schilling Co., St. Paul, feels that fabricated or precut and frozen meat will materially affect food storage and handling, reducing materially walk-in coolers among other things.

Colonel Paul P. Logan, director of research of the National Restaurant Association of Chicago, said in answer to my inquiry, "Certainly the future will be designed in a flo-sheet basis with greatest possible use made of vertical space, automatic conveyors, scientifically planned illumination, air handling, acoustical adjustment, non-skid flooring, with equipment and work tables adjustable to correct working heights so that employees will have less fatigue and greater productive ability. Instantaneous booster heaters will provide water of any desired temperature and ion exchangers will provide soft water. Sanitizing agents will keep the building and equipment clean with a minimum of labor, insecticides, rodenticides, and air purifiers will prevent food or equipment from contamination. Humidity as well as temperature control, and suitable plastic storage containers will minimize deterioration of foodstuffs."

Mr. Sealbach of the Cleveland Range Co. says, and I quote: "More and more the trend in foods is along the lines of prepared vegetables and even meats, preserved by freezing but ready for service almost immediately after being finish-cooked. This development may in time simplify food preparation to such an extent that decentralization can be experimented with to shorten the distance between the cooking equipment and the patient. The use of other than conventional material for dishes and food containers is also something for the future with experiments proceeding rapidly in this field. There could well be further developments in disposable dishes which might bring these to a point of acceptance in the institutional and hospital field."

Hayes S. Walter of the American Gas Association, New York, says: "Right now we should consider what changes might come as a result of the increasing trend toward pre-portioned, precooked frozen foods. Hospitals may be reluctant to think of pre-cooked foods, but necessity and economy might indicate a change in attitude. Different storage, refrigeration and preparation problems will bring changes in equip-

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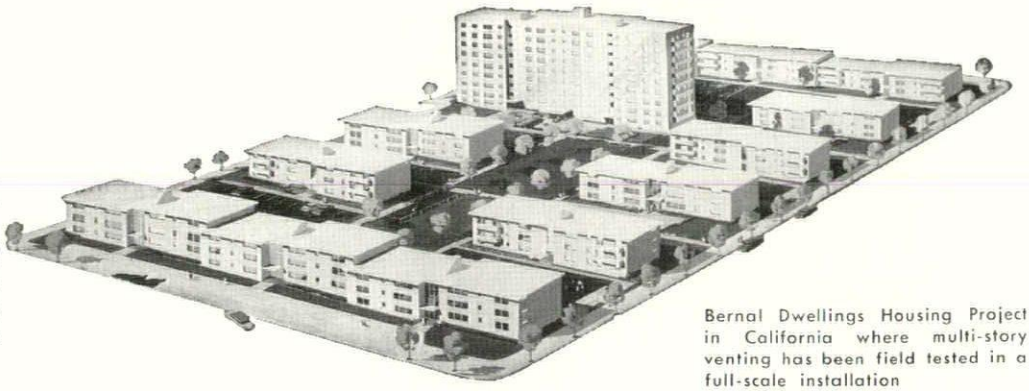
Multi-Story Venting for Apartment Houses

By E. C. ADAMS

• *Summary of an article written especially for the A. G. A. MONTHLY. The author is currently chairman, Coordinating Committee for Individual Apartment Heating in Multi-Story Housing Research, Gas Appliance Manufacturers Association.*



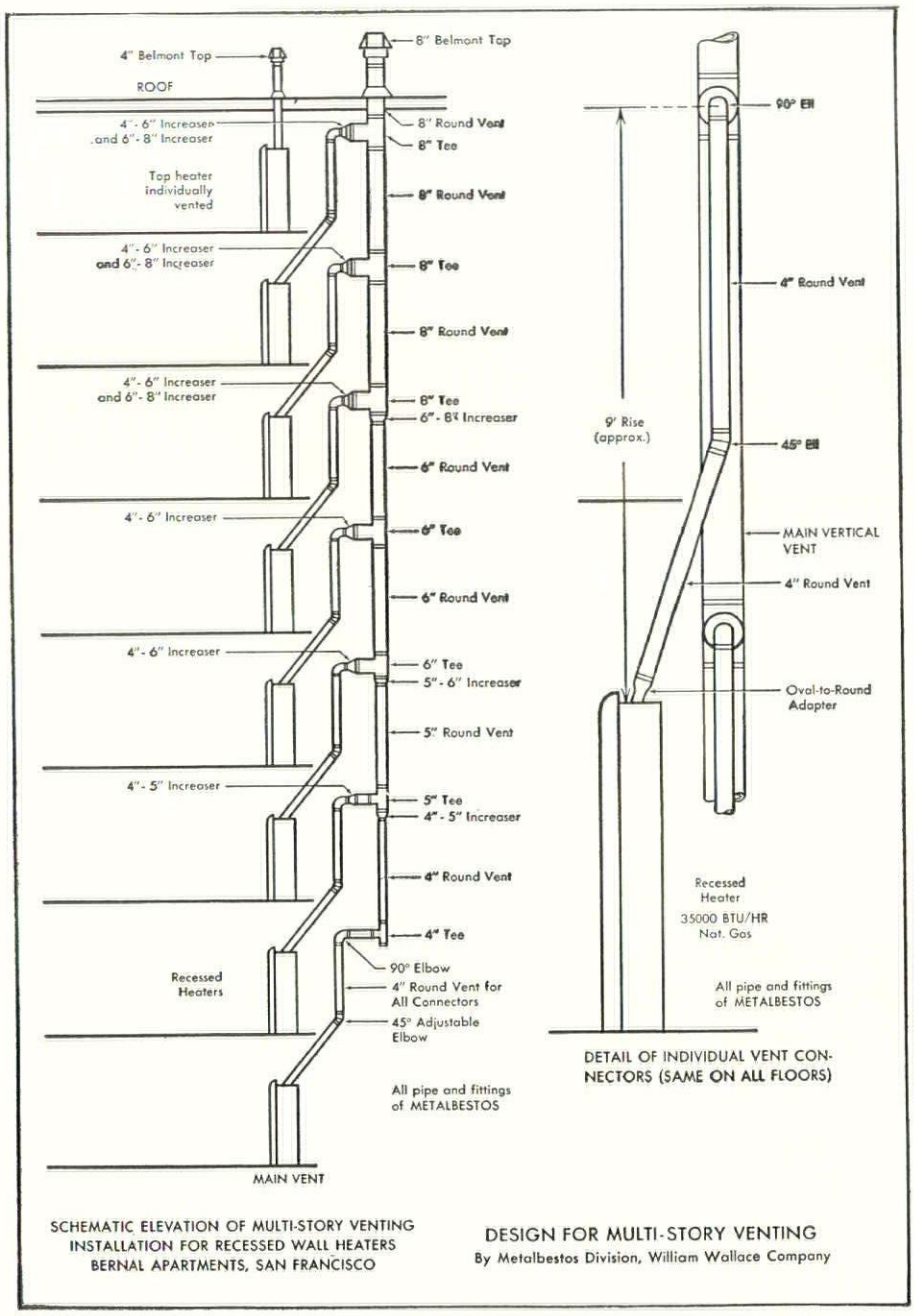
Bernal Dwellings Housing Project in California where multi-story venting has been field tested in a full-scale installation

RESETTLEMENT of families living in sub-standard housing is an increasing problem in many cities. Most proposed solutions involve the construction of large multi-story apartment buildingsseparated by garden spaces.

In 1951, U. S. Housing and Home Finance Agency sponsored a spepossibilities of lessening the first cost and operation costs of such structures. One item that apparently offered opportunity for substantial savings was the heating arrangement—use of natural gas in individual apartment heating plant. However, this approach presented the problem of multi-story venting for which there seemed to be no ready solution. The problem was studied initially by GAMA's Coordinating Committee for Individual Apartment Heating in Multi-Story Housing Research.

Later, as a consequence of research supported by William Wallace Co., this firm agreed to design, build and guarantee vents which were installed in the eight-story apartment unit of the Bernal Buildings Project, San Francisco, California.

The apartment building was completed last fall and is comprised of 64 apartments. In October and vember comprehensive tests were made to observe operatioin of the installations. Results of the field tests showed that multi-story vents of individual apartment heating devices are practical if properly designed. It may be concluded that the vents in the Bernal Apartments are properly designed and function efficiently.



SCHEMATIC ELEVATION OF MULTI-STORY VENTING INSTALLATION FOR RECESSED WALL HEATERS BERNAL APARTMENTS, SAN FRANCISCO

DESIGN FOR MULTI-STORY VENTING
By Metalbestos Division, William Wallace Company

It is not the purpose of this articleto discuss engineering data of these tests; such detailed data will be analyzed and made available in industry channels as time permits. However, conclusions obtained from a review of the field inspection report along with an elevation diagram of a typical tier vent arrangement provide information on some important elements of the vent design.

While the Bernal Apartments are eight stories, the calculations governing flue operation indicate that a similarly designed flue system with the same flue gas temperatures could handle a ten-story building without difficulty.

Effectiveness of a multi-story vent arrangement is dependent primarily on the amount of heat in the vent gases and the degree of conservation of that necessary heat by means of well-insulated flue passageways. When gases are elevated in a flue system substantial weights are moved. For example, the weight of the flue gases resulting from the combustion of one thousand cubic feet of natural gas in heating service is approximately 2,400 pounds. Heat energy in the flue gases is the source of power needed to move such substantial weights.

It is apparent therefore that when multi-story vent systems are planned, considerable care should be taken to engineer the vent designs after acquiring data on the characteristics of the equipment to be vented. This is important because various types of equipment differ considerably as to their flue gas temperatures.

For example, it is well established that the flue gas temperatures of water heaters are considerably lower than the flue gas temperatures of vented recessed wall heaters, such as those in the Bernal Apartments. Therefore, the heights at which water heaters can be successfully vented is lessened. In the Bernal Apartments hot water is supplied from a central water heating unit.

Another important element in design is to avoid the possibility of flue gases from one apartment back-flowing into another apartment. In the Bernal Apartment design there is sufficient rise in the individual vents to insure satisfactory discharge to the main stack without aid from the venting power in the main stack. This design provides proper venting of each unit without dependence on the operation of any other unit. It practically precludes the possiblity of reverse flow from the common stack.

This bold venture in multi-story individual apartment venting is an important step in reducing the cost of multi-story housing. It is also an important contribution to possible future markets for gas appliances and gas.

American Gas Association's venting research program is proceeding by thorough studies and laboratory testing of theoretical conclusions. Efforts of cooperating industry members, such as this example, help to speed the day when venting arrangements for the gas industry's products will contribute substantially to satisfactory customer service.

Scientific modernization of the old-time chimney has for many years lagged far behind the needs of modern dwelling conditions. Correction of that situation will be a major step forward in the industry's progress.

(Continued from Page 3)

ment. Kitchen design, too, will need revision because of the different flow of work and altered work spaces required. Time studies, research on fatigue variants because of equipment heights, design, etc., now going on can easily bring major kitchen changes."

Slocum Kingsbury, noted hospital architect of Washington, D. C., has tripled the amount of deep freeze space in his hospitals, this in lieu of other bulk storage and walk-in cooler space. He also feels that cooking in future will be by infra-red rays and that some type of throw-away dishes and utensils will be perfected.

Addison Erdman, hospital architect and author of New York City, is the only expert I have consulted who said "play down the equipment angle and play up the human element." He also states, and I quote:

1. FROZEN FOODS. At present, we in the United States think we are 'hot stuff' with our frozen foods, but England has for years been freezing car or boat loads of cooked food and serving it from the freezer. An example of this is a meal served to a friend of mine in India that had been cooked and frozen several months before.

"2. RADAR RANGE. It has been used and demonstrated for the past ten years, but it has never been developed to the point where it can be considered an asset. There are some restaurants that use the Radar Range for quick cooking, but steak looks raw and unappetizing unless it is rebroiled and sizzled. This increases the labor factor.

"3. THE INFRA RED COOKER is used on a small scale, but there is a possibility that it can become more useful with further development. The old steam bath for keeping food hot is almost obsolete as dry electric heat is being developed for the hot table.

"4. THE BROILERIZER which gives searing heat on all sides of the steak at the same moment, searing in the juices and giving a beautiful outside appearance, seems to be little known, although it is also almost ten years old.

"5. All appearances point to the fact that the kitchens will be completely electric. The equipment is better controlled, and it actually lasts longer. The adjacent working areas are more comfortable to work in and cleaner."

An interesting idea has been tried in some hospitals where the preparation of food is contracted with an outside firm who furnishes the food supplies and personnel, including the dietitian. I have no information on the success of this method, but I can see many difficulties. This method of contracting for food would not affect the design of the ktichen, but might take a great load from the mind of the administrator.

Roy Hudenburg, former Secretary, Council on Hospital Planning and Plant Operation of the American Hospital Association, says that you as dietitians and we as architects are not making use of the developments at hand. He asks how many dietitians are analytically planning their work and how many are doing things the way they have been done traditionally, perhaps because they do not have the courage to decide what is best and follow through on their convictions. This question should be asked also of architects.

Isola Robinson, A. H. A. dietary consultant, says that the special diet kitchen has long outlived its usefulness, yet plan after plan of new hospitals shows space and equipment wastefully devoted to a separate diet kitchen.

Mr. Hudenburg says: "It seems to me that far too many kitchens are not designed with a view to the free use of trucks in the tranportation of food between preparation stations and that far too little use is made of trucks and of standardized sizes of containers. Also, I feel that we use far too little deep freeze refrigeration. Visualize this situation: Taking advantage of a plentiful supply of string beans, the dietitian purchases a four weeks supply. The person handling vegetable preparation washes, cleans, and cuts the entire purchase, which is stored in sealed plastic bags in portions suitable for the standard steamer tray portion. Sealed in plastic bags and held in deep freeze, these portions are ready for cooking on an instant's notice. Pastries can be prepared in the same way, with, for instance, a number of pies of one variety being made on one day and being held in the deep freeze for use at any time. Infra red and electronic cooking still seems to be a good deal of a novelty item and I cannot find much to be said about routine application to hospital cooking. On transportation, we at the Memorial Hospital Associations propose to use a combination of dumbwaiter and trayveyor wherever vertical construction will permit. We will do away with all floor pantries, providing all food, including interim nourishments, from the central kitchen on a 24-hour basis." Mr. Hudenburg is now administrator in charge of physical plant of the ten hospitals the Memorial Hospital Associations are building for the miners in the southeast.

I have not touched on the transportation of food from the kitchen to the patient although this may have considerable bearing on kitchen design. You will note from the previous quote that the Memorial Hospital Associations plan on eliminating all floor pantries.

The "Mealpack System" of transportation and distribution has a great deal of merit. Mrs. H. Marion Hopkins, administrator, is using it at the Maternity Hospital in Minneapolis, with great success.

Crimsco, Inc., manufacturer of the system used in many planes, incorporates the transportation of hot plates with food in heated carts to the door of the patients room where the cold food is added before serving. Mr. Frank Briggs, administrator, at Abbott Hospital in Minneapolis, is giving the system a try in some units that have long horizontal transportation. That I shall watch with great interest as the system seems to have much merit. There is some difficulty at the present time owing to the large plates used in hospitals than on planes.

Marshall Shaffer, Chief, Technical Services Branch, Division of Hospital Facilities of the Public Health Service, has some interesting comments regarding the trend in the design of the smaller hospital kitchen —he says: "It is hard enough to talk on kitchen of today without trying to guess what is going to happen in the future. The plans of kitchens, like every other department of the hospital, continue to grow, change and need the installation of more labor saving equipment. In the small hospital there seems to be a lack of accord among the dietitians as to equipment and functions to be performed. Accordingly, the equipment and size of kitchens will no doubt continue to vary unless a uniformity in thinking is reached

by the dietitian. In the Public Health Service revised "Kitchen for a 50-bed General Hospital", we were able to save some space by eliminating the special diet kitchen, substitute food waste grinders for garbage refrigerator, and reach-in for walk-in refrigerators. However, the opinion was equally divided on walk-in vs. reach-in refrigerators. In the kitchen of 100-bed hospitals and larger, the problem can be solved more exactly. There are differences of opinion as to type of service and equipment, but that difference is not so marked as in the smaller hospital. We feel that increased use of frozen food will continue."

I may be repetitive in quoting from so many authorities but it does show the trend of thinking and may in time affect our way of thinking, maybe even our approach to problems. Along the same line, Frank J. Hilliker of Frank J. Hilliker & Associates, St. Louis, Missouri, says:

"There is no question that the current and increasing use of frozen foods and items partially processed greatly affects the layout of a kitchen. Planning must be based not only on what is now available, but also there must be a consciousness of what the future trend is likely to be.

Possibly the greatest acceleration to use of such food supplies is present day labor cost and some degree of unpredictable efficiency of such labor. The operator of a food service finds himself in the position of wanting known costs, even if use of such food supplies are a little higher. Therefore he constantly seeks partially-processed food supplies and packaged sizes that are closely related to desirable batch sizes. It is clear that general use of such food supplies will eliminate need of some of the equipment used in the early preparation stages, such as meat cutting, poultry and fish cleaning, and even some of the vegetable work. It also means the inclusion of some equipment that might not have been ordinarily incorporated in the layout, such as extra freezing space and a saw for cutting frozen meats and fish into portions.

The change in equipment can have an effect on a kitchen beyond the change in equipment. Space needs would, of course, be something less, and in general, the kitchen would be cleaner with the elimination of some of the preliminary rough work, such as fish and poultry cleaning.

The real problem is to predict how far such type food supplies will develop and in what direction. It is clear that in making an investment and allotment of space, knowledge of present supplies, of the sort in discussion and prediction of their future are quite important. Ruling over all is the choice and tendency of each particular operator toward use of this type of food supply. The operator, aside from personal opinion or even prejudices, must be mindful of the merit of such foods in his particular type of food service. A seafood restaurant might use frozen apples for pies, but would not get very far with a full line of frozen fish."

Fred Schmid, planning consultant of Los Angeles, who has appeared before you at a previous meeting, agrees with this general line of thinking. He says:

"Certainly such things as frozen foods, prefabricated meats, pre-prepared fruits and vegetables, electronic cooking, and mechanical transportation will have their effect on the kitchens of tomorrow, but it necessarily will be a transitional thing. Anticipating to some degree, we are including larger sharp freezers in our present hospital plans; we are mechanizing to the fullest to save ever increasing cost of labor; we are involved in some commercial work on which we are already employing the use of infra red rays for cooking. We are still including large vegetable cleaning rooms, although we are finding more and more establishments using pre-peeled and cut potatoes chemically treated so as to keep them from turning dark and to enable their distribution from central commissaries in dry form. Last night I had a piece of apple pie made from dehydrated apples that was better than I had for sometime.

Certainly in hospital kitchens we are thinking in terms of central service, and we are employing the use of Mealpack insulated containers in several of our projects to keep food hot and palatable until it reaches the patient.

While the dietitians are slow to give in on the point, we are eliminating entirely diet kitchens in most of our projects, feeling that the chef and others employed to prepare general diets have all the talent necessary to also prepare special diets."

The kitchen of the future should be a pleasant place to work. In that respect its requirements are no different from present day kitchens. The color scheme should be light and cheerful, walls should be covered to the ceiling with an impervious, easily cleaned material, if possible without shine or reflection.

The ceiling should be covered with a cleanable acoustical material of a light color. Lighting should be designed so no work space would be in shadow, there should be no glare, reflection or high intensity elements exposed to the eye.

Exterior fenestration is not necessary, and in most cases not desirable. I say this as an efficient air conditioning system is necessary, one that ventilates, cools and dehumidifies. Exterior fenestration, if used for ventilation, counteracts the mechanical system. Dehumidifying is essential, possibly more so than cooling as it is more noticeable, has more effect on human comfort.

Grease removal is exceedingly important from a fire standpoint if nothing else. To my knowledge, this problem has not been successfully solved as yet.

Counters and worktables will be of stainless steel with rounded corners. Units will be wall hung or set on pedestals for easy cleaning. Everything will be designed for the utmost cleanliness and for the greatest reduction of personnel.

CONCLUSIONS

Please keep in mind what I said at the beginning of my talk that I cannot prove I am right in any predictions I make, also it would be difficult to prove I am wrong. The change in kitchen design may come more rapidly that we expect with the development of new processes and new equipment, as rapidly perhaps as the social revolution that is taking place in Africa at the present time because the natives have discovered that one tractor equals ten wives.

The result of the information I have gathered leads me to feel that in the future kitchens will be smaller,

(Concluded on Page 8)

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more compact. Food will be delivered packaged to size of utensils, it will be cooked, frozen and stored in large quantities. When needed it will be heated rapidly electronically. This includes in addition to meats, vegetables, pastries, desserts.

Storage space will be reduced materially except for deep freeze units, kitchens will be streamlined on a production flow basis, utilizing mechanical means — trayveyors, electric eyes, etc., reducing personnel, some sort of disposable dishes and utensils will be perfected by then, disposal units will carry away any waste.

You will say, "How crazy can you get?" But I picture a two-story kitchen; on the lower level the food will be cleaned, cooked, packaged and chilled; it will then be elevated to the central serving kitchen where it will be stored in deep freeze units. When needed it will be electronically heated in a matter of seconds and be ready for serving.

The serving kitchen will consist of banks of deep freezers, trayveyors, and refrigerators for salad materials.

The employees in the preparation kitchen will not have their work interrupted by the serving of meals. They can cook and package as a continuous process first one type of food, then another.

The preparation kitchen could serve four, five, seven hospitals in a group, thereby working with a smaller crew on a production basis at a lower cost. The food might be prepared elsewhere and delivered frozen to the hospital ready for storing and use.

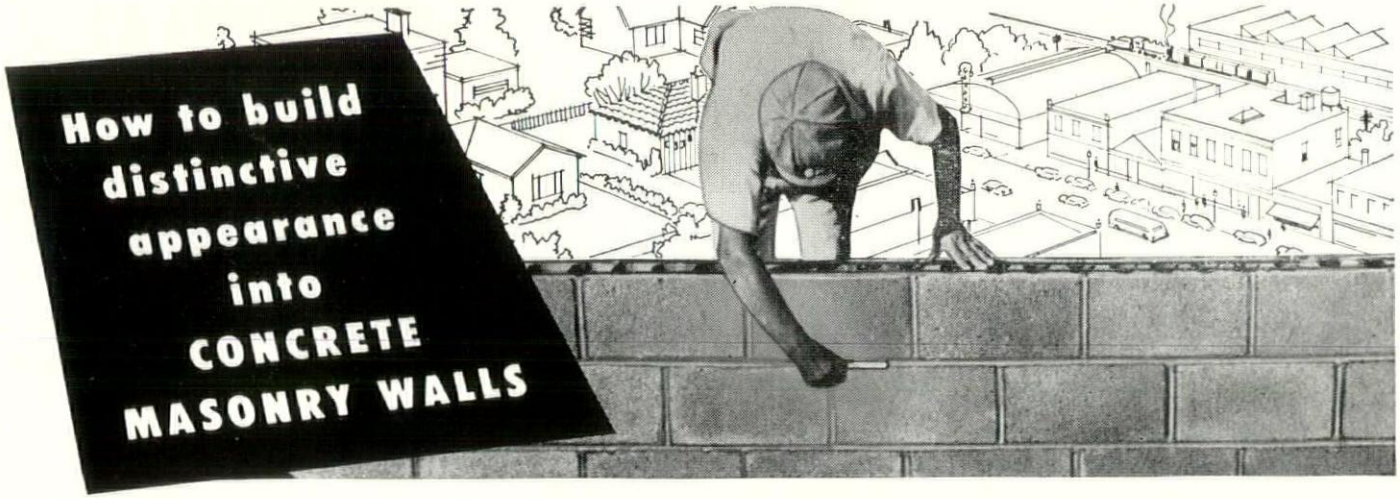
Announce Winners of Competition Sponsored by Office of Maurey Lee Allen

The Architectural Department, Lawrence College, under the direction of Robert Dean Peterson, one of our Associate A.I.A. Members, concluded its program for 1953-1954 with the judging of the annual competition sponsored by the office of Maurey Lee Allen, Appleton, of work of students in advanced architectural design.

The prize winner is John Norman for his solution to a church group problem. Norman also placed first in the junior architectural design problem in 1952-1953.

The prize winner in the junior class is Miss Janet Cain for her solution to a farm home problem.

The jury was composed of Donn Hougen, A.I.A., Wisconsin Rapids; Frank Shattuck, A.I.A., Neenah; and Reverend Ralph Taylor Alton, Appleton.



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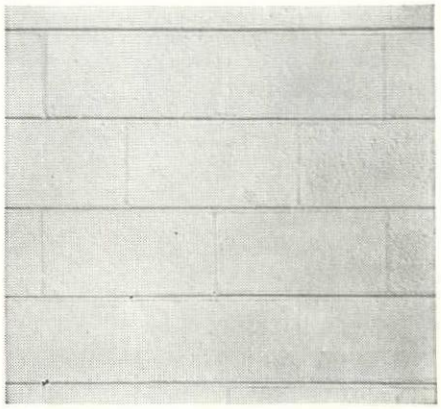
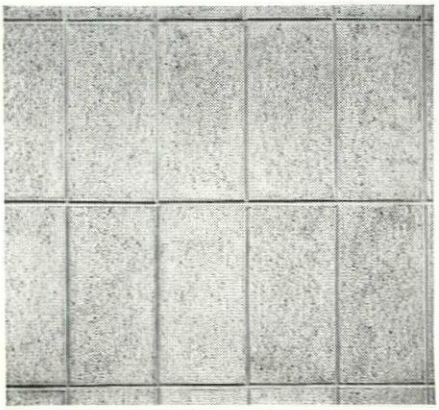
RUNNING BOND. Probably the most widely used pattern of all. Stagger the block in alternate courses so that vertical joints are aligned in every other course. Tool all joints.

ALTERNATE RUNNING BOND. Alternate 8-in. and 4-in. courses, tooling all joints, to produce this charming effect. For variation use 4-in. units every third or fourth course.

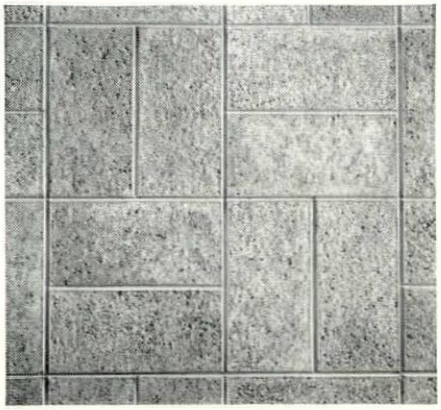


HORIZONTAL TOOLING. Lay block in running bond pattern. Then compact *all* joints to make them watertight. Now refill vertical joints and strike them off flush with wall.

HORIZONTAL STACKING. For interior non-bearing walls this treatment is striking. Place the block in the normal manner but align all vertical and horizontal joints and tool them.



VERTICAL STACKING. Like horizontal stacking except that the block are laid on end. This unusual pattern creates illusion of greater height for interior non-bearing walls.



BASKET WEAVE. Laying 8x8x16-in. block in pairs, two vertically and two horizontally, and tooling all the joints results in this woven pattern for interior non-bearing walls.

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