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MAY, 1929



HEN the idea of the Spanish patio or Italian w cortile is taken as inspiration for enclosed or semi-enclosed gardens in American residence design, you architects are frequently using the greenhouse as a very natural link of integration.

In this placement shown, the greenhouse, you'll doubtless agree, performs this function adequately yet unobtrusively. The straight eave construction, selected as being most harmonious in relation to the tile roofs, is just one evidence of the thought which was given to this entire scheme.

Though many such greenhouses open directly or through passageways into adjoining or adjacent resi-

dences in this particular instance it was decided to make the glass enclosure with its workroom a detached unit, excepting for the connecting masonry wall. Such, despite its intimate relationship to the whole.

It has its own heating plant, adequate for proposed future additions at the rear of the workroom. This separate plant permits the closing of the residence during a portion of the year. The present greenhouse, incidentally, is $25' \times 41'-8''$. Perhaps you have some similar problem ready for solution. If so, why not let our representatives help you? Believe you'll find our practical practice view points, of particular advantage while a project is still in its early sketch stages.

This is Number 4 of the Guptill series of Greenhouse placements. To the previous ones you are welcome. By sending us your name, copies will be sent of the series in advance of publication.

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May, 1929



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May, 1929



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THE ARCHITECT

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THE ARCHITECT



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May, 1929

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THE ARCHITECT is issued the first of every month and contains illustrations of the best work being produced in America. The selections are carefully chosen by a Board of Architects, thus saving the profession valuable time in weeding out worthless material.

FEATURES: Every issue will contain twenty-eight to thirty-four full page plates; eight to twelve pages of perspectives or line drawings. The outside cover will be a Piranesi drawing, changed monthly.

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Editorially Speaking

An Announcement

THE ARCHITECT is privileged to announce three additions to its Advisory Board in the persons of Benjamin W. Morris, Chester H. Aldrich and James Monroe Hewlett. These gentlemen need no formal introduction to the architectural profession in this country. Aside from their attainments they are men who have constantly worked for the best interests of the profession at large. They have also been immensely helpful in the personal interest they have always shown in this publication. We consider ourselves extremely fortunate in having enlisted the closer cooperation which this new association implies. This, in turn, can not fail to stimulate us to increased effort in the maintenance of standards to which our associates are fully entitled.

The Merry Month of May

WE STAND on the threshold of what is the most inspiring month of the entire calendar, the merry month of May. Winter lies behind us and the householder can look without dismay at his nearly empty coal bin or oil tank, for we must keep our imagination up to date. Whatever may be the source of his thermal units, the supply may now be tapered off to the vanishing point. Parenthetically, it is germane to ask why we so glibly assume a Winter which is onerous in this regard when there are such vast areas in this broad land of ours where this season is one of equable climate during which roses bloom and highways are always passable? Let us admit that this impatience with Winter is mere provincialism and that these remarks are written by one who lives and has his being in what is ironically called "the temperate zone."

In such a locality, then, the departure of Winter is viewed with no little gratification by large numbers of the population of which we count ourselves one. Equally glad are many of us to see the passing of what we euphemistically call our early Spring, than which no time of year is more drab or more deceptive. Viewed externally there is nothing more dismal and down-at-heel than our surroundings in March and April. The roads, other than State thoroughfares, are quagmires that spell hideous trouble for the adventurer who attempts them. Nature herself is squalid of aspect but she is nothing compared to the spots where man has set his hand. All about our country houses and cottages, the discards of last Fall come to light. Refuse and debris litter the landscape. The relics of past picnics, carelessly tossed aside by the al fresco feeders of yesteryear, stare us in the face. Repairs which should have been made before the snow flew now call more loudly than ever for immediate attention.

It is then that the country artisan, the carpenter, mason, painter and plumber, comes into his own. Everywhere he is in urgent demand. Try to get him and you will admit the truth of what we say. He states instantly his intention of attending to your demands. But nothing happens.

The days grow warmer; you run a low fire and shift to lighter raiment, but your storm doors are still up, awaiting the helping hand which is to remove them and store them in the back of the garage. The March winds howl potently about your eaves and, mayhap, toss a storm-sash or two lightly on the roof. A window is broken and, in the absence of the glazier, you resort to the shanty-town method of stuffing it with bath towels, old trousers and other ignominious bits of apparel. It is a period of stress and strain. In the meantime the honest artisans referred to are as busy as bees completing the more important contracts of those far-sighted ones who signed them up early in the season.



J. Floyd Yewell, Del.

Hoggson Bros., Inc., Architects, New York Study, The Leroy National Bank, Leroy, N. Y.

Comes May, at last, and when you revisit your Summer habitat to see how it has stood the ravages of the tempestuous season, you are amazed at the building activity which has been going on about you. The Jenkins' new house is well-nigh completed; so is that of the Tompkins. The Jones have added a new kitchen wing and you would never know the Francis' house so completely have its former hideous lines been remodeled.

You and Friend Wife tour the neighborhood, commenting intimately on the quality of the architecture and gloating over the piles of wood, delectable "tailings" that make such gorgeous kindling for the open fires necessary at this fickle time. If you are camping out temporarily you visit the various jobs at night and load the back of your car or the handy cart of your innocent infants with this irresistible material. By day you inspect the interiors of the new or remodeled dwellings and note the excellence of this, or the idiocy of that. In your heart you know that the Tompkins have made a hideous mistake; that their arrangement is impossible, with the best outlook given to the servants, and the family rooms put where they will never get any sun. This will not prevent your telling them, when you meet, that it is charming!

What, indeed, is more wonderful than the smells which emanate from all this new construction! We have enthused over it before and will doubtless continue to do so every year. When some smart *parfumeur*, in place of devoting his laboratories to extracting the essences from lilacs or violets, applies the same ingenuity to a bunch of fresh cedar shingles, just wet by a cool Spring rain, then we will be willing to pay the price he asks for a tiny vial. Let him devote his energies, too, to that pungent, nosetickling aura which comes from oakum-packed plumbing pipes or to the keen scent of freshly applied tar waterproofing.

We have a friend who is so completely in accord with this appreciation of ours that he said, last week, while we were stealing a cord of kindling, "Why, man, even the nails smell good!" We are with him, one hundred per cent. It surely is good to be alive and to be able to smell things, come May.

More About Louvain

EXTREMELY INTERESTING to the architectural profession will be the twin booklets which have recently been distributed, one of which, "The Louvain Library Controversy," further sub-titled, "The Misadventures of An American Artist or 'Furore Teutonico Diruta: Dono Americano Restituta," valiantly champions the cause of the famous inscription for which Whitney Warren, architect of the new library, fought so courageously.

This eloquent brief is from the pen of Pierre De Soete, a Belgian sculptor, of whom the frontispiece shows a portrait, taken while the artist was at work on the bust of Cardinal Mercier which now adorns the exterior of the building. The sculptor has a gallant look, a frank, generous and spirited expression which his written words further emphasize. In a foreword addressed to "The American Public and the Subscribers to the Louvain Library" he comments on the fact that the Press, in reporting the incidents of the various "battles of the balustrade." have not always furnished the underlying causes and exact details which brought about the conflict. He adds, "It is to the American people, therefore, that I address myself, both as a Belgian citizen and as an artist, and I purpose setting forth without bias the attitude of that American citizen who was charged with the duty of perpetuating upon the building itself the history of its destruction and rebuilding, and also the untoward circumstances that have resulted from the fact that he listened only to the voice of his conscience as a man and an artist, for the sake of truth and in order that the wishes of the late Cardinal should be respected."

It is a very complete and moving story which this special pleader gives us. It indicates clearly the high regard which the architect has ever held for his commission and for the sponsors who inaugurated the great work of rebuilding the library. M. De Soete says, referring to the undisputed fact that the designer received this much disputed inscription from Cardinal Mercier himself, to whom was entrusted the supreme command of the work, "Mr. Warren had no right to either suppress or to alter the original words. They were not of his making. He remained, therefore, firm in his duty, performing his task as an artist, respecting the pledge he had given the Cardinal, on whose behalf alone he had undertaken the task."

The author sets forth the attitude of Mgr. Ladeuze, the rector who has constantly fought the installation of the inscription, by saying, "he has expressed himself in an imperative and discourteous manner toward the donators and the eminent architect, and has also set forth a very unfortunate argument in saying, in substance, that 'it is he who is the proprietor who decides."

Here we have the sum and substance of the entire controversy which has resulted in such picturesque features as nocturnal destruction, popular demonstrations in which the designer was garlanded with the floral tributes of his adherents, and other ex-



Hugh Ferriss, Del. Philip B. Maher, Architect, Chicago, Ill. Study, 1301 Astor Street Apartment Building, Chicago

citing details. This basic question is just exactly that which the Rector, if correctly quoted, sets forth. Is it the proprietor who decides? Is he entitled to make changes in the agreed upon design which, as a successor in office, he may have in charge? or should he scrupulously respect the *artistic* and *spiritual* intent of those under whom the project was originally formulated?

As M. De Soete explains and reiterates, it is this "spiritual" quality in this particular work which is of supreme importance. As a matter of mere design, obviously, the inscription could be replaced by hundreds of motives which would achieve the same artistic result. It is the *meaning* of the words themselves which is important, in the architect's contention. Their import, handed to him by the founder of the movement, is the very soul of this building.

Writing to the press of the world, the architect said, "Why oblige me to abandon what I have solemnly promised the Cardinal, for the sake of pleasing a small number of people? I have not to follow the trend of politics. As an architect and an artist I have been called upon to write a stone page of history of the war of 1914 and it cannot be changed by 1928."

No matter what one may feel about the diplomacy of forgetting old scores, of softening our judgments and wiping off the slate, there is a constancy and high idealism, a pluck and courage about all this which is thrilling. Warren's fight is still on, in the Belgian courts where he proposes to refute by every legal means the assertion that it is the proprietor who, in the last analysis, decides in matters of design and who, moved by policy and later influences, completely alters the spiritual message of the original conception. This would never be tolerated in a painting, a symphony or a poem, of which the title, for example, might well be so changed by a timid dealer or publisher as to completely defeat the artist's idea. This inscription, when all is said and done, expresses only the truth. If it was true once, it is true now, and if we are to condone and palliate and gloss over, by elision, the facts which made this truth true, we are trimming. The deeper, basic question of the right of the artist to preserve the moral integrity of his design remains the most important feature of the entire controversy. Personally we are moved to doff our office beret and call for three loud banzais for Warren and his cause.

The supplementary brochure which accompanies that of M. De Soete is "A Neutral Description of the Sack of Louvain," by the Swiss litterateur, Albert Fuglister, which, without heat or undue emotion, sets forth the facts of the destruction of the library with its priceless manuscripts which form the background of this important and vital discussion. After reading this we felt more certain than ever that Warren was, and is, right.

The Hand of Time

THE ARCHITECT

IN OUR LAST issue we animadverted on certain abuses on the part of manufacturers and material men in the matter of texture, quoting a correspondent with whom we agreed in his contention that fake age was being overstressed at the expense of honest, contemporaneous craftsmanship.

That there is something to be said on the other side, withal in a slightly tongue-in-cheek manner, is indicated by a letter which lies before us. To be personal and explicit, for after all, personalities are far more interesting than generalizations, it is written by the Barnet Phillips Company to the architects of the new New York Athletic Club, Messrs. York and Sawyer and reads as follows:

"We are enclosing samples of fabrics in the New York Athletic Club upon which it is understood some criticism has been passed.

"The gentleman offering the objection that the 'fabrics were defective because moth-eaten' is correct only in the matter of finding the holes. Even were he fully correct as to their being moth-holes, he has either ruthlessly or ignorantly overlooked their value. He does not realize that each moth-hole brings the fabric that much nearer the Renaissance. Trained moths, in the shape of steel teeth, chew out colonies of holes and the drag of the steel wool performs what myriad trouser seats might have done, all to produce the genteel antiquity of centuries in less time than it takes to order the fabric. Thus is produced today what imperfect looms with their dropped threads (called moth-holes by the critic) and ages of use could only otherwise do.

"Instruct the meticulous gentleman that we live in an age when his fabrics must be as synthetic as his gin."

To which we can only add, the point, be it or not well taken, is certainly well argued!

Marvellous Man

UP AT THE New York Art Center, which we have often talked about and never been to, they have recently had the enlivening "judgment" of the kitchen-sink designs, sponsored by the International Nickel Company. Important prizes were offered of a magnitude to tempt the most instructed sinkologists to try their hands at new and captivating designs. Having done our sink duty, along with the other "K. P." offices of domesticity, we were ourself greatly tempted to enter the lists. A first prize



Otto R. Eggers, Del.

The Office of John Russell Pope, Architect, New York Study, Miss Spence's School, New York City May, 1929

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of a thousand dollars is certainly not to be sneezed at. But we did not get around to it, and now the awards are announced and here is the remarkable thing! Out of a list of six winners of prizes and honorable mentions, five are men!

We recall that the late Henry Bacon, designer of the Lincoln Memorial in Washington and a frank antifeminist, once said to us, "Men can do everything better than women. They are better cooks, better dressmakers, better beauty specialists, better everything."

We doubted this sweeping dictum at the time, being on the threshold of matrimony, and we still have our reservations, but here, surely, in these sink awards, we have a case to support the Baconian theory. Think of it, five men out of six entries carry away the prizes! It is astounding. We can only account for it by the fact that perhaps our domestic partners, in their relation to sinks, suffer from the same disabilities which make it impossible for authors and actors to appraise their own work; they are too close to it. We imagine quite a number of housewives will agree with this.

On Our Library Table

A BOOK THAT is a sheer delight is "The Work of Cram and Ferguson, Architects, including work by Cram, Goodhue, and Ferguson." It is finely printed by the Pencil Points Press, Inc., and is prefaced by an eloquent introduction written by Charles D. Maginnis, F. A. I. A.

We agree with Mr. Maginnis heartily when he says, referring to the need for the compilation of works of this sort in order to preserve a sort of totality of the work of our leading architects, "It is doubtful if any product in the history of American architecture makes more compelling claim to this solicitude than that which lies to the account of Ralph Adams Cram and Bertram Grosvenor Goodhue, whose association during a quarter of a century has wrought a profound and most beneficent change in the character of American ecclesiastical architecture."

Nearly three hundred and fifty plates illustrate the broad scope of the work accomplished by these masters of their profession. In these, as is to be expected, the section devoted to Gothic churches predominates. Details, general views, drawings and plans, all are included to make this splendid volume more than a picture-book. It is indeed a mine of reference to which the architect facing any problem of church building may turn, confident that he will find something very like his own difficulties solved with grace and skill.

Perhaps the highest tribute to the art of these designers is found in the amazing success of their less numerous essays in the field of Georgian design. Their Georgian churches, dormitories and schools breathe the serene dignity of this style in its perfection. The hands and minds sensitive to the romantic freedom of the Gothic period have evidently been fully as conscious of the different beauty of this more balanced school. Equally sensitive and successful are the one or two examples of the Italianesque. In sum, the volume does exactly what it is intended to do, namely, it rounds out and forcibly expresses the genius of the artists to whom it is devoted. So high is the quality of their work in all its phases that we may say with certainty and enthusiasm that this is one of the books no architectural library can afford to be without.

We have been glad, too, to receive our copy of the new Year Book of the New York Society of Architects. It is packed with useful information and gives the latest changes in regulations governing an inconceivable number of building problems. With this book at hand we feel competent to answer any question connected with building. We plan to review this more fully at an early date.

Corrections

NEARLY EVERY month we are convicted of slight inaccuracies which, we assure our subscribers and collaborators, are never malicious. We are always glad to correct these. Will our readers therefore kindly note, first, that in the drawings published in our April issue of the proposed Chicago War Memorial, the delineation of the elevation and plan should have been credited to Eliel Saarinen instead of to Howard L. Cheney, his co-creator of this imposing design, and, second, in connection with the two plates published in the same issue of the Edwin S. Barbour residence at Grosse Pointe, Mich., credit for the landscape gardening should have been credited to William Pitkin, Jr., and Seward H. Mott, Landscape Architects.

A Change of Date

THE VAGABOND TOUR FOR ARCHITECTS will sail from New York June 26th on the S. S. America instead of July 3rd as has been previously announced. The tour is under the auspices of the Bureau of University Travel, Newton, Mass., and detailed information regarding it may be had from the Bureau or from the leader, Donald Kirby, 180 Fifth Avenue, New York City. We can imagine nothing more delightful than setting forth with a group of brother architects on such a tour as that planned for the Vagabonds. The opportunity of visiting the Old World shrines, with sympathetic companions, notebook and sketch-block in hand, is one that fills our desk-bound, editorial soul with longing. We wish the Expedition all success.



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The Architectural and Allied Arts Exposition

By George S. Chappell

A MAGNIFICENT achievement was the Architectural and Allied Arts Exposition which opened on the evening of April 15th, at the Grand Central Palace in New York. We have no hesitancy in saying that it established a new high-water mark in the beauty of its installation and merit of its exhibits.

The metamorphosis of the "Palace" into a series of fine galleries and corridors was, in itself, a tour de force, accomplished by hordes of workmen under the command of Generalissimo Howard Greenley, a veteran of many such battles against time, for the work had to be done in a week. A "Beauty Show," closing at the end of the first week in April, gathered up its lipsticks and reducing machines and swept out, so to speak, on a permanent wave leaving behind an aura of essences, odors and attars. Into this fragrant and feminine fog plunged the honest artisans, sturdy carpenters and nimble electricians, armed with thousands of feet of framing lumber and acres of Johns-Manville insulating board. On the opening night the victory was complete and thousands of visitors inspected the exhibits of countless arts and crafts.

In this issue we will attempt to speak only of some of the architectural and decorative items, leaving the "allies" for further comment. But first a word about the general arrangements. The plan was what Director Greenley called "an aeroplane plan" of which the wing section was formed by the main transverse corridor, and from which, through Galleries B. and C., the body of the plane, one walked aft to the broad tail-plane which was the Court of Honor. About these elements and on two floors above were the bewildering exhibits of the concessionaires. From the Court of Honor a stairway led to the second floor. This stair, with its dark carpet and silver risers, leading the eye onward and upward, was a most effective feature of the plan. The many galleries and corridors were all ceiled and well lighted by skylights of light material stretched on silver or gold members. We wished fervently that some such installation for rotating exhibits of arts and crafts could be a permanent institution in this city, as it surely will be in some future day.

In reference to the exhibits, they were finely arranged and hung by the Committee who battled fiercely but amicably and are to be thanked and congratulated. No one, who has not gone through the long hours of labor necessary to get everything in place, has the slightest idea of the nervous strain involved. Decoration, architecture and sculpture, the latter rather sparse this year because of the great show in California, were agreeably contrasted. And now for the prizes. In architecture the Gold Medal was superbly won by the extremely interesting American Bank and Trust Company in Philadelphia, designed by Davis, Dunlap and Barney. It is a fine piece of work of which the classic derivation in no way impairs the freshness and originality. Albert Kahn's Fisher Building in Detroit won the Silver Medal and a Silver Medal for less monumental work went to Frank Forster for his beautiful domestic architecture. The Long Medal for delineation was won with a charming set of drawings by Chester Price.

In sculpture the vigorous work of Ulric Ellerhausen for the University of Chicago Memorial Chapel was given the annual prize. Eugene Savage's ceiling for the Elks' Memorial in Chicago, considered in conjunction with the mural panels shown last year, won first honors in the field of decoration.

Among other architectural items of outstanding excellence we were attracted by Voorhees, Gmelin and Walker's New Jersey Bell Telephone Building and by the Industrial Trust Building in Providence, by Walker and Gillette, the latter very effective with its black columns in the interior. Both of these firms use the modern idiom with commendable restraint. From the office of Lord and Hewlett came striking photographs of Herman McNeil's spirited sculpture for the Philadelphia Civil War Memorial. Admirable, too, was John Gregory's sculpture for the Huntington Museum. In collegiate work we noted the Swarthmore buildings by Walter Karcher and Livingston Swift and the Arthur Jordan Building at Butler University, Indianapolis, designed by Robert Daggett and Thos. Hibben.

The United States Buildings for the forthcoming Exposition in Seville, by Wm. T. Johnson of San Diego, Cal., gave us pleasure, as did Cass Gilbert's impressive New York Life Building and Milton P. Medary's romantic "Singing Tower" at Mountain Lake, Fla., of which, in addition to photographs, there was a craftily executed rendering in opalescent color. A design of outstanding interest was that of Delano and Aldrich for the enclosed tennis court for



Study, Residence for Mrs. J. Herndon Smith, St. Louis, Mo.

E. V. Gauger, Del.

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Harrison Williams at Bayville, L. I. Benj. W. Morris showed well with his Bank of New York and Trust Company Building, as did R. M. Hood and John Mead Howells with their drawing of the future Daily News Building. A number of Otto R. Eggers exquisite drawings showed the work of the office of John Russell Pope and of Dwight James Baum to advantage. Dignified War Memorials, erected in France, were shown by Messers. Atherton and Cret. Then the colorful little Dunes Club at Narragansett, from the office of K. M. Murchison, caught our eye; once more we admired McKim, Mead and White's smart Building for Louis Sherry and their really superb McKim Memorial in the American Academy in Rome.

We found other arresting displays in the galleries at the front of the building, among others such a modern item as Hadden and Holden's "Triare Landing Field," the last word in airports, farsightedly labeled in one corner, "Patents Pending." Domestic and other architecture on the Pacific Coast was splendidly represented by Meyer and Holler of Los Angeles, from whose office also came beautiful drawings by Raymond M. Kennedy. Their Post Store and Office Building is a gem. Very fine, too, were the restrained designs of Donald D. McMurray of Pasadena.

W. F. Dominick scored heavily with a number of fine houses among which we especially liked the J. H. Perkins house in Greenwich, a design in which the popular "Early American" is used with unusual individuality. Far too much of our New England Renaissance is "straight out of the book." E. S. Hewitt showed a charming house at Far Hills, N. J., and there was delightful work in this category by R. P. Rodgers and A. E. Poor, Cross and Cross, Julius Gregory, Godwin, Thompson and Patterson, and Roger M. Bullard, to mention only a few.

Throughout the galleries color and interest were added by the well arranged murals and decorative panels, varied in spirit from the more ambitious prize-winning ceiling by Savage to smaller designs such as Dorothy Edinger's two amusing panels for a room in rose and gray, which we regretted to see hung so high in the air.

In the Court of Honor, at the end opposite Savage's ceiling, was an interesting panel by Ezra Winter, one of a series for a large public library. Putnam Brinley's "Italian Hill Town," painted in the style of an early tapestry, was an agreeable item, as were the cartoons drawn for Mack, Jenney and Tyler by Dominique Mortellito. On either side of the main entrance stair were two strong panels by Thos. H. Benton, representing smuggling in the old days and bootlegging in the new. An exhibit of stained glass was effectively placed to throw its colorful light into the stair well.

Newcomers in the decorative field whose work impressed us were Messrs. Conti and McMorris, the latter showing a series of delightful screens, one of which, representing Old Paris, pleased us particularly with its warm ivory tone and architectural design. We also welcomed the fine work of Miss Susanne Miller and much enjoyed her landscape decoration with equestrian figures crossing a bridge. The three last named artists are all young graduates of the Fontainebleau School and are a credit to that institution. Among the smaller decorations we noted the bright panel of embroidery by E. G. Benton and Wm. Lembke's successfully formal panel of "Mackaws and Monkeys," one of a series for the Club Lido.

Landscape architecture was not overlooked and there were many beautiful gardens shown. These displays were hung mainly in the front galleries with the domestic architecture and we noted fine work by Annette Hoyt Flanders, Ruth Dean, Ferruccio Vitale and Alfred Geiffert, and others with whom special exhibitions have made us familiar.

Sculpture was rather inadequately represented this year but, in addition to Ellerhausen's fine work, we immensely liked the noble pilgrim-figure in the Court of Honor by Albin Polasek. Among the smaller pieces we found Harriet G. Miller's kneeling figure, "Maternity," very beautiful. It was pleasant to note the humor and wit in some of the small sculptural items such as Roy Sheldon's "Penguin," a delightful bit of intelligent simplification. And always there were the special exhibits which enlivened this huge show, such as F. R. Wavpotich's splendid model of an English warship of the year 1750.

We have not touched upon the magnificent displays of the Allied Arts and Crafts. They were bewildering in number, variety and beauty. We shall hope to include mention of them in a special article for such things as the old French rooms exhibited by Carlhian and by Trautman and Callais, Todhunter's fine paneled rooms and mantels, Nancy McClelland's alluring papers and the lovely interiors of the Arden Studios, these can not be dismissed with a mere word. Neither can the modern work of such American craftsmen as the Gorham Company or Sterling Bronze, or, in more utilitarian fields, the Otis Elevator Company or the Jacobson Company.

Our hat is off to the many committees who made the Exposition possible. The General Chairman was Harvey W. Corbett. Under him were scores of other unselfish workers.

The Office of John Russell Pope, Architect, New York

Otto R. Eggers, Del.



May, 1929

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What the Architect Should Know About Oil-Burning Installations

By H. L. KAUFFMAN

SINCE THE cost, advantages and safety of oil heat are fairly well understood by the average architect, the present article will be limited to comment upon those factors that influence the success of an oilburning installation, and concerning which the designer must have knowledge if his client is to be satisfied with the results of using oil heat.

It is to be emphasized that the oil burner itself represents only one of the elements in a heating system: there are others of equal, if not of greater, importance. The use of oil instead of coal as a source of heat will not eliminate the troubles of a faulty boiler or of incorrectly installed radiation. For most efficient results from an oil-heating installation, the entire system should be designed with all of the parts in proper balance; that is, the boiler, the distribution system, the radiation and the chimney or stack—each should be so designed as to function most efficiently with the other. In new installations, modern boilers or furnaces especially adapted to oil heating should be selected.

Classification of Oil Burners

COMBUSTION OR burning, which is any kind of chemical combination in which heat is liberated, is caused by the combining of the elements of the fuel with the oxygen of the air. When this combustion is completely carried out, the maximum heating value of the fuel is realized. The main purpose of an oil burner, then, is to break up the oil into fine particles and so to mix those particles with air that proper combustion will result under suitable conditions of temperature.

Generally speaking, oil burners now on the market operate upon one or the other of two broad principles: namely, the vaporization or the atomization of the oil before burning. Burners therefore may be classified as being either of the vaporizing or atomizing type; the former includes the naturaldraft burner (often referred to incorrectly as "gravity burner"), while the latter includes those in which the oil is broken up by mechanical or spray devices.

In the modern, automatic oil burner a mechanical draft is created, air for combustion being supplied by a fan or blower. Hence this type of burner is classified as a mechanical draft burner. In most burners employing a fan for creating a draft, the fan is of sufficient capacity to furnish the entire amount of air for combustion when the burner is operating at its maximum capacity. Both centrifugal and positive pressure types of blowers are used with different types of burners in supplying air. However, where a blower is employed, only a portion of the air required is supplied under pressure: the balance is induced by the action of the air from the blower plus the natural draft from the chimney. Regardless of whether a fan or a blower is utilized with a particular make of burner, a constant supply of air under varying draft conditions is produced and a uniform air supply sufficient for the best conditions of combustion is maintained.

Among the means used for atomizing the oil for combustion can well be mentioned that in which the oil is forced by compressed air through a small orifice; and that wherein the oil is thrown by centrifugal force from the edge of a rapidly rotating cup or disc. Although the devices mentioned are widely used, other equally effective methods are also employed on different makes of burners for accomplishing the same results.

The so-called gravity burner is simplest of all in design, but is solely dependent upon the draft from the chimney for its air supply. Since outside temperature changes, atmospheric conditions and wind currents cause a variation in chimney draft, consequently the amount of air supplied such burners varies. This condition is responsible for a nonuniform and inefficient burner performance. Further, this type of burner generally necessitates manual control, that is, regulation by hand. Because of its uncertain performance the gravity-type of burner for home heating is no longer in wide favor and cannot be recommended for general use, even though under some conditions it does give fairly satisfactory service.

Burners may be sub-classified according to the manner in which the fuel is ignited. These ignition methods may be roughly listed as gas, electric, electric-gas or electric-oil.

Hints on Selection of an Oil Burner

"WHAT FACTORS are involved in the selection of an oil burner?" is a question often raised by architects and builders. First, study carefully the individual heating problem involved. Have you remembered to plan on installing a boiler that is efficiently designed for an oil-heating installation? Keep in mind that, generally speaking, water-tube boilers are more efficient for oil heat and should have preference.

Get all the advance information you can about the particular burners you are considering. Find out what the experience of other purchasers has been. Place much weight upon the reliability of the local burner representative. Is he financially responsible? Is his business stable? Is he likely to remain in business for an indefinite period? Has an investigation of previous installations of the dealer shown him to be competent to make a correct installation and to guarantee his work? Does he employ capable men to "service" his product? How far are the dealer's headquarters from the installation? For remember-even a first-class burner, if improperly installed or without opportunity of procuring service, will be unsatisfactory! So much for general considerations.

Specifically, you will want to know about the grade of fuel oil that can be used in the particular burner under consideration. Also, does the burner make much noise? How much cleaning or attention does it require? Can it readily be removed for returning to coal burning if this becomes necessary? Is it of sufficient capacity to provide for the maximum heating demand?

For home heating a noisy burner is highly objectionable. A suggestion here offered is that you insist on a "noise clause" in the contract with the burner dealer. This will be a protection to your client in case the noise of the burner proves unbearable after a reasonable trial; for under such a clause it will be up to the "seller" to remove the burner and relieve the user of all obligations, should noise render it objectionable.

If there is any doubt in your mind about your client's being able readily to get a "service" man to attend the burner should it fail or if electric current (or other auxiliary power required) often becomes unavailable for some time, then a type of burner that can be withdrawn by inexperienced help (and the grates replaced, in order to return temporarily to the use of coal) is certainly to be recommended. A burner possessing these characteristics is very apt to be preferable for use in heating residential houses in isolated places.

Is gas or electricity or both available in the community? This is liable to influence your choice of a burner, since the automatic operation of domestic oil burners depends upon control mechanisms that shut off the burner and ignite the flame again as required, ignition of the oil being accomplished either by a gas pilot, an electric spark, or a combination of electricity and gas.

Having decided on a type of burner, next comes the question of size—or rather—of capacity. Some burner manufacturers make a series of burners of similar construction but of various sizes and oilburning capacities; others make two or three types of burners, each of which can be so adjusted as to fit any range of heating requirements; still others make only one burner, depending upon adjustments to accommodate the various heating demands. A standard practice recommended for the architect or builder to follow is to select a burner having a capacity equal to 100 per cent. of the correct boiler or furnace rating and adjustable to from 50 to 100 per cent. of that rating.

Arthur H. Senner in Department of Agriculture Circular 405 has the following to say concerning the oil consumed by a burner:

"The quantity of oil which must be burned can be determined approximately from the amount of radiation installed or, in the case of a warm-air installation, the equivalent heat-unit requirements may be used as a basis. It is sufficient to assume a maximum requirement of about one-fifth gallon of oil per hour for each 100 square feet of direct hot-water radiation, and about one-third gallon of oil per hour for each 100 square feet of direct steam radiation. These figures are approximately peak demands to be used only for determining the size of burner mechanism which should be supplied. It is not to be expected that the burner will operate at this rate during the entire season; therefore, these figures cannot be used for computing the seasonal fuel consumption."

It should also be borne in mind by the architect or builder that from the standpoint of convenience the vaporizing types of burners are not as generally satisfactory as those in which the atomizing principle is utilized. However, the atomizing type of burner is comprised of more elaborate equipment and, therefore, cost of same (\$400 to \$1,000, installed, including a fair-sized tank) ranges higher than for the vaporizing types.

Hints on Selection and Installation of Other Elements of Heating System

IN SPECIFYING and installing other elements of an oil-heating system, several important factors are to be noted if maximum efficiency is to be attained from the installation.

Warm-air furnaces, for example, preferably should be of welded-steel construction in order to insure gas-tight combustion chambers. By following this suggestion there is eliminated any possibility of combustion gases leaking through into the airheating compartment.

Regardless of whether furnaces are of cast-iron or welded-steel construction, for efficient operation and for keeping the stack temperatures moderately low, it is necessary that the furnace design should be such as to provide for extended flame travel. Here let it be mentioned that cast-iron furnaces demand more attention than those made of welded steel.

It is advisable to follow the boiler-manufacturer's recommendations as to the size of chimney flues and stacks. Keep in mind the fact that excess draft can be controlled readily by means of dampers, but an inadequate draft will prevent the proper operation of the burner.

The success of an oil-burning installation depends to a great extent upon the success of the thermostatic devices; while the success of the latter depends in a very large measure upon the correct location of the thermostatic switch, which must be so placed within the house as to secure a uniform temperature throughout under average conditions. It should be located at the breathing level—about five feet from the floor—at a point free from drafts or excessive heat or cold.

Adaptability of Oil Heat to Existing Installations

MANY ARCHITECTS and builders are often called upon to give advice concerning the feasibility of installing an oil burner in an existing domestic heating system, which may be either hot water, steam, vapor, vaporvacuum, vacuum or hot air.

Can this be done?

Yes.

But it should be added that these various systems lend themselves in different degrees to satisfactory oil burning.

It is generally considered that the hot-water system is the most desirable oil-burner type. This view is held because of the fact that a large amount of heat energy is stored up in the water system, as a result of which the burner can be inoperative for longer periods than is possible with other heating systems. Next to the hot-water type the vapor, vapor-vacuum and vacuum systems are deemed by the greater number of heating engineers to be most suitable for oil burning; then come the steam systems; and lastly, warm air.

A large percentage of the heating plants of this country are warm-air furnaces. Although a large number of owners of oil-fired warm-air furnaces report satisfactory results, fuel efficiency is known to be less with this type of plant than with hot-water or other kinds of oil-fired systems. In other words more heat produced is not transmitted to the air, but passes out through the stack and is lost, when oil is used in warm-air furnaces as compared with the transfer of heat to other mediums (water, steam, etc.) employed in heating systems. Some oil-burner manufacturers keep heat losses from warm-air furnaces at a minimum by employing a motoroperated blower (reference to the use of which was previously made in this article), such a blower giving a positive air circulation through the house instead of having the heat transfer solely dependent upon the less-efficient gravity circulation of air.

Different types of burners produce flames of various sizes and shapes which either are directed into the combustion chamber or originate therein in different positions. When an oil burner is to be installed in a fire-box designed to burn coal, the shape and size of the combustion chamber and the length of flame travel within the boiler or furnace should be taken into consideration in selecting appropriate equipment.

It should be remembered, too, that in almost all cases improvements can be made in existing boilers. In this connection the following remarks made by Arthur Senner in Department of Agriculture Circular 405 become of interest:

"In a large percentage of installations for burning coal the boilers are not properly designed for the efficient use of oil, either because of insufficient combustion space, or inadequate gas travel or heatabsorbing surface. In general it is not practicable to alter the combustion space by any change in the existing boiler, but in many instances the heating surface of the boiler can be altered in order to effect a considerable fuel saving.

"Most heating boilers are built up—that is, they are composed of a number of castings which are bolted either one on top of another or one behind the other, depending upon the form of the boiler.

"Tests conducted by the Department of Agriculture on 25-inch round hot-water boilers showed interesting results as to savings realized by the addition of numbers of sections. The smallest was a foursection boiler consisting of base, fire pot, one intermediate section, and dome. The next larger boiler had two intermediate sections making a five-section boiler, and the largest was a six-section boiler in

2.

which there were three intermediate sections in addition to the other sections.

"These tests showed that to achieve the same heating results the five-section boiler required 15 per cent. less fuel than the four-section, and the sixsection boiler required 25 per cent. less than the four-section. Thus it is very often economical to add a section or two to a small boiler before installing an oil burner."

What the Client Should Understand About Oil Heat

A CAREFULLY selected and properly installed oilheating system will not be entirely successful unless the client fully understands its capabilities and limitations, as well as the care it will require. Therefore, the comments of C. S. Taylor, in a bulletin, "Installing Oil Heat," issued by the Oil-Heating Institute on this point can well be quoted in conclusion of this discussion, since therein is given concise information of utmost importance to a user of oil heat:

1. Oil-heating equipment functions only to provide heat. It will not take care of the water level in the boiler. It will not operate when the current is shut off, nor when the fuel is exhausted. The entire plant should have regular inspection to see that these conditions are correct.

- Oil burners are machines requiring reasonable care, oiling of moving parts and occasional cleaning. In this respect they are like clocks, automobiles, fans and electric refrigerators.
- 3. Oil burners are subject to adjustment like all other machines, and operate best when perfectly adjusted. Expert service men can make the occasional adjustments far better than a layman or ordinary mechanic.
- 4. Once the correct adjustments are made, they can be disturbed only by the following methods:
 - (a) Manually, as when someone attempts to interfere with the automatic operation of the burner, or to adjust the parts. Leave the apparatus alone, except for inspection.
 - (b) By changes in fuel. Stick to the same grade and quality of fuel, or have a service man re-adjust the burner when changes are necessary.
 - (c) By presence of foreign matter—particularly in the fuel.
 - (d) By natural wear. Periodic inspections will take care of these changes.
 - (e) Automatic operation does not permit neglect. Give to your heating apparatus reasonable care and attention.

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Photograph by Louis H. Dreyer McKim, Mead & White, Architects, No The National City Company Building, 52 Wall Street, New York





Photograph by Louis H. Dreyer Exterior Detail, The National City Company Building, New York





Photograph by Fay S. Lincoln McKim, Mead & White, Architects, New York Entrance Vestibule, The National City Company Building, New York







Trust Department, National City Company Building, New York City

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McKim, Mcad & White, Architects, New York Mural Decoration by Allyn Cox









Trust Department, National City Company Building, New York City






Building for Louis Sherry, Madison Avenue, New York





Photograph by Tebbs & Knell

Knell McKim, Mead & White, Architects, New York Exterior Detail, Building for Louis Sherry, New York City





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Knell McKim, Mead & White, Architects, New York Entrance Detail, Building for Louis Sherry, New York City





Entrance Court, Residence of the Hon. George Wharton Pepper, Devon, Pa. (Plans on back)



THE ARCHITECT

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Photograph by Ph. B. Wallace Tilden, Register and Pepper, Architects, Philadelphia, Pa. The Terrace, Residence of the Hon. George Wharton Pepper, Devon, Pa.





Photograph by Ph. B. Wallace Tilden, Register and Pepper, Architects, Philadelphia, Pa. The Tower, Residence of the Hon. George Wharton Pepper, Devon, Pa.





Photograph by Ph. B. Wallace Tilden, Register and Pepper, Architects, Philadelphia, Pa. Exterior Detail, Residence of the Hon. George Wharton Pepper, Devon, Pa.







Photograph by Ph. B. Wallace

Tilden, Register and Pepper, Architects, Philadelphia, Pa.

Dining Room, Residence of the Hon. George Wharton Pepper, Devon, Pa.





Photograph by George H. Van Anda General View, East New York Savings Bank, Brooklyn, N. Y. (Plans on back)





Basement Plan

Floor Plans, East New York Savings Bank, Brooklyn, N. Y. Holmes and Winslow, Architects, New York



Entrance, East New York Savings Bank, Brooklyn, N. Y.

Holmes and Winslow, Architects, New York





Photograph by George H. Van Anda Entrance Doors, East New York Savings Bank, Brooklyn, N. Y.





Photograph by George H. Van Anda

orge H. Van Anda Entrance Door Detail, East New York Savings Bank, Brooklyn, N. Y.





Photograph by George H. Van Anda Banking Room, East New York Savings Bank, Brooklyn, N. Y.





Safe Deposit Department, East New York Savings Bank, Brooklyn, N. Y.





General View, Heinsberger Decorating Company, Los Angeles, Cal.

Photograph by Mott Studio





Photograph by Mott Studio Curlett and Beelman, Architects, Los Angeles, Cal. Exterior Detail, Heinsberger Decorating Company, Los Angeles, Cal.





Photograph by Mott Studio Curlett and Beelman, Architects, Los Angeles, Cal. Main Entrance Detail, Heinsberger Decorating Company, Los Angeles, Cal.





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Photograph by Mott Studio Curlett and Beelman, Architects, Los Angeles, Cal. Exterior Detail, Heinsberger Decorating Company, Los Angeles, Cal.





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udio Curlett and Beelman, Architects, Los Angeles, Cal. Interior, Heinsberger Decorating Company, Los Angeles, Cal.





Lake Front Elevation, Residence of C. L. Ayres, Esq., Grosse Pointe, Mich.







West Elevation, Residence of C. L. Ayres, Esq., Grosse Pointe, Mich.







Detail of West Gable, Residence of C. L. Ayres, Esq., Grosse Pointe, Mich.

Beckett & Akitt, Architects, Detroit, Mieh.

American Commercial Photo Co.







Beckett & Akitt, Architects, Detroit, Mich.

Detail of Lake Front, Residence of C. L. Ayres, Esq., Grosse Pointe, Mich.









Living Room, Residence of C. L. Ayres, Esq., Grosse Pointe, Mich.

Beekett & Akitt, Architects, Detroit, Mich.







Beckett & Akitt, Architects, Detroit, Mich.

Stag Room, Residence of C. L. Ayres, Esq., Grosse Pointe, Mich.



HOTEL MGALPIN CHANGES ELEVATORS

A^S a part of an extensive program of improvements the Hotel McAlpin, New York, has recently installed nine Otis Micro-Drive passenger elevators and four Otis service elevators, which replace the old hydraulic equipment. All of this work has been done without inconvenience to the operating force or guests—a wonderful achievement considering the magnitude of the task and the problems encountered.

All of the apparatus for the new installation was hoisted over the outside of the building to the roof. The complete machines were installed above the overhead sheaves of the hydraulic elevators, without shutting down the service until the machines were completely set and wired. The elevators were then shut down one at a time for the removal of the old hydraulic equipment, installation of new safety devices and connecting up.

The Hotel McAlpin, through this new installation, gains greatly increased Vertical Transportation service and the Micro-Drive feature will insure level landings at all stops without the tripping and stumbling hazard—an important feature in hotel service. A large amount of space formerly occupied by the hydraulic system is now made available for other uses.

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