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The Best House for the Small Wage Earner^{*}

BY RICHARD HENRY DANA, JR., *Architect*

IF wage earners were all in the building trades our problem would be less difficult, but in most lines of work wages have not caught up yet with the sudden jump in the cost of building and living since last winter. It is, therefore, a doubly difficult problem to build houses now that will not be beyond the means of the small wage earner.

Good housing had just gotten to the point where it was recognized as no longer philanthropy but good business. Employers realized that without good housing they could not keep their best men in town, and that with good housing their employees were more steady and satisfied. It was possible for them to build such houses and get a return on their investment. Since last winter, however, the prices of materials and labor in building have risen so tremendously that it is very difficult to make it a paying proposition. The danger is that employers, wishing to supply homes for an increased number of employees, will build ugly temporary shacks that will disfigure our towns and cities. The trouble will be that these so-called "temporary shacks" will not be temporary, but will be allowed to stand for years to come, looking shabbier and worse each year. Would it not be to the permanent advantage of the town to co-operate with the builders of these houses in some way, so that they should build permanent houses that would be an addition rather than a detriment to the looks of the town?

This problem then of the best house for the small wage earner is first of all an economic one. We have found since last April that literally every twenty-five dollars counts, and that there is nothing to spare if one wants to build houses for the cheaper rents. Therefore in this paper the economic side will be put ahead of the looks, but special emphasis given to those things that are both more economical and better looking.

This subject is so large that this paper will be limited to the suburban style of house. City tenements are in most places well regulated by building laws, but suburban developments are often unregu-

lated. Furthermore, the suburban style seems more typical of America as a whole than the tenement.

The paper will be further limited to houses that will rent under \$20 a month and are an easier problem. The more difficult problem most needs our study and scientific solution. We will, therefore, start right in with our analysis of this problem.

The question of land might seem to be more the field of the landscape man than the architect. But the cost is the chief question, and the more the land costs the less there is left for the house. It is very annoying when an architect is told that he should plan a group of houses that will cost \$2000 per family, to be informed later on that out of this \$2000 he must allow \$400 for the land. If the houses could be put on land costing about \$100 per family, the \$300 saved would help tremendously in the house. In building these houses therefore a bargain in land should be looked for and bought at opportune moments far ahead often of the time that the buildings are started.

The small wage earner must not expect to live in a house that is centrally located, but should be far enough out for the land and taxes to be cheap. There is a surprising amount of waste land even near our large cities. A view from the Woolworth Tower in New York shows twice as much undeveloped green area as area built on. The land should, of course, be near enough for the extension of electric or gas lines, water and sewer, or if it is a large development a separate system for it can be put in. Transportation to work is another important element, and this land should preferably not be over fifteen minutes walk from some means of transport.

So called "undesirable" land should be looked for, provided that it is not unhealthy, because the land will be so much the cheaper. The unfashionable side of the town, with cheap houses nearby or opposite, unimproved land and sidewalks, land next to a cemetery or railroad tracks, land very sloping, low, bare or irregular (provided it is not rocky, which would involve the cost of blasting) and over five minutes walk to means of transportation is available. The financial success of a housing develop-

^{*}Paper read before the National Housing Association, at the Chicago Convention, October 15, 1917.

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ment in Derby, Conn., for which we were the architects, largely depended on the undesirability and, therefore, cheapness of the land when it was bought.

The land should, of course, be improved to make an attractive setting for the house, with concrete sidewalks 4 ft. 0 in. wide, with shade trees in the grass strips between the sidewalk and the curb, a front lawn with no fences to emphasize the smallness of each lot, and to be a continual expense to maintain, and hardy shrubs and perennial flowers in front of every house, with a chance for individual flower and vegetable gardens in the rear.

Let us next consider the type of house that shall be used as the standard, and repeated for the sake of economy.

The one-family free-standing house is now too expensive to build, heat and maintain for rentals under \$20 a month. Furthermore, it uses too much land if sufficient is left between the houses. On lots 25 ft. 0 in. wide and under, the narrow spaces between these houses are usually damp, dirty and ugly. The houses are frequently so close together that the middle of two adjoining houses look directly across at each other with no decent amount of air or privacy. If these houses are two stories high they are always too high and narrow to be of pleasing proportions. The houses seem to be standing up which gives an unpleasant restless effect. If they are one story high, it means they spread out a great deal, so that more land, foundations and roof are necessary and run the cost up too much, and are, therefore, out of the question.

The duplex two-family house (with one family living over the other), has all the disadvantages of the one-family free-standing house, plus the following drawbacks:

There are no individual front yards and, therefore, the space in front is usually uncared for. There are no individual back yards for drying clothes or for vegetable gardens. The cellar and back yard are not easily accessible to the second floor renter. There is less privacy in each family, as the bedrooms and bathrooms are on the same floor as the living quarters, and frequently separated. There is no saving in the number of stairs over two houses side by side, as there has to be a front and back stairs for the second floor family.

The two-family semi-detached house is preferable to both the one-family free-standing house, and the two-family duplex house for the following reasons:

It is more economical to build per family than two one-family houses, as the party wall between the two families is less expensive than two outside walls, and also each house is easier to heat in cold weather. By economical planning one chimney and one line of plumbing can be arranged for both families.

By having the scheme only two rooms deep no room looks directly into another house, but looks either out toward the street or toward the back yard. Each family has three sides of their house open to the light and air, so that they do not feel shut in. Furthermore this two-family semi-detached house is much more pleasing in proportion than the one-family free-standing house, as the length is greater than the height, and the whole building sits on the ground in a comfortable, restful way.

The two-family semi-detached house is no more expensive than the duplex type, and avoids all of the disadvantages of the duplex type previously mentioned.

Houses in rows with three to eight families in a group are cheaper still to build. When we first began using this type, we thought that the end houses would be rented first, but the middle houses were all rented first, as the canny householders discovered that they required much less heat to warm them in winter than the end houses. Groups of longer than eight families in a row tend to become monotonous. These compositions of eight families, however, have great artistic possibilities on the exterior, especially if the end rents are treated in a different way from those in the middle.

Such an arrangement of two-family and eight-family standardized houses might at first sight seem to be too uniform. There are, however, two great chances to give plenty of variety. First, the grouping of the houses, and second, variety in color scheme. In grouping the houses, it is not necessary to have all the houses directly on the street; some of them can be placed end-on to the street, and interesting groups can be arranged with a long house in the middle and two short houses at either side around a central garden or lawn.

With regard to construction—fireproof construction is now impossibly expensive for this kind of house. Concrete houses are much talked of, but these are too expensive unless the forms are used for a large number of houses; and then it can only be done economically by using the same moulds in succession, which means that this large number of houses would have to be built during a long period, which is not usually desired. The concrete houses furthermore tend to be very damp. Hollow terra cotta blocks make good dry houses, but are too expensive for general construction use, except perhaps for the exterior walls. The main construction of the interior walls and floors is still most cheaply accomplished by the old frame construction. This, however, can be made rat-proof and fire-retardant for almost no additional expense by means of stops made of concrete (using the minimum of cement and a large amount of refuse found in construction).

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For the exterior walls, the question of local materials enters in very much, so that it is hard to generalize on this point. In most localities, however, the novelty siding without any sheathing is still the cheapest. This does not make, however, a very warm wall for the houses in cold climates, even with building paper placed between the siding and the studs.

The next cheapest is usually clapboards on top of sheathing with building paper between the clapboards and the sheathing. Shingles on top of sheathing are usually a little more expensive than the clapboards, but have the advantage that they can be left natural without any paint or stain if so desired.

Stucco on wire lath on stud walls is sometimes economical in the end, especially if sand is close by and cement is cheap in the locality. Stucco walls protect the building from fire on the outside and do not have to be repainted as woodwork does.

Brick walls are usually not dry unless the plaster is set on furring on the inside. Sometimes bricks can be obtained very reasonably if the "run of the kiln" is taken, which means using the hard burned and soft burned brick with the consequent pleasing variation of color, provided, of course, that too soft brick are not used.

Glazed terra cotta blocks on the interior we have used only once, and did not like the effect, as the blocks were too dark in color. If these glazed terra cotta blocks could be made in light colors, they ought to prove very desirable for exterior walls as they are light in weight and, therefore, cheap to transport, and give a splendidly insulated wall, keeping out the heat, cold and dampness.

With regard to roofs, the cheapest type is probably the flat roof covered with tar and gravel. This, however, usually gives a very unpleasant boxey look to the exterior. Slanting roofs are the great artistic chance on the exterior giving variation in the houses not only in contour but in color. The roofs are seen conspicuously against the sky or the trees, and form, it seems to me, the most important feature of the exterior which should not be missed.

For roof materials, the composition roofings are the cheapest. There are many of them made, but most of them are composed largely of gums which would dry out and not last probably more than ten years. Wood shingles are the next cheapest. These can be stained in many attractive colors, which help to protect them and increase their length of life (15 to 20 years). There are in certain localities small-size, inexpensive slate, which have the advantage of making the roof fireproof from the outside. The asbestos shingles come now in soft, attractive colors, but are more expensive than the cheapest slate.

Unless rain water has to be saved. I would strongly advise against having any gutters or lead-

ers. This reduces the original cost and maintenance, and is no loss to the looks of the building. Tin gutters do not last long, and copper is, of course, too expensive. The saving by this omission is really quite an item.

The chimneys (usually of brick, as stone is too expensive) look very ineffective if small, so that the economical arrangement in the plan of combining several flues in one chimney helps to give a larger and better looking chimney on the exterior.

With regard to the windows, I would strongly advocate casement windows in preference to the more usual double-hung windows. In the first place, they are less expensive than the double-hung windows, as they do not require any weight boxes or weights. In the next place, when open they give the whole instead of half the window for the circulation of air in warm weather. By making the windows open out they can be made perfectly watertight, and will not take space in the room or interfere with window hangings.

Shutters are too expensive, and are unnecessary except in very hot climates. The rooms can be darkened by dark window-shades, if needed. Bay windows and window-boxes, while attractive features in themselves, would be too expensive for this type of house.

On the interior, I wish to make a special plea for fairly low ceilings. There is, I know, a general prejudice in favor of high ceilings, but there are many reasons in favor of ceilings not over 8 ft. high. The first of these is that by reducing the height of the ceilings we reduce materially the cubical of the building, and, therefore, the cost. In the next place, the height of the ceilings is then in scale and proportion with the width and length of the rooms, which have to be small in a house of this type. It also makes the rooms easier to heat, and cozier in appearance. A large part of the charm of the Colonial farmhouses is their low ceilings. Also low ceilings make the whole building lower on the outside, and therefore better proportioned. This does not mean that the rooms will be stuffy, if there are plenty of windows and the heads of the windows are kept close to the ceiling. The space between the top of the windows and the ceiling is always dead space, and is no advantage in the ventilation.

With regard to the heating of the interior, it is often economical, for a large group of houses, for the owner to supply exhaust steam from the factory, if not too far away, and charge for this heat in the rent. Steam heat installed separately is too expensive. Individual heating systems work very well with hot-air, but in the minimum-cost houses nothing but stoves can be afforded, with the second floor rooms heated by the registers in first story

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ceilings or by using a type of stove with hot-air pipe to second floor.

The interior walls are most practical if plastered two coats, the second coat smooth finish, and painted with washable paint.

The doors and trim on the interior are most economical and practical made in cypress, stained with one coat. Narrow bases and trim are not only cheaper than the usual work, but also are in better scale with the small rooms and even make the rooms seem larger than they actually are. The trim should be plain and unmoulded, with slightly rounded corners. Built-in china closets, dressers, window seats, etc., make the houses more rentable and save the tenants buying certain pieces of furniture; a saving which they appreciate.

With regard to the plan, much thought should be put into this as this is where the chief value of standardization comes in. One good standard plan may be the financial and social success of a large group of dwellings.

In the first place, I would strongly recommend the most sympathetic treatment. The plan should be made good enough for anybody, and not "good enough for those people." Coal is not stored in the bathtub if there is a coal bin closer to the stove than the bath tub. I feel that everyone has the right to live not only decently, but attractively, and even in the smallest houses I claim that this can be accomplished by a good plan.

Sun is a prerequisite, and the plan should be arranged that every room should have the sun for part of the day at least. This is helped by running the long way of a group of houses north and south, with the rooms on the one long side getting the morning sun and the rooms on the other side getting the afternoon sun. By having no blinds on the exterior, the old New England custom of shutting out the sunlight will be discouraged.

Air and ventilation are also very important, and there are two systems of obtaining this result: large rooms with unchanged air or smaller rooms with changing air. The latter is all that we can afford in this type of house, and to my thinking is just as good. Cross ventilation can be obtained by making the plan only two rooms deep, with doors and windows opposite each other. Every room should have at least two large windows. By this arrangement we can get the minimum floor area for a single room down to 60 sq. ft. and for a double room down to 100 sq. ft., which greatly reduces the size and cost of the buildings.

The next requisite in planning is compactness. The hall space should be reduced to a minimum, preferably only small square landings at the foot and head of the stairs. Small rooms can be made as livable as large rooms if good places are pro-

vided for beds and other large pieces of furniture.

Privacy in a plan can be obtained by having all the rooms face either the front yard or the rear, and none of them looking directly into another house at the side. The front porches, which are so much used for social life in warm weather, should also be given privacy by separating them from each other by parts of the building and not by more railings on a common porch.

A cellar in the very cheapest buildings cannot always be managed, but there should at least be an air space under the whole house with the bottom concreted and a cache for vegetables. Where possible, however, there should be a cellar under the whole building, with a space for hot-air furnace, coal bins and vegetable storage.

On the first floor there should be a front porch large enough for four chairs. The front door should enter a small entry at the foot of the stairs.

There should be a small parlor facing the street if possible. This should be a separate room, and not, as is often the case, with the front door and stairs leading directly into it. It then becomes a mere reception hall and cannot be conveniently used at night for a bedroom, as is often needed, especially in four-room houses.

In houses of this type, there is no need for a separate dining room. In fact, it is preferable to combine the dining room and kitchen into a fairly large room rather than to have two separate smaller rooms, as the large rooms will then be a nice place for the family life. If it is arranged properly with a well lighted space for the dining table at one end, and all the cooking and washing at the other end, this arrangement works very well. There should, of course, be two laundry tubs with covers as well as the kitchen sink. We have found that the ranges, refrigerators and fly-screens are taken better care of if supplied by the tenants themselves.

On the second floor it is desirable if possible to have three small bedrooms rather than two large ones, on account of the children of opposite sexes. The bathroom should be on this floor. Water closet and bath tub are essential. The wash basin is also desirable, but we have sometimes when hard pressed omitted this to save plumbing and therefore cost.

The attic should be used for air space over the bedrooms and storage space only. Rooms in the attic are very hot in summer and cannot be well lighted or ventilated without dormer windows, which make the roof complicated and expensive.

In conclusion, I wish to emphasize that we can get economy in construction only through standardization. One economical plan with good proportions on the exterior seems to me worth the services of a trained architect, as it will be repeated so often, with all its sins or virtues.



INTERIOR OF ALL SOULS CHURCH IN THE EAST, SUMMIT, N. J.
Looking from chancel. The Renaissance organ, with colonial recessed console, recently installed

The New Colonial Organ in the Meeting-house at Summit, N. J.

By JOY WHEELER DOW

IT is not difficult to design a Colonial meeting-house nor a Colonial organ that properly goes into it. The thing is to find a church committee that will stand for either proposition, engaging as it might seem, especially at this time when art is the still small voice crying out of the wilderness against the outrages and oppression of the demons—brutality, immorality and cupidity—which are running amuck in the world.

Not only the church committee, but the organ company selected to build the new organ to be installed in the meeting-house at Summit, N. J., balked at my plans and specifications. The organ builders said that the Colonial case specified to be cabinet finished, with its circular cornices, pilasters and other Renaissance ornament, was unnecessary expense. They demurred at the recessed console, called it obsolete and impractical, and doubted if a modern organist could be found who would play on it. (The modern church organ invariably has a

projecting keyboard which would have been an anachronism.) They characterized the niches and busts of Handel and Beethoven, I had indicated, as unseemly bric-a-brac; and when it came to that part of the specifications where I called for green silk, plaited panels for the sides of the organ, they looked at me in sheer disgust, as if to say, "We are not manufacturing melodeons any more, Mr. Dow."

The Church Organ Committee agreed perfectly with the organ builders. They considered that I was attempting to put over them "just a lot of crazy ideas of my own." All the while the hard-as-nails, commercial proposition was standing by and whispering to me, "*Please your committee—give them what they want!*" By unlucky coincidence I had in my pocket a letter just received from my milkman, advising that the price of our daily quart of milk—which already seemed like so much melted gold we had been drinking—would be again ad-

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vanced, upon the first of the month, to the Berlin-Leipsic rate of seventeen cents. I was alone and unbefriended. What, indeed, "could the poor crook do?" I resolved, however, to be led out and shot rather than—"marry the old-maid," in this case,



THE CHOIR GALLERY BEFORE THE ORGAN WAS INSTALLED

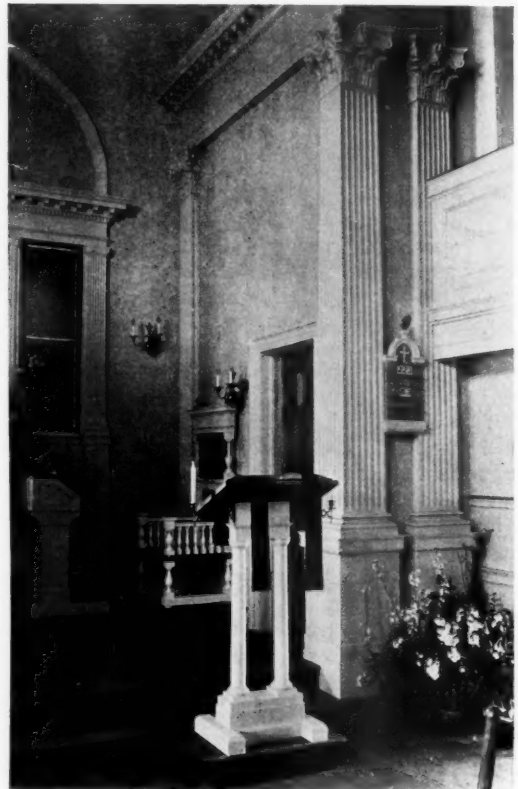
do something for which I would afterward be ashamed, and people might point their finger at me and cry, "You preach to others about Robespierre and the incorruptible sea-green!"

Now, I should like very much to trace out the curious chain of circumstances which soon put an entirely different complexion upon the matter—how my "crazy" plans, specifications and details, in the end, came to be carried out, not only in spirit, but in letter; but I am unable to do so, for I never knew how or why. I only know that in spite of the war and modern degeneracy some mighty, occult influence for good seemed, ever silently, to be working on my side; and this is my card of thanks through the press to my unknown benefactor.

Certain younger members of the profession still acting as draughtsmen in offices have, at different times, come to me and said, in effect, "I am wild about your work, Mr. Dow. I like it down to the ground; but my chief hates it." "Why?" I have

asked, and the reply has been, "He can't do it!" And there, I thought all the time that every architect had sufficient home-feeling to do it if he wanted to do it. In dealing with genre architecture—my specialty—it goes without the saying that one should think in the vernacular. It is really more of a psychical stunt than a matter of talent. It is the way one looks at things—one's philosophy. What is this philosophy, then? I cannot tell it here, it would take too long. I may add only a word or two about it, in conclusion.

What bothers me most of all is the very stupid public. The public pretends to be artistic, connoisseur, and all that; but in reality it does not know "beans" about architecture, i.e., the right kind. By the right kind of architecture I mean the kind that partakes of personality, sounds the dramatic note, tells a story, links us up properly with our antecedents, thereby making us kin with all the interesting people in history, and so supplies the com-



THE RENAISSANCE LECTERN OMITTING THE SYMBOL OF THE TRINITY

Unitarians say the Litany—"O God, who by thy Son hast redeemed the world," etc. They claim that it is no innovation, that theirs is the original Catholic Church, and that the Edict of the Council at Nice was the first heresy.

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"THERE ARE HOMILIES IN THE AIR, LIKE MARCONIGRAMS"



"The most obvious axioms are proposed to us only after the most complicated deductions, and herein lies the main secret of good architecture—the trick of it."

panionship the mind must have to be happy. I do not mean the kind of architecture without ancestry or etymology, which leaves us out of the firmament altogether, as stray atoms in boundless space without one guiding star to take us home to a fire upon the hearth and—supper.

A few visits to the meeting-house in Summit, however, now that the egregious thing has been perpetrated, suffice for the charm to operate, at last, upon the very stupid public. Some indefinable magnetism gets below its neck and succeeds in reaching the affections which I began to doubt existed. I am astonished, at the same time filled with hope, to hear this once antagonistic—not to say agnostic—public, upon occasion, amiably observe that it is unnecessary to wait for the Sunday morning service to obtain religious instruction here, because there are homilies in the air, like Marconigrams.

The kind of Prussianism set in motion by the Council of Nice, A. D. 325, which insisted that everyone believe so and so, was little better than the sorcery of the Russian monk—Rasputin. The idea is to design your meeting-house not as an expiatory waste-basket for either real or imagined iniquity, nor yet as a place where you are to come with an apologetic feeling for being alive, which Cardinal Richelieu used to simulate with such exquisite tact when he would say to Louis XIII, "Are you then angered, sire, that I still live?" Rear it rather as a token that we may rise superior to the handicap that God has placed upon us, and

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though life, indeed, be "a task for all that a man has of fortitude and delicacy,"* we can deliver the goods. Let your building, by subtle architectural expression, tell Him that we are willing to miss things, occasionally, "renounce when that shall be necessary without being embittered, able to keep a few friends without capitulation," in a word—able to be merciful to all men from the human standpoint, even though He is not. The most obvious axioms are proposed to us only after the most complicated deductions, and herein lies the main secret of good architecture—the trick of it.

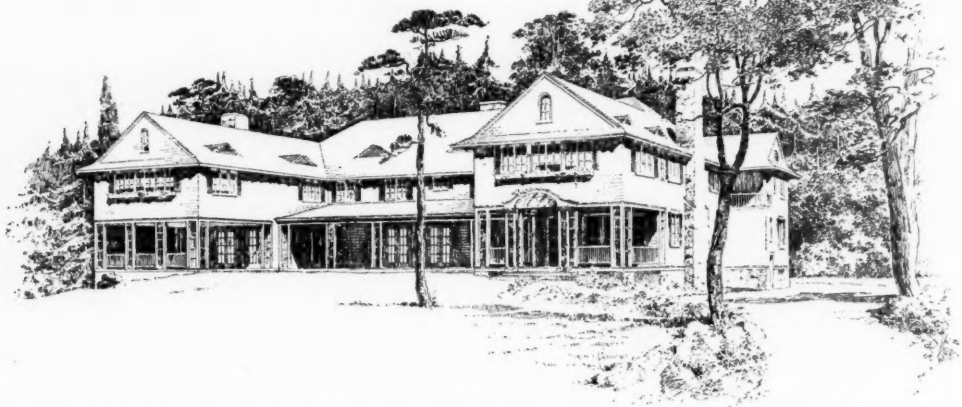
*Quotations from Robert Louis Stevenson's Wall-Motto.

Shuman Memorial, Beverly, Mass.

JAMES E. McLAUGHLIN, *Architect*

(See plate section for illustrations)

THE Shuman Memorial Building was the gift of Mr. and Mrs. A. C. Ratskesky of Boston as a vacation home for poor children and working girls. The home is beautifully situated at the top of a gently sloping knoll and surrounded on three sides by fine old pine trees. On the front it looks out over wide lawns to the south. Provision has been made to accommodate thirty-two vacationists, with resident matron and nurse and social workers. The entire front of the house on the first floor is devoted to common rooms, a large play room in the center opening on to broad verandas at the front and to the dining room on one side and a reception room on the other. Each of these rooms has a large stone fireplace built of field stones gathered on the lot. At the rear of the building is the service portion and bed rooms for servants: also a finely appointed hospital suite. The second floor is devoted entirely to the sleeping quarters.



·LAURA SHUMAN MEMORIAL BUILDING·
BEVERLY MASS

each wing being a large open air dormitory divided by low partitions into units of four beds each, with a small room for the supervisor. In the main portion is the main toilet for the vacationists and bed room suites for matron and nurse. While built primarily as a summer vacation home, a steam heating system has been installed so as to make possible the use of this building for the entire year.

The building is of a framed construction and the outside walls are covered with heavy 24-in. shingles stained a soft weathered gray, with white trim and green blinds.

Weld County Court House Greeley, Colo.

WILLIAM N. BOWMAN, *Architect*

(See plate section for illustrations)

THE foundations of the building are of reinforced concrete and are built on a gravel formation. The foundation walls up to grade lines are of concrete.

The base course around the exterior of the building is of Colorado pink granite, the exterior of the building from base course to cornice is of Bedford stone, and the cornice is terra cotta. The exterior walls are backed up with hard brick laid in cement mortar. All inside walls are of brick construction.

Partitions are of gypsum blocks.

The floor construction is of steel girders and reinforced concrete. The finished floors are marble and

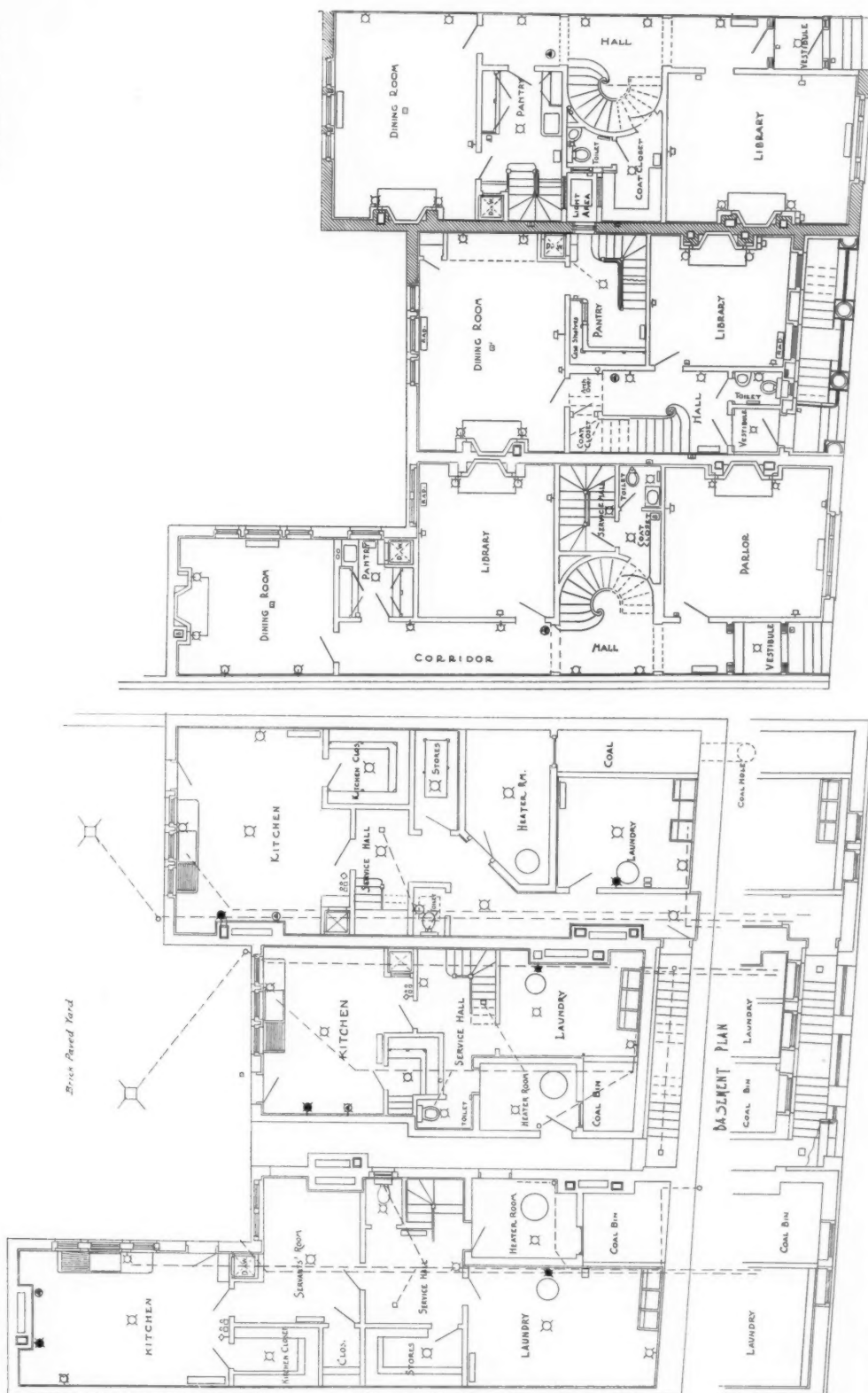
James E. McLaughlin, Architect
BOSTON MASS



HOUSES ON CHESTNUT STREET, BOSTON, MASS.
RICHARDSON, BAROTT & RICHARDSON, ARCHITECTS

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FIRST FLOOR PLAN

BASEMENT PLAN

PLATE 249

HOUSES ON CHESTNUT STREET, BOSTON, MASS.

RICHARDSON, BAROTT & RICHARDSON, ARCHITECTS

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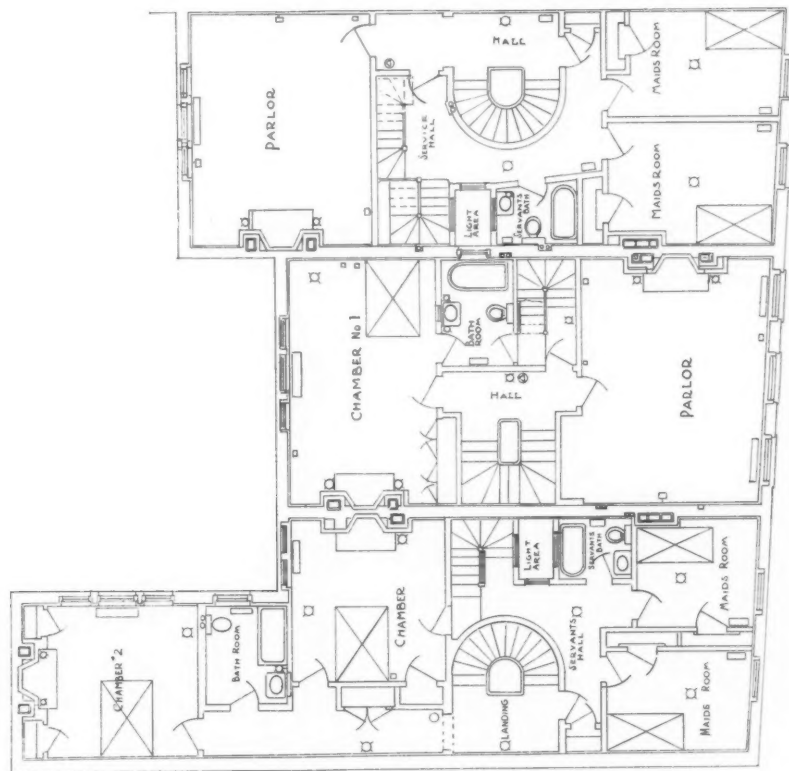
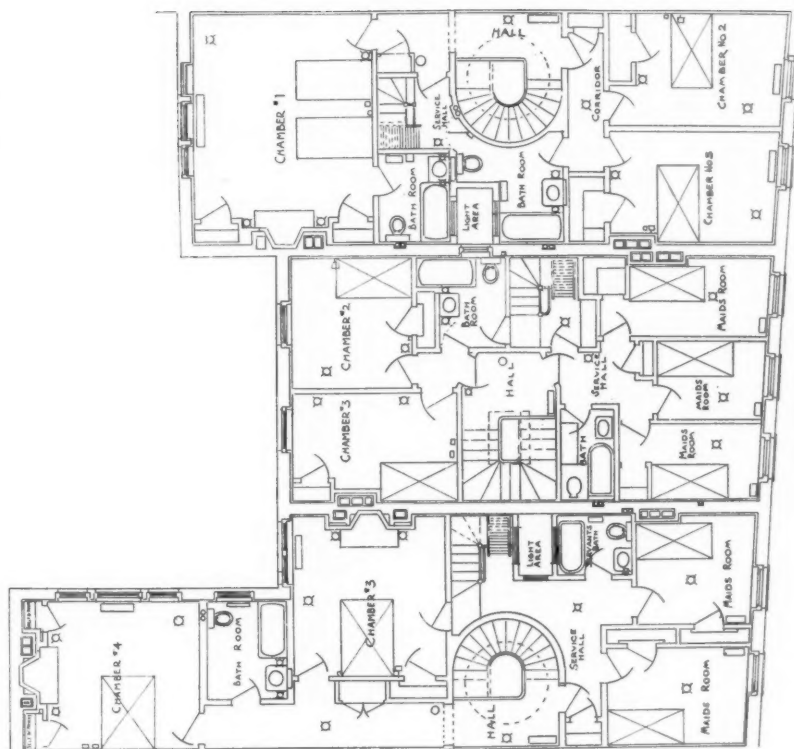


PLATE 250

SECOND FLOOR PLAN



THIRD FLOOR PLAN

HOUSES ON CHESTNUT STREET, BOSTON, MASS.

RICHARDSON, BAROTT & RICHARDSON, ARCHITECTS



PLATE 251

LOWER STORIES, CENTER HOUSE

DWELLINGS ON CHESTNUT STREET, BOSTON, MASS.

RICHARDSON, BAROTT & RICHARDSON, ARCHITECTS

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PLATE 252

WELD COUNTY COURT HOUSE, GREELEY, COLO.

W. N. BOWMAN, ARCHITECT

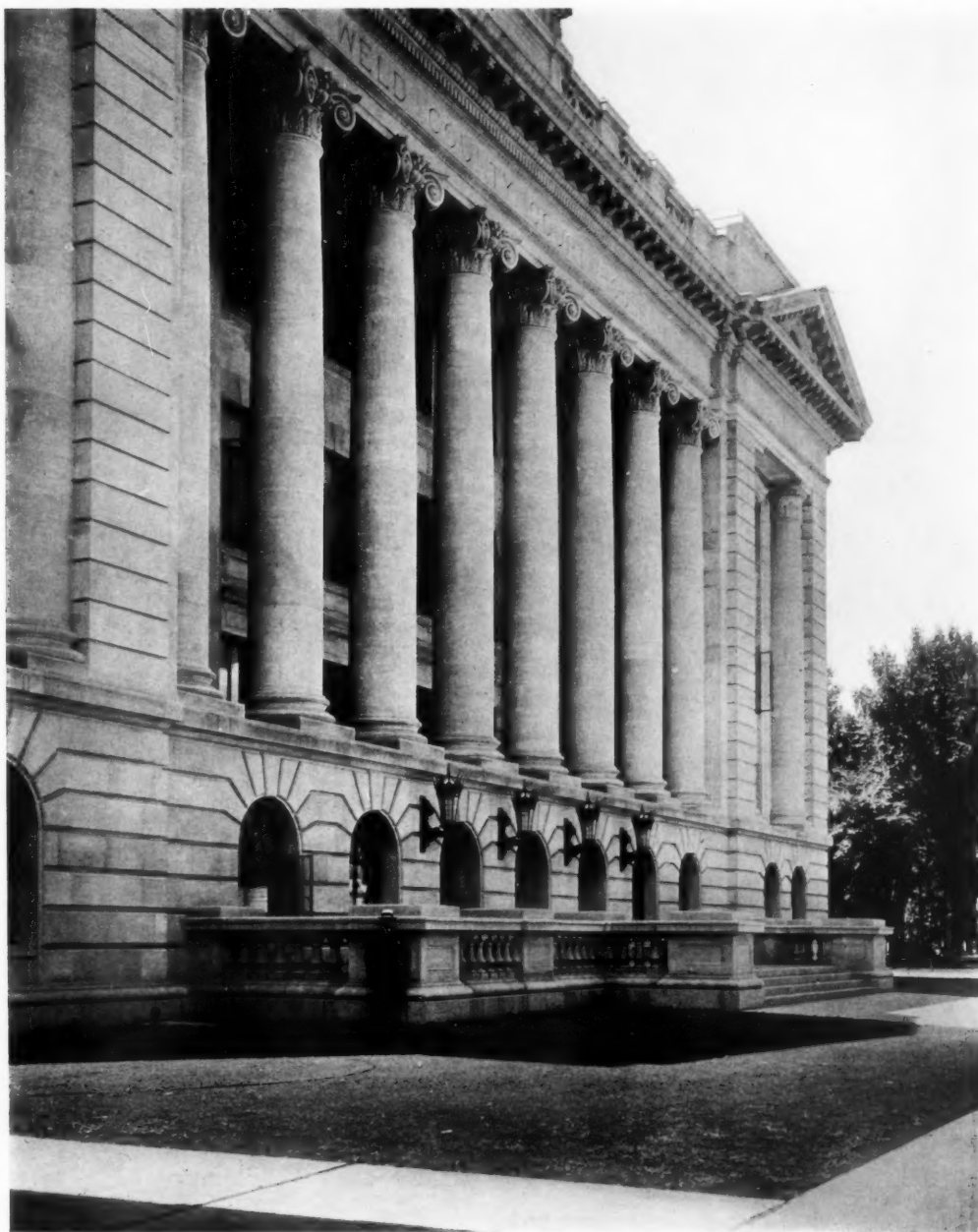
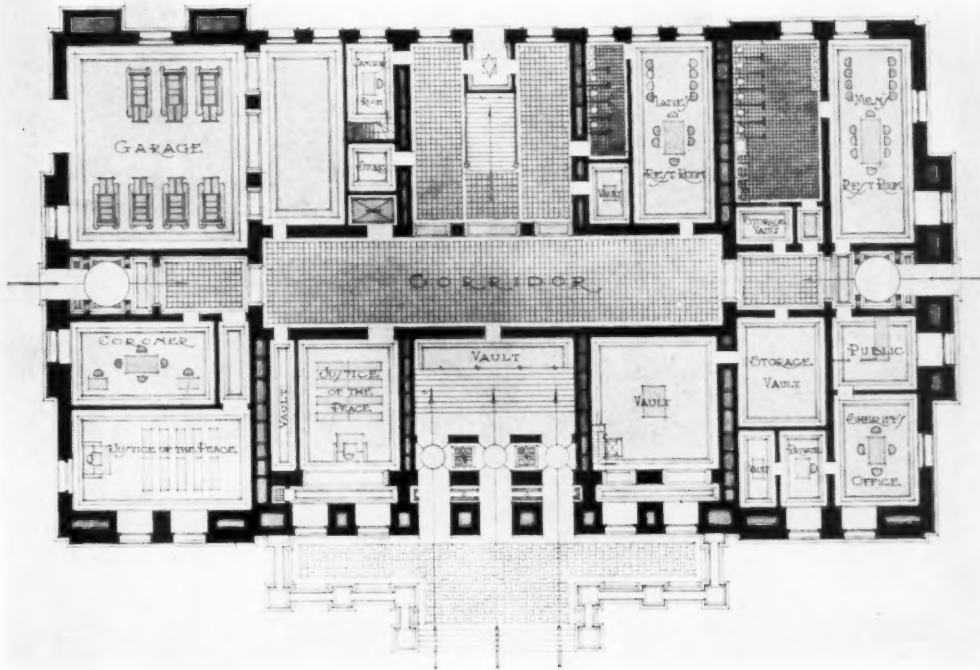


PLATE 253

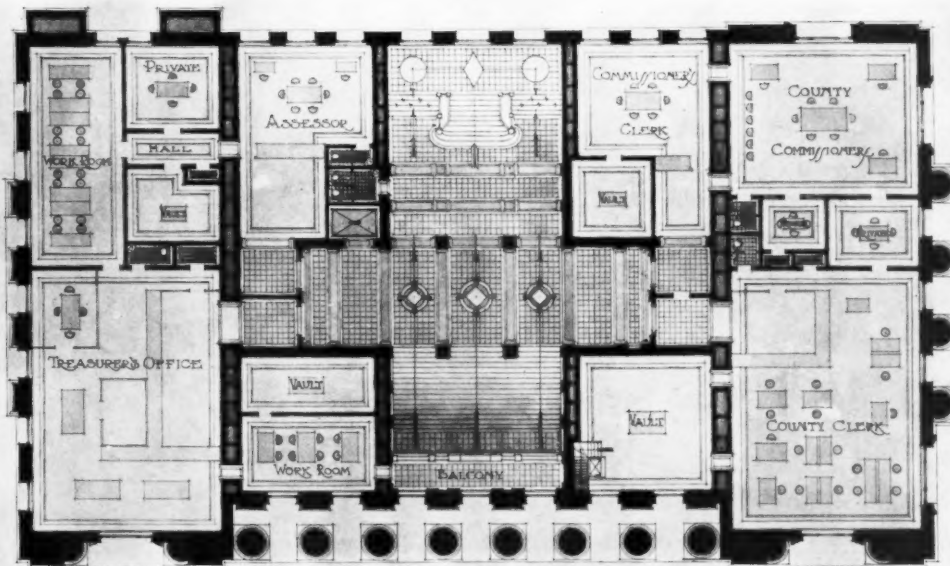
DETAIL, MAIN FRONT

WELD COUNTY COURT HOUSE, GREELEY, COLO.

W. N. BOWMAN, ARCHITECT



BASEMENT PLAN

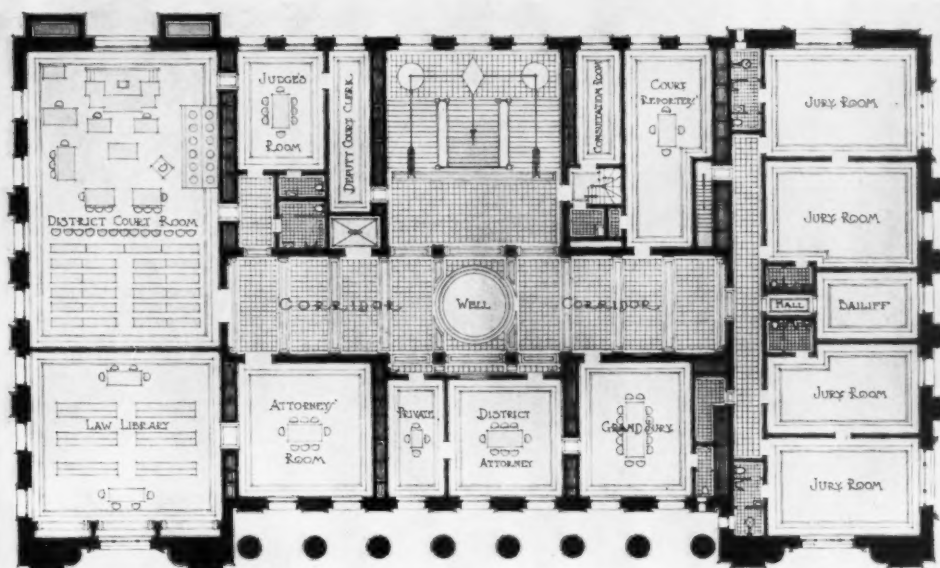


FIRST FLOOR PLAN

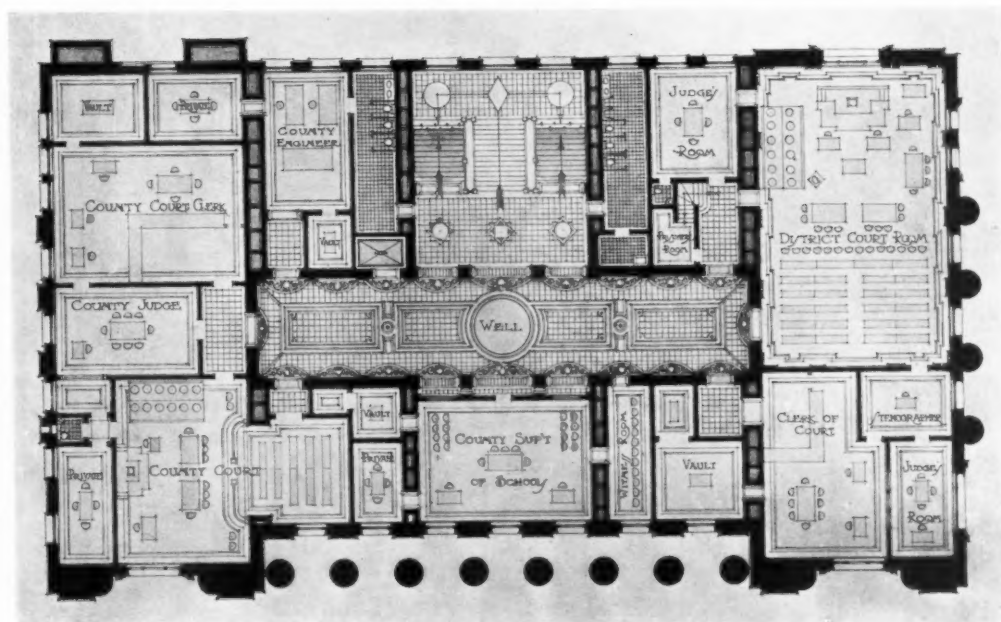
PLATE 254

WELD COUNTY COURT HOUSE, GREELEY, COLO.

W. N. BOWMAN, ARCHITECT



THIRD FLOOR PLAN

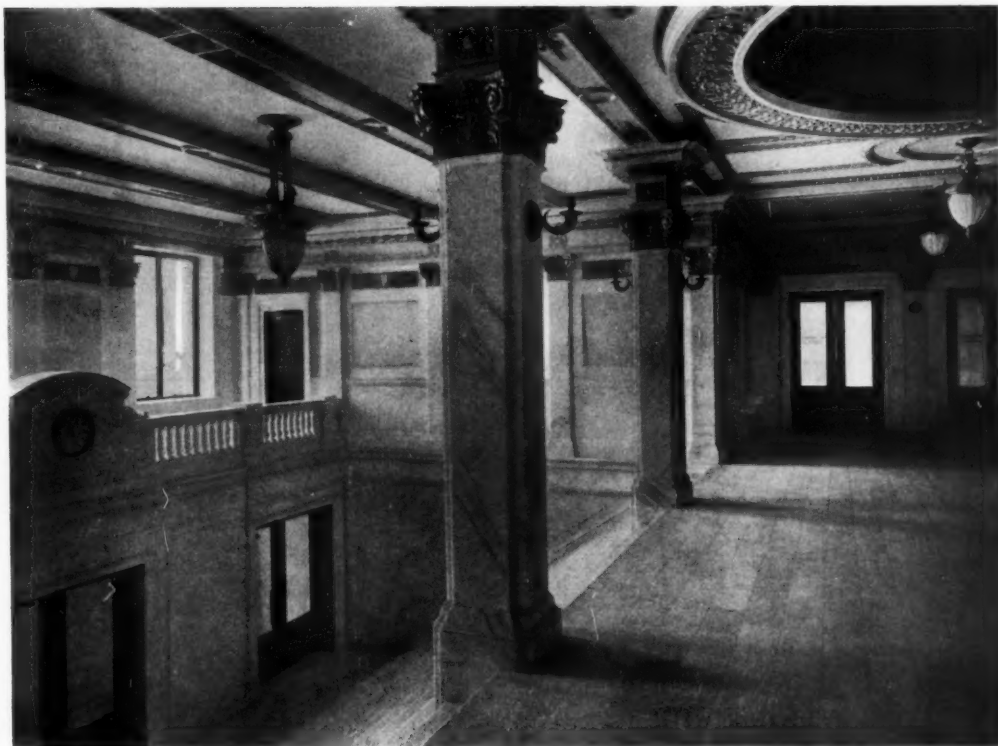


SECOND FLOOR PLAN

PLATE 255

WELD COUNTY COURT HOUSE, GREELEY, COLO.

W. N. BOWMAN, ARCHITECT



INTERIOR MAIN ENTRANCE, FIRST FLOOR

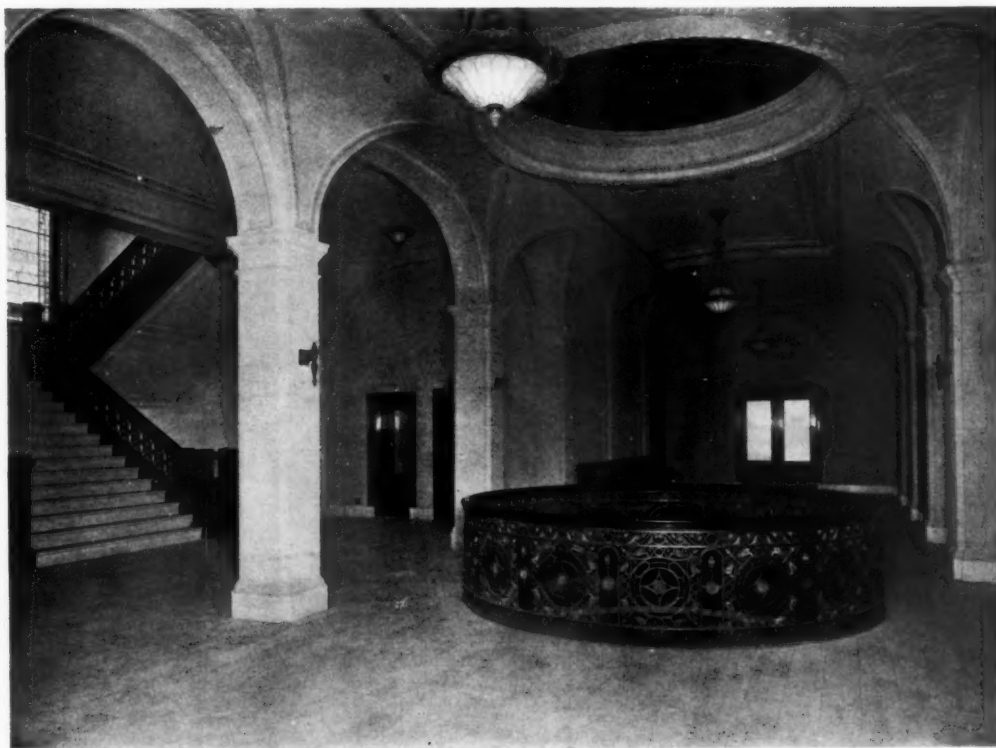
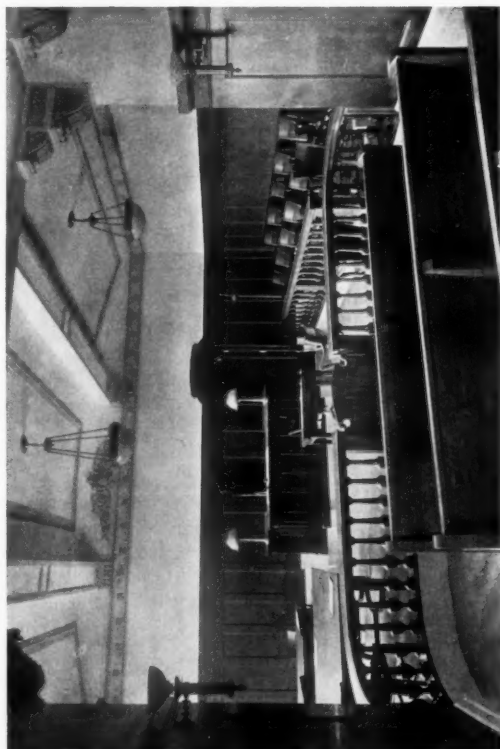


PLATE 256

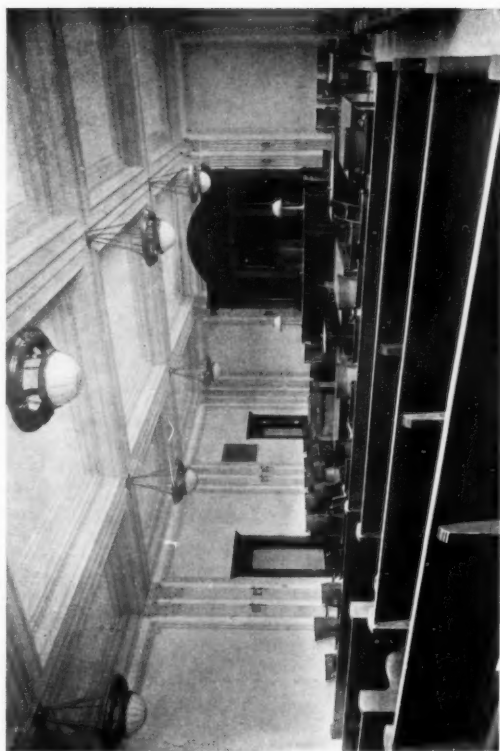
SECOND FLOOR CORRIDOR

WELD COUNTY COURT HOUSE, GREELEY, COLO.

W. N. BOWMAN, ARCHITECT



COUNTY COURT ROOM



DISTRICT COURT ROOM

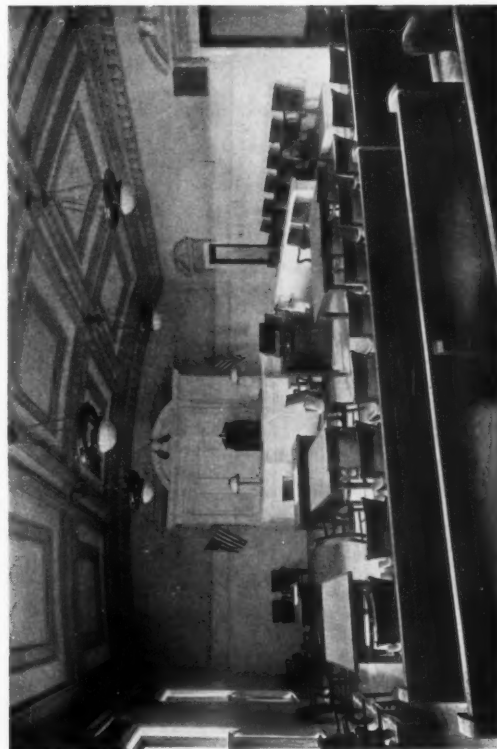


PLATE 257

COURT ROOM, THIRD FLOOR



COUNTY COMMISSIONERS' ROOM

WELD COUNTY COURT HOUSE, GREELEY, COLO.

W. N. BOWMAN, ARCHITECT



PLATE 258

THE LAURA SHUMAN MEMORIAL, BEVERLY, MASS.

JAMES E. McLAUGHLIN, ARCHITECT

NOVEMBER 28, 1917

THE AMERICAN ARCHITECT

VOL. CXII, NO. 2188

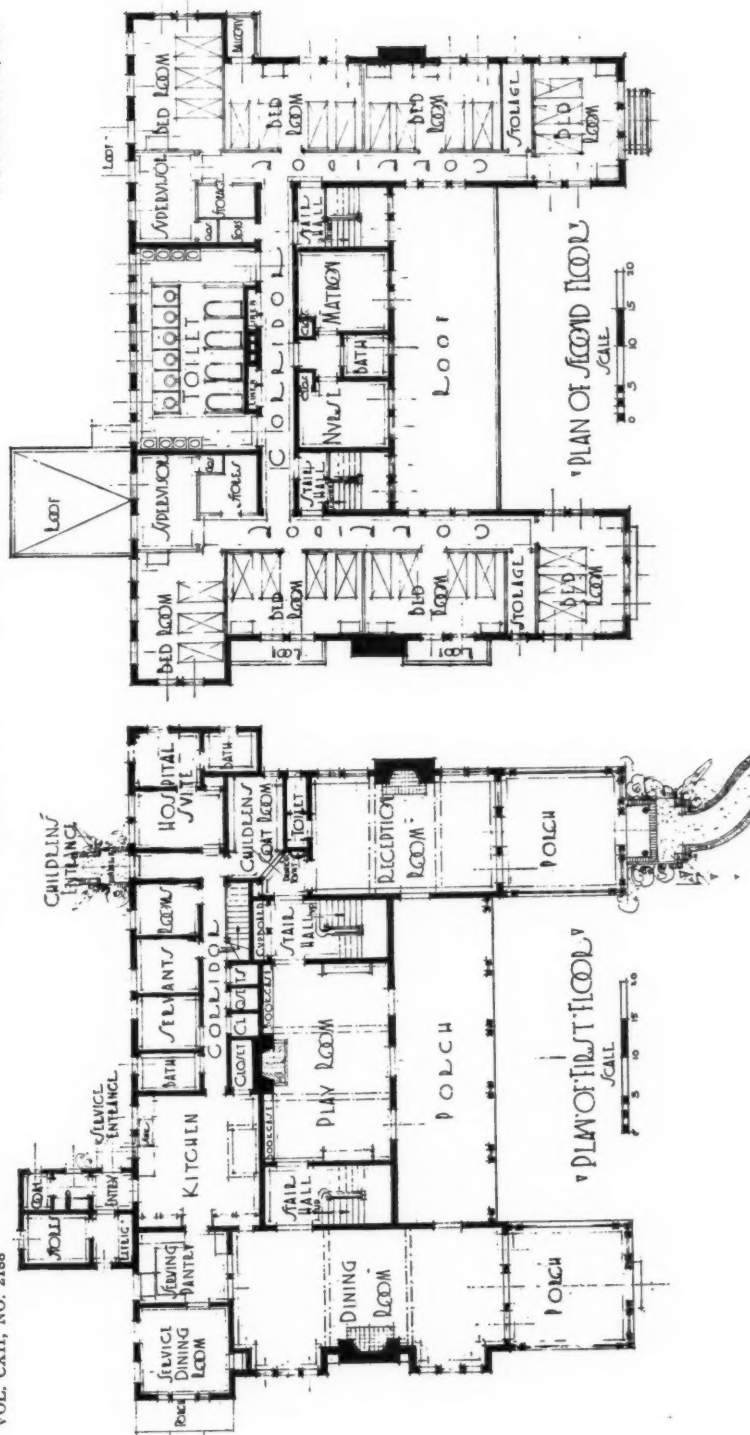


PLATE 259

THE LAURA SHUMAN MEMORIAL, BEVERLY, MASS.

JAMES E. McLAUGHLIN, ARCHITECT

THE AMERICAN ARCHITECT

tile for all corridors and toilet rooms. The floor in bar spaces in court rooms, judges' offices, ladies' rest room and a space 3 feet wide around all counters on inside is of cork. Vault floors are cement. All other finished floors are of composition.

The doors and casings throughout are of pressed steel. The main entrance doors and elevator doors are bronze.

The windows in the two main elevations are casement windows made of rolled steel for frames and steel. The main entrance doors and elevator doors of galvanized iron.

The main stairway has marble treads and risers and cast iron bronze plated railings and newels.

The main entrance inside is of marble.

The roof is constructed of steel trusses and purlins with T irons between.

The building is warmed and ventilated by means of radiators in sub-basement, through which fresh air passes and is warmed. This warmed air is forced all through the building by a large fan. There is also a large suction fan in the attic for drawing foul air up from every room and sending same through a large ventilator in the roof. A heat regulation system is installed for maintaining desired temperatures in the rooms.

The lighting fixtures are mainly of the inverted bowl type and all metal parts are of bronze.

The tops of all counters, tables and desks are made of battleship linoleum.

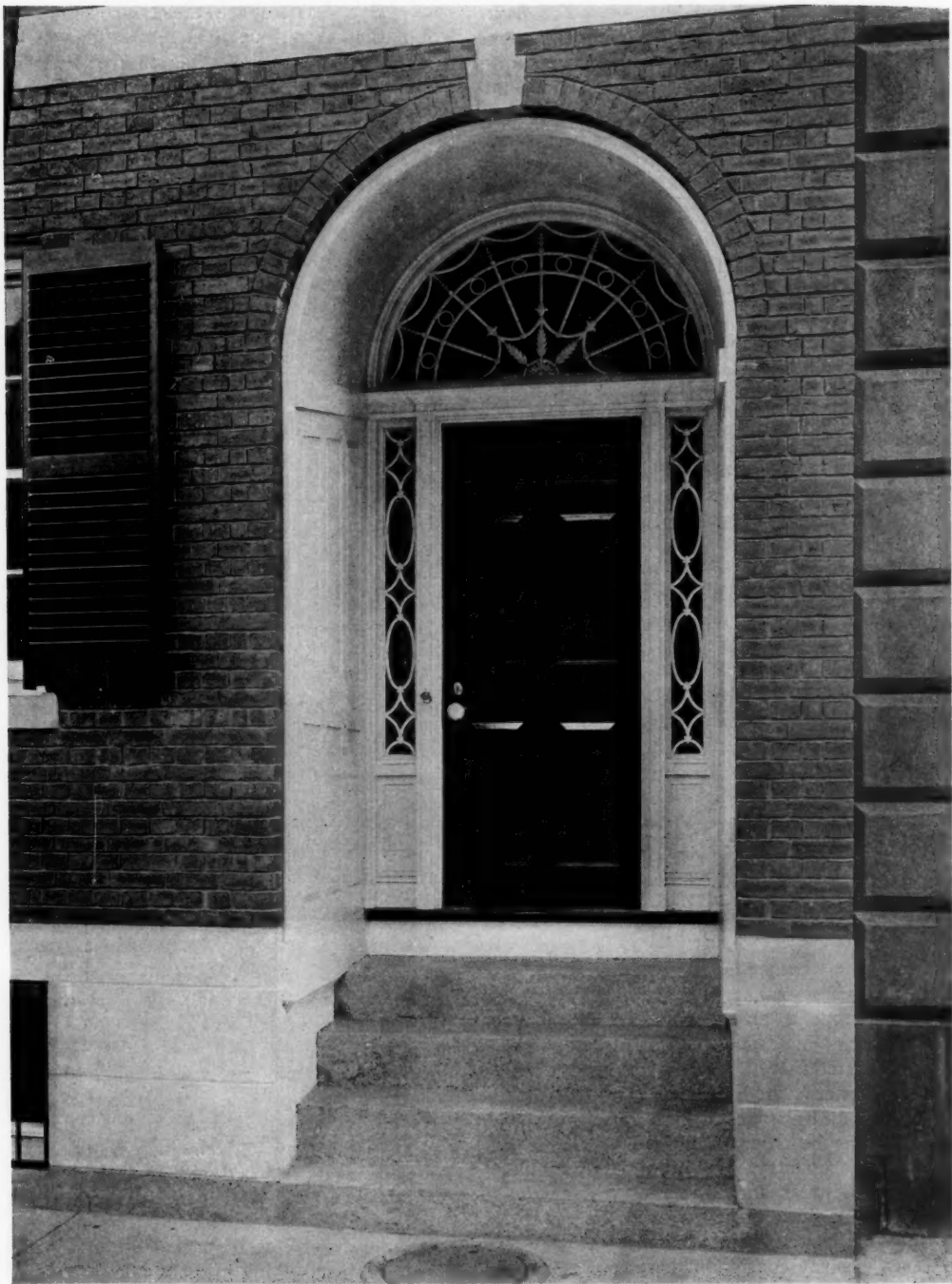
No wood was used in the construction of the building. The only wood in the building is in the furniture.

The Influence of Smoke on Architectural Design

In discussing whether or not it would be proper to erect a classical temple in a smoky city, "Diogenes," who conducts an entertaining and instructive department in *The Architects and Builders Journal* of London, is of opinion that it may be, in a sense profanation to put up a Greek building where it will gather grime and abide in perpetual gloom. If this be true, then there are many offenders in this country. In cities like Pittsburgh in the United States and Manchester in England, we doubt if the question of style in design as affected by local atmospheric conditions has ever been very seriously considered heretofore. In discussing this question the writer above referred to states:

"In Manchester the question has arisen whether it would be proper to erect a classical temple in a

smoky city. There are those who regard it as profanation to put up a Greek building where it will gather grime and abide in perpetual gloom. For cities like Manchester, they tell us, some kind of glazed terra-cotta is your only ware—something on which you can turn the hose at frequent intervals. This ingenious expedient assumes the soot of cities as something inevitable. Is it? I have a brighter vision of the future of cities. It came to me first, I think, in a minor manufacturing town of the Midlands. I had set out for it expecting to find it the same sort of Inferno of which I had seen too many examples in the North—the kind of place where huge chimneys constantly send out columns of black smoke, and where the atmosphere is simply suffocating. My forebodings were entirely falsified. No reek assailed the nostrils; no smoke-clouds obliterated the sky; there was no taste of sulphur in the air, no grime on the buildings; no cinders crunched beneath one's feet. There were avenues of quite healthy-looking trees, and the forecourts of the little houses were gay with flowers. And yet the prosperity of the town depended upon a certain branch of steel conversion. How was this? No coal was used in the factories, and no steam power. All the engines were driven electrically or by gas-engines, and all the furnaces were heated by the same means. Hence the little town was kept clean and wholesome. This case is probably exceptional, but there seems to be no imperative reason why it should be. A little of the ingenuity that has discovered so many ways of producing smoke would suffice to secure its prevention. It has been said by cynics that the sight of a sooty city fills the 'greedy manufacturer' with smug satisfaction. He regards it as an evidence of prosperity. In reality there are quite sordid reasons why it should make him sad. It represents so much waste, for it implies that he has got less out of his fuel than would be possible if his processes of combustion were more thorough. For my part, I have sufficient faith in science to feel confident that it can prevent the poisoning of the air and the disfigurement of buildings, and I can easily imagine that exact descriptions of the manufacturing districts of to-day will be read in the school lesson-books of to-morrow with the incredulity that daunts the young who are faced with facts that are foreign to their own personal experience. They will like these accounts, as they like all romantic and terrible improbabilities, but they will not believe in them. They will think it impossible that their white cities can ever have been so black as the historian will paint them. No responsible Government would have permitted it, no free people would have endured it."



ENTRANCE DETAIL, FIRST AND THIRD HOUSES
DWELLINGS ON CHESTNUT STREET, BOSTON, MASS.
RICHARDSON, BAROTT & RICHARDSON, ARCHITECTS
(For other illustration see plate section)

THE AMERICAN ARCHITECT

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VOL. CXII NOVEMBER 28, 1917 No. 2188

A Department of General Information

THE architectural growth of the small community is as relatively important as that of larger cities. In fact it may be easily proved to be even greater in its bearing on the daily lives of the people. The dweller in the small towns throughout the United States takes a larger pride in the growth and development of his home town, owing to a closer intimacy with every detail of its progress.

Architects practising in small communities, often far removed from large centers, suffer hardships and much inconvenience through lack of opportunity for keeping in touch with the latest things as to methods and materials necessary for them to know or observe. While they may gain knowledge through their architectural journals of the better class of new work, their only means of securing information as to new materials and new methods of handling is through such "trade literature" as they receive through the mails. Men practising in large cities have access to every source of information. Their ante-rooms are thronged with agents for materials, anxious to be permitted to explain their goods and extol their merits. There are permanent exhibitions of many kinds, where either by personal inspection, and often merely by the use of

the telephone, the city man can muster to his aid specialists in all the many and complex lines of material that enter into the fabric of the building.

All these various sources of important and useful information are practically brought directly into the offices of architects in large cities, and the very ease by which this fund of valuable knowledge is made available often causes the city man to fail in appreciating its true worth.

To the man who practises in small communities this information is in its fullest sense denied. His worth to himself and to the town he serves is correspondingly impaired. His visits to town, rarely more than twice a year, combine the relaxation of a vacation with such spare hours for research as he may have at his disposal. His hurried inspection leaves him with a large amount of valuable but poorly digested information.

This has always been an unfortunate condition, and one that an architectural journal might with much well directed effort mitigate. A suggestion has been made to the Editors of THE AMERICAN ARCHITECT that by freely offering to the subscribers to this journal an opportunity to discuss the technical and practical matters pertaining to the field of architecture, building and the arts allied to architecture, they could lend valuable help to men in the small towns. This suggestion is so well in line with their disposition to serve in these matters that the desirability of adding to the departments of this journal one of Correspondence is being considered.

We invite all of our readers who believe from their own experience that it would be to their advantage to secure at any time, and promptly, such information as they find helpful in their practice, to write us, setting forth their opinion as to the proposed new department, how it should be conducted, and suggestions as to its scope.

The Psychological Moment

"Of the three primary essentials of life, food, clothing and shelter, war gives least to shelter. Construction is the antonym of war because war is destruction. Therefore while war rages, construction as an industry has always been inactive."

THE above is a quotation from an article printed in a recent issue of the New York Times, setting forth in detail how this war has shattered every economic law.

That construction is the antonym of war because war is destruction, is the thing that every man engaged in any of the many branches of the industries producing building materials in this country needs to keep in mind. Building in England and on the Continent, except such as relates to war preparation or the necessities caused by the war, is prac-

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tically at a standstill. As with building, so with the materials used in building. Production in Europe has, to all intents and purposes, stopped.

So complete is this stoppage, and so acute is the demand for building material for war purposes, that European countries are looking to the United States for the essentials of building material, and are insistently asking for all that can be sent over. Already have there been considerable shipments of brick and cement, and there are calls for other items that cannot now be answered through lack of shipping facilities.

When this war is over, all of Europe will at once set about the process of rehabilitation of its devastated areas. In every country, particularly in France, as shown in our issue of October 10th, time is being taken by the forelock and as soon as the day arrives when these operations can be safely begun, they will be hurried forward with a degree of speed that will make Europe an industrial hive.

There can be no doubt that in every branch of the building material industry in the United States and in all the many lines of equipment and accessories, there will spring up a demand that will tax every resource of American manufacturers to meet the situation.

Large orders have already been placed, subject to delivery on the declaration of peace, and even larger demands will be made on this country, and soon.

Every manufacturer in the United States who hopes to secure a fair proportion of this business should at this time enter busily on a campaign of publicity. He should by every means at his disposal place before the consumer in Europe a knowledge of his goods, their adaptability to certain conditions, the facilities for delivery—in short, everything that will interest a people who will be feverishly striving to remove the scars of this long and destructive war.

Calling a Spade a Spade

UP to a time not so very long ago, our slang came from the slums and its use was to a certain extent restricted to the frequenters of "the lower strata." In more recent years, slang has become much more elevated in expression, and outside of the comparatively few who regard its use as a treasonable attitude toward pure English, all classes freely interspersed their writing and speech with the current slang of the day.

As a means of accentuation, slang has come to be regarded as an aid in pointing a moral even if it does not, to the thinking of some, adorn a tale.

The New York *Sun* devotes considerable space in a recent issue to reference to Lord Northcliffe's

use of slang. In an interview cabled to this country, he stated, "Your President's bugle call to the European Allies should *put them wise* as to the urgency of getting together," and further on that "when the President has added his personal *punch and pep*, there will be no further necessity, etc."

Commenting on the added force this use of slang has given to Lord Northcliffe's expression, and how the urgency of his appeal can be felt by every class of reader by reason of its phrasing, the *Sun* states that he had the opportunity to indulge in a newer and finer phrasing but either overlooked it or deliberately ignored it. "Imagine," says the *Sun*, "a soldier rushing into 'No Man's Land' and crying out, 'May I not express to you my appreciation of your villainy by cracking your skull?'"

While no cultured person would contend that a general admission of slang into our speech or writing is a thing to be seriously considered, practical people know that its occasional and well-restrained use is a most valuable means of driving home forcefully the weight of one's argument.

Many writers, and especially those who approach the field of technical journalism, are apt to regard the well-rounded sentence set in the purest English as of greater importance than the accurate statement of a scientific fact.

Results are only achieved when you "*put them over*," and there is no "*punch*" or "*pep*" in an argument so labored in its effort to achieve an effect of "classic composition" that it befogs its meaning and leaves no sense of conclusive argument but merely a somewhat hazy jumble of high-sounding words.

We need in our technical journals more of the terse statement of facts and less of the acrobatic juggling with high-sounding phrases. Let us call a spade a spade and then every reader will know our meaning. We may, if we like, call a spade "an implement for the tituration of the soil." A certain number of our readers will know what we mean, and some will credit us with erudition, but the *punch* will be lost and the *pep* *Hooverized* to the last degree.

Let us not use slang just as slang, nor ignore the cultivation of a good English style, but when a word is wanted that will put us on good terms with all our readers, a judicious use of the vernacular will accomplish that purpose.

The English laborer who was asked by his squire how he liked the new minister's sermon, and replied that he did not believe the parson knew much, as he could understand all he said, gave expression in a sentence to the gist of the argument we are now making for a simpler, more forceful and consequently more valuable style in technical journalism.

DEPARTMENT OF ARCHITECTURAL ENGINEERING

Unusual Test of Flat Slab Floor

PANELS IN 8-STORY STRUCTURE LOADED TO DESTRUCTION WITH MILLION POUNDS OF PIG IRON. SLABS SUPPORT FOUR TIMES DESIGN LOAD.

THE wrecking of the 8-story reinforced concrete building of the Western Newspaper Union at Clinton and Adams Street, Chicago, in order to make way for the proposed new Union Passenger Station, furnished an unusual opportunity for an authoritative test of the strength of flat concrete slabs.

Ordinarily tests of flat slabs can only be carried out on buildings which are about to go into service, and consequently it is never advisable to use more

than twice the design load for fear of rupture or permanent injury to the structure.

The Western Newspaper Union Building was comparatively new, having been erected in 1909-



1,232,000 POUNDS OF PIG IRON, WEIGHT PER SQUARE FOOT 910 POUNDS



THE WESTERN NEWSPAPER UNION, CHICAGO
S. N. CROWEN, ARCHITECT

1910. There are five rows of reinforced concrete columns in each direction, thus giving panels which are 17 ft. 5½ in. by 19 ft. 4½ in. in size. The floor slabs on the sixth floor, where the test was carried out, are 8½ in. thick and the concrete was composed of 1 part cement, 2 parts sand and 4 parts pebbles. Four-way reinforcing was used with fifteen 5/8 in. round, high carbon steel rods in each band, the width of the bands being 7 ft. The columns supporting the test slabs are octagonal in section, the short diameter being 24 in. and the core 21 in. They terminate at the top in octagonal bell-shaped heads 4 ft. 6 in. in width at the ceiling. The concrete in the columns is 1:1:2, and the reinforcing eight 1½ in. round rods bonded by a 3/8 in. round spiral with 2½ in. pitch.

Four panels in the center of the floor were chosen for this test. A total of 1,232,000 lb. of pig iron was piled on this area, making the weight per

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square foot 910 lb., or almost four times the live load of 250 lb., which was used in the original design. This load was applied in increments of ap-



THE HOLE IN THE CEILING SHOWS THE ONLY EFFECT PRODUCED BY THE DROPPING OF A FIVE-TON HAMMER. A HOLE WAS PRODUCED THE SIZE OF THE HAMMER WITHOUT EVEN CRACKING THE SURROUNDING CONCRETE

proximately 200 lb. per square foot, spread over a period of twelve days. Readings of deformations were taken for each increment placed. A strain gage was used and nearly four thousand observations were taken. These covered about two hundred points, which were distributed over the slabs and the various bands of reinforcing.

Preliminary computations indicate the following average stresses in the reinforcing steel under a load of 910 lb.:

Average stress in diagonal rods at center column, 52,000 lb. per square inch.

Average stress in rectangular rods at center column, 31,000 lb. per square inch.

Average stress in diagonal rods at center of panels, 18,400 lb. per square inch.

Average stress in rectangular rods at center of panels, 23,800 lb. per square inch.

The maximum deflection observed was $1 \frac{1}{10}$ in.

The flaking of concrete at certain gage lines around the center column indicated that the ultimate compressive strength of the concrete was reached.

The above figures should be used with care as they represent the result of preliminary computations and may be materially changed when all the data has been checked.

This test was conducted under the direction of Prof. A. N. Talbot of the University of Illinois,



ILLUSTRATES HOW THE CONCRETE IS BEING PICKED TO PIECES IN ORDER TO DESTROY THE SLABS

Mr. H. F. Gonnerman being in responsible charge.

The Western Newspaper Union Building was designed and erected under the supervision of Mr. S. N. Crowen, Architect, of Chicago, Ill.



A Digest of Commercial and Financial News

Affecting the Practice of Architecture

THE financial question as affecting the availability of money for building loans is regarded by men best qualified to judge as extremely favorable.

Money for loans will undoubtedly be plentiful. At least half, if not more than half of the money raised by the two Liberty Loans, will be paid out by the government for labor. To this total of about \$100,000,000, the money loaned to our Allies, approximating \$5,000,000,000 will largely be spent in this country for munitions and war supplies. Through natural channels the greater part of this vast sum will gravitate to the banks. As good real-estate loans are always the most desirable, for well understood reasons, it is believed that when we have returned to normal conditions of peace there will be no scarcity of money available for the financing of legitimate building enterprises. In an address before the Buffalo, N. Y., Credit Men's Association, Francis H. Sisson, Vice-President of the Guaranty Trust Co., of New York, stated:

"A billion dollars a year for five years will be needed for building purposes in the United States. The reconstruction of Europe, of course, will requisition far more capital. France, alone, is negotiating for an expenditure here in excess of one hundred and fifty million dollars to rehabilitate her devastated cities. America, in fact, is the great reservoir from which all things must be drawn.

"The United States must be ready for that most momentous of all world changes, which will mean world leadership for this nation, with its resources of men, material and money such as no people from the beginning of time ever possessed. The prospect is so brilliant as fairly to dazzle the imagination. We must rise to the great opportunity. But its realization will come only after we have successfully fought our way to victory. And its materialization imposes upon us the grave responsibility of discharging our duties to all mankind with thoroughness and honor."

NEGOTIATIONS have already begun between foreign representatives in this country and the large building industries for shipment at the earliest possible date. As stated in these columns, this movement of materials has already begun. This

in spite of the hazards that attend transportation through the war zone and the shortage of carrying bottoms.

The prudent architect will thoroughly post himself on all these things. They are more than surmise and in fact may be regarded as certain as any future happening can be considered.

A comparison of building costs to-day does not show that there is truth in the assertion that prices range from 50 to 75 per cent higher than two years ago. A tendency to take up long-abandoned building propositions now, fearing a very marked advance of the cost of materials in the future, has conclusively proved by comparison of estimates made two years ago, and those just received that the advance in costs is but 30 per cent higher. Far-sighted men are encouraged to proceed at once with the advancement of deferred operations, and much of the present activity in building may be traced to this fact.

Current costs of construction as reported by the *New York Times*, based upon estimates made two years ago for a building on Madison Avenue, New York, and those made last week for the same building for the same engineer, show the following per cent increases:

Architectural terra cotta, 27.7 per cent; electric wiring, 25.4; carpenter work, 5.1; elevators, 87.6; exterior limestone, 30.4; fireproofing, 53; glass and glazing, 125; granite, 37.8; hardware, 31.4; heating, 132.7; interior marble, 20; mail chute, 10; masonry, 22; metal doors, 25; ornamental iron, 77.7; painting, 128.5; plastering, 22.5; plumbing, 41.2; plumbing fixtures, 35; roofing and sheet metal, 31.5; sprinklers, 129.4; stair treads (asphalt), 29; steel erection, 25; steel fabrication, 172.7; tile, wainscoting and floors, 30.9; waterproofing, 5; windows, kalamein, 50.7.

These percentages include labor. Total increase in cost of construction, as compared with quotations before this country went to war, 30.7 per cent, and the prices are headed downward in the metal departments.

THE National Commission on Car Service is performing a labor of very great importance, in working out to the highest state of efficiency the problems affecting transportation. Cars are now moved with the utmost dispatch; they are

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loaded and unloaded with the minimum waste of time, and they are being loaded to the utmost of their safe carrying capacity. While the government service has the first call, the system now in force will very largely avoid shortages of basic materials and prevent the retardance of building operations.

REPORTS have been received of the adoption by many important cities throughout the United States of new building codes.

It is interesting to note that the lessons taught by war conditions are being applied to the framing of these codes, particularly as to the permission of substitution of other and less freely used materials.

While some of these provisions may be cancelled after the war, many of them will undoubtedly remain in force as the result of practical

demonstration as to their desirability and safety to practice.

THE DETROIT BOARD OF COMMERCE has started a movement, similar to those already afoot in New York and Chicago, looking to the appointment of committees to investigate building conditions. These committees, as already referred to in these pages, are to be representative of every branch of the building industry and the professions and trades that are allied to it.

It is further reported that the Boston Chamber of Commerce contemplates the appointment of a Committee of Investigation of Building Conditions, along similar lines.

An unusual opportunity is afforded architects to co-operate in the most valuable way, and the necessity, as a patriotic measure, for such co-operation cannot be over emphasized.

Granite Production in 1916

The granite produced in the United States in 1916 was valued at \$17,418,582, 22 per cent of the value of the entire stone output, according to reports of producers to the United States Geological Survey, Department of the Interior. This was a decrease of nearly 3 per cent compared with 1915 and was the lowest recorded production since 1904. Quarrymen generally reported adverse conditions due to use of cheaper material, high wages, poor transportation facilities on account of car and boat shortage, lack of labor, cost of fuel and explosives, and strikes in many districts.

The principal granite-producing States, representing 71 per cent of the total production, and the value of their product in 1916 were as follows:

Vermont	\$2,560,579
Massachusetts	1,997,150
North Carolina.....	1,798,087
California	1,433,022
Wisconsin	1,390,968
New Hampshire.....	1,141,810
Maine	1,068,485
Minnesota	1,048,816

Of these States, North Carolina, Wisconsin and Minnesota were the only States that made an increased output in 1916. North Carolina made a considerable increase in monumental stone, curb-

stone, crushed stone and paving blocks, and went from fifth place to third, and Minnesota made increases in value of building and monumental stone and entered the rank of States whose output exceeded \$1,000,000. Wisconsin increased its output of monumental work and paving blocks. Vermont, which has for many years been the leading granite-producing State, showed a decrease of 8 per cent in 1916. This decrease was due to diminished value of dressed building stone; the value of monumental stone was increased.

Granite is used chiefly for monumental and building stone, paving blocks, and crushed stone.

The values of these products in the United States in 1916 were as follows:

Building (rough and dressed)	\$4,305,517
Monumental (rough and dressed)	4,957,126
Paving	2,288,486
Crushed stone.....	3,543,416
Curbing and flagging.....	838,156
Riprap and rubble.....	1,246,917
Other	238,964
	\$17,418,582

Of the above, monumental stone, riprap and rubble, curbing and flagging, and stone used for other purposes were the only products showing increases for 1917.

Thirtieth Battalion, Gas and Flame

The following announcement is made at the request of the Committee on Public Information, Washington.

The first battalion of American soldiers to meet offensively the gas and fire which the enemy introduced in warfare is being organized as the Thirtieth Engineers, Gas and Flame, with headquarters at Camp American University, Washington, D. C.

The battalion is being recruited from the ranks of civil professions and trades. An exceptionally high grade of talent is volunteering.

Major E. J. Atkisson, Corps of Engineers, a graduate of West Point and of Cornell, is in charge of organization. He has specialized in mechanical and electric engineering, was formerly director of electrical and mechanical engineering, U. S. Army School, and was superintendent of locks, Panama Canal. A number of recent recruits have come into the battalion directly from the Panama Canal service.

Although the gas and flame service was authorized as recently as October 15th, rapid progress has been made in organization, due to its promise of early service at the front and on account of its appeal to men experienced in civil trades which lend immediate qualifications for this special work.

It is announced that there is opportunity for a limited number of enlistments. Muscular, quick-thinking, resolute men, between the ages of 18 and 40 years, for pioneer soldier service of high character are desired. Major Atkisson has announced that any man possessing the necessary qualifications may volunteer at any recruiting station of the country by asking to join the Thirtieth Battalion Gas and Flame, forming at Washington.

The recruiting is entirely upon the volunteer basis, as it is the purpose of the War Department to organize the body from highly qualified material. A number of chemists, electricians and mechanics, well known in civil life, were first to respond to the call for this service.

The recruiting service is requesting employers of men engaged in civil pursuits where suitable experience for gas and flame service has been obtained to suggest this branch of service to those desiring to volunteer for special duty consistent with special training.

The Construction of Concrete Ships

A concrete ship now being built on the Pacific Coast, over 300 feet long and of nearly 5000 tons capacity—no different from the ordinary steel ship except that while a steel ship of equal capacity would cost about \$2,000,000, it is claimed that the concrete

one will cost but \$750,000. This concrete ship is being built after a manner not unlike that used in constructing reinforced concrete buildings. It will be launched early next year.

Another concrete ship has just been built in Montreal and is now about ready for launching.

Barges and boats built of concrete have been in use in this country for a number of years, but only lately have they attracted attention. More extensive use of concrete in shipbuilding has been made abroad. A recent report says that the French Government has contracted for hundreds of such vessels to ply its rivers and between France and England in the transport of war munitions and supplies.

Personal Liability for Preventable Fires

The National Fire Protection Association announces that it will resume in the United States and Canada this winter its campaign for the enactment of city ordinances fixing liability for cost of extinguishing preventable fires upon individuals ignoring fire prevention orders. The ordinance now in force in Cleveland will be followed as a type.

Technical Guildsmen

In response to a request from the recruiting service of the United States Army, the following circular is printed:

JOIN THE CIVIC RANKS AS A TECHNICAL GUILDSMAN

In connection with or in response to the Call of the President for Volunteers, the attention of all Technical men—i.e., men skilled in any line of science or mechanical or electrical or chemical or ordinance or explosives or mining or shipbuilding or railroad or motors or metallurgy or building of aeroplanes or water supply or sanitation, etc., is especially invited to the need of the army for such (young) men—aged 18 to 40—in sundry branches of Technical Troops, concerning which write for literature to Major J. E. Bloom, U. S. A., Newark, N. J.

Any technical "men who are exempt" or who from any cause cannot "volunteer," can yet efficiently co-operate by forming Technical Patriotic Educational Guilds or other societies in their several industries or home neighborhoods, especially to look after the welfare of their neighbors in the service, and to give them the opportunity of obtaining technical assistance, opinions and advice from home, in any war industry, from time to time.

Substitution of Other Materials for Wood

The Government has published a very interesting report upon the subject of the substitution of other materials for wood, which was a part of the investigation of the Federal Trade Commission and of the Forest Service into conditions within the lumber industry, and is now for the first time made available to the general public.

The report is illustrated with charts showing the relative trend in prices of lumber, brick, cements, structural iron and general prices for twenty-five years ending 1915; also other charts showing (in part) the consumption of building brick, of iron and steel structural shapes, natural and Portland cement, of clay building materials and of cut and wire nails. There is also a graphic study of building permits in twenty of the larger cities of the country. The increasing use of metal trim and metal furniture is graphically shown by another diagram. Copies of the report may be obtained for 15 cents from the Superintendent of Documents, Washington, D. C.

San Francisco Enacts City Planning Ordinance

By a unanimous vote of the Board of Supervisors of San Francisco, a city ordinance has been passed creating a commission on city planning. This board will consist of the Mayor, the heads of the Departments of Building and Public Health, the City Attorney and City Architect, three members of the Board of Supervisors and four other persons to be appointed by the Mayor.

Government Conscripts Southern Supply of Timber

Southern pine convertible into shipbuilding materials has been conscripted by the Federal Government in an effort to speed up the wooden fleet program. Official admission by the Washington authorities and representatives of the lumber industry that greater progress in shipbuilding will be necessary to meet the growing deficiency in world tonnage is followed by announcement that the Government will send men south to watch every saw mill and see that timbers which can be put to war service are not diverted into domestic trade.

"In order to compel mills which are not inclined to help out, an embargo will be placed by the Government upon every stick thicker than two inches, wider

than ten inches and longer than twenty feet, which can be applied to the ship schedule," says a bulletin issued by the Southern Pine Emergency Bureau, to all manufacturers of Southern pine.

Cincinnati Chapter, A. I. A.

The following were elected officers of the Cincinnati Chapter of the American Institute of Architects at the recent annual meeting: Louis G. Dittoe, president; F. J. Sheblessy, secretary, and M. Sachs, treasurer.

Texas Architects in Government Service

The following is a list of Texas architects who are serving their country in the various branches of technical work connected with the army and navy:

E. E. Fairweather, second lieutenant, Q. M.; J. W. Secor, second lieutenant, Q. M.; J. B. Blocker, second lieutenant, F. A. (in France); H. Latham, second lieutenant, Q. M.; J. B. Atkinson, second lieutenant, Q. M.; J. S. Moffitt, navy; A. W. Harris, second lieutenant, C. A.; W. S. Crawford, top sergeant in drafted army; C. W. Oliver, drafted; J. T. Oliver, infantry corps; W. L. Nash, Army Y. M. C. A.; E. F. Ries, instructor S. M. A.; R. A. Lipscomb, instructor, S. M. A.; A. E. Thomas, instructor, S. M. A.; W. G. Stacy, aviator; T. D. Broad, aviator; E. W. Duval, second lieutenant, F. A.; W. T. Quoye, infantry; William Lightfoot, engineers; F. Kuenne, drafted.

Personal

Mr. Paul Kohn, 21 South Orange Avenue, Newark, N. J., announces that he is taking over and will continue in the future the architectural practice of Mr. Nathan Harris, who has been called to military service.

William Dubois of Cheyenne, Wyo., and Leon C. Goodrich of Wheatland, Wyo., announce that they have formed a partnership for the practice of architecture under the name of Dubois & Goodrich. They will have offices in the Newman Building, Caspar, Wyo., and desire to receive manufacturers' samples and catalogs.

Messrs. Biggers & Greer, architects, announce that they have opened an office in the Exchange Building, Columbus, Ga., where they will practice their profession. They desire to receive manufacturers' samples and catalogs.

Industrial Information

German Methods in Turkey as Affecting American Manufactures

Methods used by German business in its commercial penetration of Turkey are described and criticized in a bulletin entitled "Turkish Markets for American Hardware," recently issued by the Bureau of Foreign and Domestic Commerce, Department of Commerce.

German endeavors in this field, says the report, have been determined and adroit. Systematic dumping, extensive imitation of patented American articles, and a persistent and carefully organized solicitation of the trade have been salient features in the German campaign to dominate the Turkish markets and link them firmly to the industrial activities of the Teutonic nations.

As is the case with various other important lines American hardware has not as a rule been sold directly to the Turkish distributor. In normal times it is sold through a few firms in Hamburg and Bremen. These concerns have houses in New York, but it is erroneous to consider them as American export organizations. They are German jobbers, working according to German methods and for German interests. They ship American articles to Turkey only if they cannot be replaced on the same terms by German articles. Under such conditions it is an easy matter to market imitations of American goods, according to the Government report. Sometimes their catalogues show American articles on one page and the German imitation on the opposite page, with the advantages of price, quick delivery, etc., of the German goods conspicuously indicated.

These imitations are very close, proceeding even to the brand and name of the article, and there is always a reduction in price. That the Germans keep the American article in the catalogues at all must be ascribed to the fact that there are people in Turkey who appreciate the excellence of the American product, in spite of all manipulations and deceptions, and insist on having what they want.

It is surprising to learn that in spite of conditions under which it is sold in Turkey, American hardware had gained an important position before the war, solely on its merits. It may be surprising even to American manufacturers, many of whom are probably unaware that their goods are sold there at all. Of all the shelf hardware sold in Turkey, fully 60 per cent is sold as American, and 20 per

cent of it actually is American. The holding of 20 per cent of a country's business in a given line, without the least effort to obtain it, is a fact that commends itself to the careful consideration of all those whose wares are involved. The possibilities to which such conditions point when the war is over are fully discussed in the report.

Micholithic, A New Facing Material

While things are seldom what they seem, and the simulation of material may in the mind of the architectural purist constitute an architectural untruth, there is no doubt that there is a wide field of usefulness for a facing material that will adapt itself to different under-surfaces to which it may be applied and produce a surface that will accomplish a great many desirable purposes. A new facing material called "Micholithic" is now being marketed by the West Texas Mica Company, whose offices are at 74 Broadway, New York.

The raw material from which this finish is derived is found in the mica deposits of Texas. When applied it has a granitized facing, and the makers state that it may be successfully used to surface stone, brick, stucco, concrete, terra cotta, cement and wood. It is further claimed that it requires no skill in its application and that it may be had in seventeen natural colors and so manipulated as to imitate any desired surface.

Safety Panels and Cabinets

Crouse & Hinds Company, whose main offices are in Syracuse, N. Y., with branches in New York, Boston and Chicago, have recently issued Bulletin 1D, illustrating and describing safety panels and cabinets for electrical installations. The safety feature of these panels is that they allow unrestricted use of circuit switches without the possibility of the operator's coming in contact with any live part of the system. The fuses and live parts are accessible only to persons holding the keys to the separate compartment in which these live parts are locked.

The desirability of a safety panel in electrical installations where the systems are subject to operation by persons unskilled in electrical devices is apparent, and this feature will be appreciated by every architect.

These panels briefly described are equipped with

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two doors, a large door kept securely locked, which affords access to the live parts when opened. In the large door there is a small panel door just large enough to afford easy access to the various push buttons controlling the currents.

The panels are finished in various metal surfaces and also to simulate wood finishes if desired. Further particulars of this interesting accessory may be had by application to the makers.

"An Investigation of Pipe Corrosion"

The above is the title of Bulletin No. 30, issued by the A. M. Byers Company of Pittsburgh, Pa.

The investigation was prompted by local agitation on the part of property owners who charged that chemicals were being used in the water filtration plants which destroyed the piping to such an extent that not even brass was immune. This subject was taken up by the Pittsburgh Board of Trade and a report rendered which showed that no chemicals were used which could in any way be held responsible for the trouble, but the thought was expressed that the city should not be held responsible for the fact that much pipe of inferior quality had come into use in recent years.

In order to determine the life of pipe under varying conditions of service, Thomas F. Payne, a sanitary engineer of Pittsburgh, was commissioned by A. M. Byers Co. to make a house-to-house canvass of buildings, "with a view to ascertaining all the pertinent facts which might aid property owners in meeting the rust question in the most efficient manner." After several unsuccessful attempts to obtain accurate data from private residences and other buildings, it appeared that apartment buildings offered the best field for investigation, and 125 such buildings, all in Pittsburgh, were investigated.

The investigation showed the corrosion to be most severe in hot-water mains (exposed basement piping), and the recommendation is therefore made that pipe one size larger than that used in regular practice be used. The larger size, having a greater thickness and larger bore, would not so easily rust through or become stopped up with rust.

The hot-water risers, which are usually concealed, proved to have a much longer life than the basement mains. It is therefore a question whether the practice of specifying brass pipe for risers and iron or steel for mains might not better be reversed.

Genuine wrought iron pipe, in sixty-five buildings, ranging in age from eight to twenty years, did not show a single failure when used for cold water supply, and in only one or two of these buildings did the wrought iron hot water risers require any repairs in the same period of time. Lead pipe for

hot water risers seemed to have an average life of eighteen years, one complete failure being recorded after fourteen years' service.

It appeared from the investigation that the pipe lasted a little longer where an automatic water heater was used. This undoubtedly is due to the possibility of maintaining a lower temperature of the water than with a heater not having a thermostatic control, for corrosion increases with the temperature, reaching its maximum between 140° and 170° F. Temperatures from 115° to 130° F. are therefore to be recommended wherever they will serve the purpose.

The rusting out of pipes is one of the prolific sources of trouble for the architect, builder and property owner, and he will welcome any research work on the subject. A copy of the complete report can be obtained on application.

"Why Not More Concrete?"

The Portland Cement Association, 111 West Washington Street, Chicago, has recently issued an illustrated pamphlet, "Why Not More Concrete Tanks?" Just at this time, owing to the necessities of the Government in its war preparations, steel is not available for many purposes, and the substitution of concrete for tanks and standpipes readily suggests itself. As illustrating what may be accomplished in concrete tank construction, not only as to efficiency and durability, but also with a certain measure of artistic expression, is very well shown in the pamphlet referred to. It also contains in its text many suggestions as to construction requirements in the building of concrete tanks and just what should be done to adapt them to different liquids that they may be built to hold. This pamphlet may be had on application, and as it contains many suggestions that at this time are extremely valuable it will be worth the trouble of asking for.

Solving Housing Problems with Concrete

The monthly pamphlet issued by the Portland Cement Association, 111 West Washington Street, Chicago, Ill., deals with the now very important question of industrial housing and offers the solution of the question of better workmen's homes in the more extended use of concrete. The pamphlet contains a number of illustrations of recent concrete construction, particularly in the field of industrial housing and interestingly shows the method of construction of pre-cast concrete. This pamphlet may be had on application.



DETAIL, THE VATICAN, ROME

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