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APPARENTLY it is still doubtful whether the modern "fireproof building" is fireproof, at least in the sense that owners and lessors of such structures would like to have the term understood; that is, as affording absolute security to life and property from the attack of fire. One of the latest trials between fire and fireproofing took place recently in the Horne Building at Pittsburgh, a structure already endowed with a sinister reputation because of a very similar experience it underwent three or four years ago. The structural metal-work was protected with a system of end-construction porous terracotta tile, the fire-shutters being of wood, tin-covered, and elevator-shafts properly enclosed in fireproof walls. The *Engineering Record* seems to regard the test as a satisfactory proof of the fireproof character of the structure. *Fire and Water*, however, an equally keen and no less interested observer, believes that fire won the battle and, if gutted floors and a collapsed roof afford good evidence, we are inclined to agree with the latter authority, all the more because we have heard an insurance man speak of the building as a total wreck. The salvage of the structure, so far as there is any, appears to be due to the fact that the fire seems to have started in the fifth story; but the havoc wrought by heat and flame clearly indicates that much greater damage would have followed if an equally uncontrollable fire had begun in the lower stories. It must not be overlooked, however, that the Horne Building was so planned that it must inevitably lose its contents, at least, in case a hot fire ever got the upper hand: it was one of those abominations, a six-story department-store, filled with combustible goods and having an open well-hole, 22' x 50', at each floor, so that there was, the building not being equipped with automatic sprinklers, no chance to confine the fire to a single floor or, because of the presence of the fire-shutters, to attack it successfully from the outside. Still, the fireproofing, like the fireproofing of the Home Insurance Building in New York, was of use, since in this case it confined the fire within its own walls, just as in the New York one it prevented the fire from reaching combustible buildings on the other side of it. It is questionable, however, how much those who spend money on fireproofing their own buildings will like to find it mainly useful in protecting property that does not belong to them.

WHILE the Horne Building might pass as a fireproof building, we do not know just what was the real character of a building, "supposed to be absolutely fireproof, being constructed of steel and cement," owned by Post & McCord that about the same time was destroyed by fire at Greenpoint, Long Island. The fire, a lumber-yard conflagration, attacked the building from the outside, the draught giving the flame the force and concentration of a blow-pipe flame, under the attack of which, it is said, the terracotta melted and the cement panelling dropped out. Building Commissioner Guilfoyle, however, speaks of rivets melting and dropping out from "exposed structural work," so allowing the collapse of girders

and floors, but whether the structural work was exposed because it had never been protected with fireproof material, or whether it was exposed through the wasting away of the exterior walls under the blow-pipe action of the flame, the newspaper accounts do not declare explicitly. In view of the locality, however, it is probable the building was really one of those nondescript affairs which are called fireproof simply because built in the main of non-flammable materials.

"PROGRESS before precedent" is, from our point-of-view, a very unfortunate motto for any body of men to adopt who propose to do serious work in a serious-minded way. It smacks of the morality of the mere hustler, whose motto is, "Get there, no matter whom or what you hurt." It is a motto to take the fancy of the young and thoughtless who have not yet learned, learned, too, through the precedents of history, that those youthful enthusiasts who undertake to set revolutions in motion are generally the first to be crushed by the very progress they acclaim. This motto adopted by the Architectural League of America is the one thing about this youthful organization that we feel most like criticising. It is a dangerous and immoral statement to parade before the world and is in absolute contradiction of all the precepts of rational living. It is the very precept to rejoice the heart of the exponent of the vernacular in architecture. Progress, novelty, change, the deliberate disregard and scorning of what has been done by others, who by the success attending their doings have established the very precedents which the young men of this association now assert are the things of all things that must be scorned, is this the way to achieve a rational development, a true progress? The idea that lies in it is the same idea that possessed the inventors of the fantastic jargon styled Volapuk, which was to give the world a common language, but though that attempt certainly involved progress—of a kind—its total disregard of precedent brought the undertaking—useful if it could have been accomplished—to an early death. Progress without a proper regard for precedent is an impossibility and if the association really means to preach progress with a due regard to precedent, why not say exactly that in its motto. It seems to us that it would be judicious for the Architectural League of America, which is to hold its second convention in Chicago from June 7 to 9, to consider whether the present motto really declares what they think it does.

ANOTHER thing that ought to be considered at the coming annual meeting of the associated clubs is whether it would not be well to change the name of the association itself. The present name does a distinct wrong to that older society, the Architectural League of New York, itself a very active body and for years known in common parlance as the Architectural League, simply. We have already discovered that it is the practice of the members of the new association to speak of it also merely as the Architectural League. Hence already arises confusion in the minds of interlocutors and a likelihood that prestige and fame will, by one body or the other, be wrongfully won from its compeer through the well-known carelessness of the general public, which, familiar with the existence of one Architectural League, but quite unconscious of the existence of the other, naturally attributes all achievements claimed under that cognomen to the particular association that it may have heard of before. Very possibly, as in cases of mistakes—more often committed by the youthful than by those ripe in years, this wrongful ascription might be an advantage to one body or the other. The world is full of men who pass through it without achieving any public identity, simply because they have been christened junior to a sire already well known, or because chance has given them the same initials as those of some famous man bearing the same surname. For an association which may be useful and long-lived—and we sincerely hope it will be both—to deliberately invite the possibility of its meritorious acts being credited to an older body of nearly identical name and purposes seems to us in the last degree fatuous.

THE great danger in the formation of organizations or congregations of men who have, or think they have, similar aims and purposes is the temptation to yield to the feeling that because such organizations are formed and organized and

can do things, therefore they must do them, must make an impression on society and their time, must make themselves felt. Much of the mischief done by organized Labor takes its genesis in this idea as much as in anything, though Labor has unquestionably many openings where its organic power may be righteously exercised. But this is not the case with such organizations as the Architectural League of America, which may yield to the temptation to do things for the mere sake of showing the world that they have the power, capacity and will to do them, quite unregardful of the fact that no one really wants such things to be done. The temptation is real, the potential mischief is great and, unless the leaders are sane and cool-headed, yielding to the one may easily produce the other. Our prejudice against the new League's motto leads us to think that a word of warning may be timely. As a type of things that are undertaken irrespective of demand or the probability of a useful outcome, we will mention that the new League has established a National Committee upon Municipal Improvement and Civic Embellishment, the membership of which consists of representatives from New York, Buffalo, Rochester, Philadelphia, Cleveland, Chicago, Baltimore, New Orleans and Boston. If the functions of this committee were to be merely of an academic nature, doubtless their considerations might be productive of good to the general public and not harmful to the individual practitioner. But it is announced that this committee proposes "to give advice to municipalities and corporations contemplating extensive improvements." Here is progress and a disregard for precedent indeed! for if there be one thing that, until now, has been held to be established it is that an association may not enter into competition with its own members. The movement is socialistic to a degree. But, accept the progress and accept the socialism, here we have a committee of which the members are eight or nine hundred miles apart and what chance is there of its accomplishing practical results in concrete instances? Little, we think. The academic idea underlying the undertaking is good, but unless the local members of the League are more wealthy than is at all probable, they will hardly relish the idea of having to compete with one of their own committees for work involved in extensive improvements undertaken by their own municipalities.

IT is ten years since competitive designs for the Cathedral of St. John the Divine, on Bloomingdale Heights, New York, were submitted, and when the ordinary man looks from a distance at the east arch of the crossing that rears its gaunt height above the hillside and sees how little, seemingly, has been accomplished in a decade, he no longer wonders at the decades and even centuries that in elder times were required by the builders of European cathedrals before their work could be called done. To the instructed even, who know that a costly foundation for the central tower and spire has been prepared, and that there is a chapel in the crypt usable, if not used, the progress made does not seem large in these days of the rapid accomplishment of great and costly building undertakings, and there is a general feeling of surprise that a wealthy sect, undertaking to build a metropolitan cathedral, should thus early in its operations be delayed through the sluggish inflow of contributions to the building fund. Although it was understood at the outset that the sponsors of the undertaking did not hope to see the building finished out of hand, perhaps not in their life-time, there was none the less a general belief that once actually begun there would be no real difficulty in procuring money to push the work steadily to completion. A single large contribution recently made and a still larger bequest will enable the work to continue for a while and, possibly, other large gifts may follow later; but those able to make large contributions are those whose incomes are particularly sensitive to the fluctuations of the stock-market, and if the purses of the rich few are to be depended on, there will be more likely to be long terms when sound of hammer or steam-engine is not heard about the place than if plans were devised to draw contributions in the nature of Peter's pence from the pockets of the many. The situation suggests, too, the possibility that the Cathedral of St. John the Divine may not, after all, show a homogeneous and congruous design in a single style, but may finally exhibit as many changes in style and design as, say, any of the English cathedrals, and offer to architectural students and archaeologists of a later day as many chances as these do for preparing disputatious papers maintaining one theory or another of authorship and derivation. Many believed at the outset that cathedral building to-day in

this country was an anachronism, and though it is too early to believe that that thesis has been proved, it looks as if the spirit that inspired the builders of other cathedrals were not very broadly disseminated amongst the wealthy citizens of New York, though it may exist in the more lowly of spirit.

THE *United States Government Advertiser* objects to our speaking in approval of the action of one of the Departments at Washington, in limiting the number of contractors allowed to offer bids for the erection of certain buildings, but is good enough to acknowledge that the authorities do find in the enabling acts of Congress full authority for the unusual action that has been taken. We doubt therefore whether our contemporary will approve the expression of our belief that in the matter of Governmental contracts no more mischievous policy can be followed than seeking the lowest bidder in the open market. For the money it spends — no matter what the amount — a Government is entitled to receive the exact kind of material and workmanship it calls for, and the fact that under possible contingencies it may have to pay somewhat above a fair market-price for them is quite immaterial when compared with this all-essential right. When contractors of all kinds, both as to their probity and their means, and as to their knowledge and experience, are allowed to bid on public contracts, it is a matter of common experience that the lowest bid is often far below the range of a possible honest fulfilment. In case of the award of the contract to such lowest bidder one of two things almost inevitably follows, the ruin of the contractor, if he be honest and poor but inexperienced, or the scamping of a public work, through and because of which the Government does not get for its money what it set out to get, that which it has every right to have secured. With a limited number of bidders selected because of their known honesty and ability it is hardly within the limits of probability that the Government will not get just the article described and called for, promptly delivered and well made. Upon a Government, the just guardian of the rights of the whole people, the known and capable contractor has a higher claim than has any possible lowest bidder.

HARVARD graduates who remember an amusing series of cartoons, illustrating scenes at Harvard quite à la Pepys, that were published in the *Lampoon* a score of years ago, will regret to learn of the death of Francis Gilbert Atwood, their author, who died this week at the age of forty-three. The larger community that turns to *Life* for its gentle amusement will also miss the clever satires on matters social and occurrences political which Mr. Atwood knew how to turn out, giving them often a balance and decorative value which showed that besides being a humorist he was also an artist. Some of his hits, where the figures were attired in the Assyrian, Egyptian or Aztec fashions, were often deceptively amusing. It often happens that an artist most generally known as a mere caricaturist and maker of humorous cartoons has also serious aspirations in art — for instance, Cruikshank, who is represented by a large painting in the National Gallery — but whether Atwood was one of these or whether he devoted himself entirely to black-and-white and book illustrations, we do not know.

A GREATER artist, one who wrought in a distinctly different field, has also passed away after a few years' seclusion in an asylum for the insane. Few artists of our time have achieved as broad and well-deserved a fame as the great Hungarian painter, Mihaly Munkaczky, who has, at the age of fifty-four, just died at Bonn, but will be interred at Buda-Pesth, where he received his early training in the art which he was to follow with such success. Leaving Pesth in his early youth, he pursued his training in Vienna, Munich and Düsseldorf, and finally settled in Paris, where most of his working life was spent, some twenty-four years. The picture that won him fame was the "Last Moments of the Condemned," painted in 1869, and now in the gallery in Fairmount Park, Philadelphia; his last one was the "Ecce Homo," exhibited at the millennial celebration of the Hungarian monarchy held at Buda-Pesth. Between these came "Milton dictating Paradise Lost," (1878), now in the gallery of the Lenox Library, New York, "Christ before Pilate," (1881), "Christ on Calvary," (1884), "The Last Moments of Mozart," (1885), and a multitude of minor works, historical, religious and genre, the latter dealing largely with scenes from Hungarian peasant-life familiar to his boyhood, many of which are to be found in private galleries in this country.

ARCHITECTURAL ACOUSTICS.¹—III.

REVERBERATION: APPROXIMATE SOLUTION.

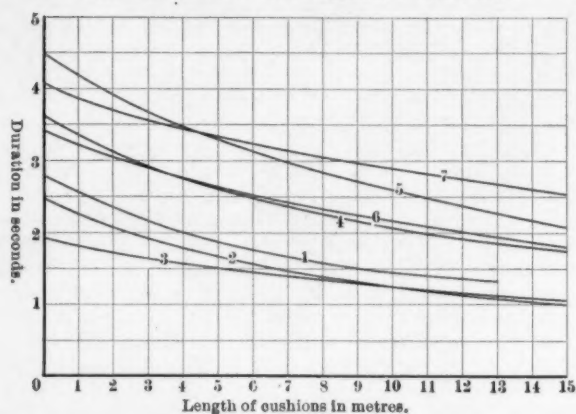


Fig. 8. Curves showing the relation of the Duration of the Residual Sound to the added absorbing material, — rooms 1 to 7.

IN the preceding paper it was shown that the duration of the residual sound in a particular room was proportional inversely to the absorbing power of the bounding walls and the contained material, the law being expressed closely by the formula $(a+x)t=k$, the formula of a displaced equilateral hyperbola. In the present paper it is proposed to show that this formula is general, and applicable to any room; that in adapting it to different rooms it is only necessary to change the value of the constant of inverse proportionality, k ; that k is in turn proportional to the volume of the room, being equal to about .171V in the present experiments, but dependent on the initial intensity of the sound; and finally, that by substituting the value of k thus determined, and also the value of a , the absorbing power of the walls, and of x , the absorbing power of the furniture and audience, it is possible to calculate in advance of construction the duration of audibility of the residual sound.

The truth of the first proposition — the general applicability of the hyperbolic law of inverse proportionality — can be satisfactorily shown by a condensed statement of the results obtained from data collected early in the investigation. These observations were made in rooms varying extremely in size and shape, from a small committee-room to a theatre having a seating-capacity for nearly fifteen hundred. Figures 8 and 9 give the curves experimentally determined, the duration of audibility of the residual sound being plotted against running metres of cushions. Two diagrams are given in order to employ a smaller scale for the larger rooms, this scale being one-tenth the other; and even in this way there is shown but one-quarter of the curves actually obtained in rooms numbered 11 and 12, the Fogg Art Museum lecture-room and Sanders Theatre. In Figure 10 each curve is entered as a part of its corresponding hyperbola referred to its asymptotes as axes. In this case three scales are employed in order to show the details more

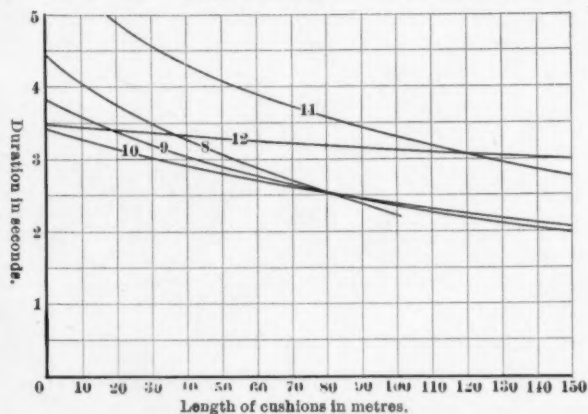


Fig. 9. Curves showing the relation of the Duration of the Residual Sound to the added absorbing material, — rooms 8 to 12.

clearly, the results obtained in rooms 1 to 7 on one scale, 8 to 11 on another, and 12 on a third, the three scales being proportional to one, three and nine. The continuous portions of

the curves show the parts determined experimentally. Even with the scale thus changed only a very small portion of the experimentally determined parts of curves 11 and 12 are shown. Figures 11 to 16 inclusive, all drawn to the same scale, show

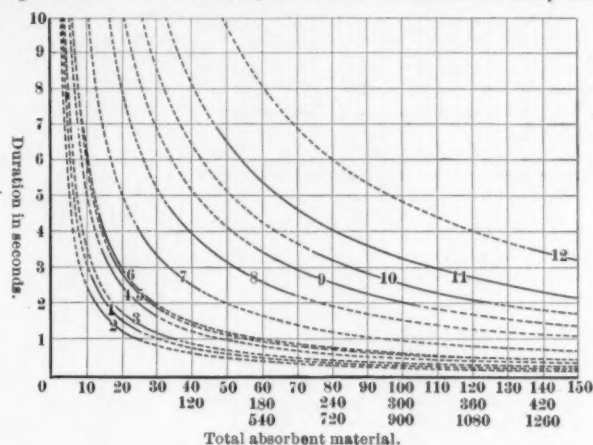


Fig. 10. The curves of Figures 8 and 9 entered as parts of their corresponding rectangular hyperbolas. These scales are employed for the volumes, by groups, 1-7, 8-11, and 12.

the great variation in size and shape of the rooms tested; and the accompanying notes give for each the maximum departure and average departure of the curve, experimentally determined, from the nearest true hyperbola.

1. Committee-room, University Hall; plaster on wood lath, wood dado; volume, 65 cubic metres; original duration of residual sound before the introduction of any cushions, 2.82 seconds; maximum departure of experimentally determined curve from the nearest hyperbola, .09 second; average departure, .03 second.

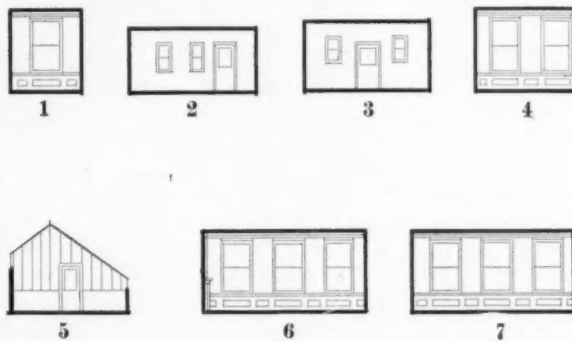


Fig. 11.

2. Laboratory, Botanic Gardens of Harvard University; hard-pine walls and ceiling, cement floor; volume, 82 cubic metres; original duration of the residual sound, 2.39 seconds; maximum departure from hyperbola, .09 second; average departure, .02 second.

3. Office, Botanic Gardens; hard-pine walls, ceiling and floor; volume, 99 cubic metres; original duration of residual sound, 1.91 seconds; maximum departure from hyperbola, .01 second; average departure, .00 second.

4. Recorder's Office, University Hall; plaster on wood lath, wood dado; volume, 102 cubic metres; original duration of residual sound, 3.68 seconds; maximum departure from hyperbola, .10 second; average departure, .04 second.

5. Greenhouse, Botanic Gardens; glass roof and sides, cement floor; volume, 134 cubic metres; original duration of residual sound, 4.40 seconds; maximum departure from hyperbola, .08 second; average departure, .03 second.



Fig. 12. Clerk's Room, University Hall.

6. Dean's Room, University Hall; plaster on wood lath, wood dado; volume, 166 cubic metres; original duration of residual sound, 3.38 seconds; maximum departure from hyperbola, .06 second; average departure, .01 second.

7. Clerk's Room, University Hall; plaster on wood lath, wood dado; volume, 221 cubic metres; original duration of

¹A series of papers by Wallace C. Sabine, Assistant-Professor of Physics at Harvard University. Continued from No. 1269, page 22.

residual sound, 4.10 seconds; maximum departure from hyperbola, .10 second; average departure, .02 second.

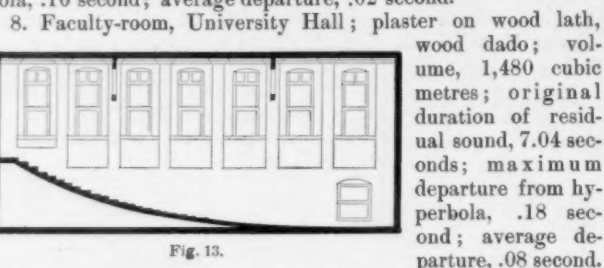


Fig. 13.

8. Faculty-room, University Hall; plaster on wood lath, wood dado; volume, 1,480 cubic metres; original duration of residual sound, 7.04 seconds; maximum departure from hyperbola, .18 second; average departure, .08 second.



Fig. 14.

9. Lecture-room, Room 1, Jefferson Physical Laboratory; brick walls, plaster on wood lath ceiling; furnished; volume, 1,630 cubic metres; original duration of residual sound, 3.91 seconds; maximum departure from hyperbola, .10 second; average departure, .04 second.

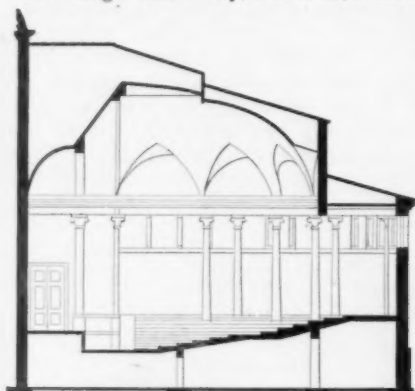


Fig. 15.

10. Large Laboratory, Room 41, Jefferson Physical Laboratory; brick walls, plaster on wood lath ceiling; furnished; volume, 1,960 cubic metres; original duration of residual sound, 3.40 seconds; maximum departure from hyperbola, .03 second; average departure, .01 second.

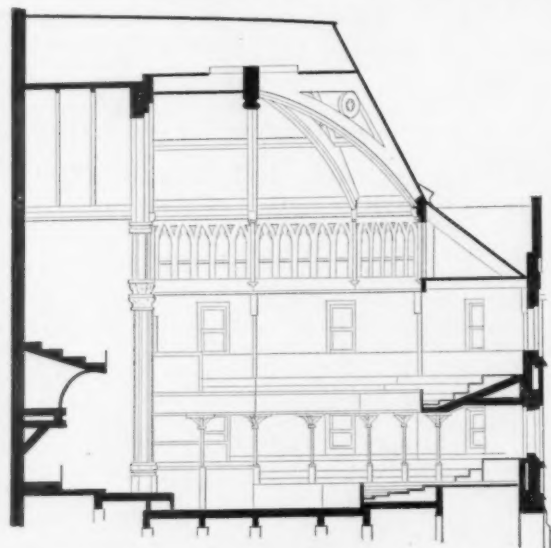


Fig. 16.

11. Lecture-room, Fogg Art Museum; plaster on tile walls, plaster on wire-lath ceiling; volume, 2,740 cubic metres; original duration of residual sound, 5.61 seconds; maximum departure from hyperbola, .04 second; average departure, .02 second. The experiments in this room were carried so far

that the original duration of residual sound of 5.61 seconds was reduced to .75 second.

12. Sanders Theatre; plaster on wood lath, but with a great deal of hard-wood sheathing used in the interior finish; volume, 9,300 cubic metres; original duration of residual sound, 3.42

seconds; maximum departure from hyperbola, .07 second; average departure, .02 second.

It thus appears that the hyperbolic law of inverse proportionality holds under extremely diverse conditions in regard to the size, shape and material of the room. And as the cushions used in the calibration were placed about quite at random, it also appears that in rooms small or large, with high or low ceiling, with flat or curved walls or ceiling, even in rooms with galleries, the cushions, wherever placed, out from under the gallery, under, or in the gallery, are nearly equally efficacious as absorbents. This merely means, however, that the efficacy of an absorbent is independent of its position when the problem under consideration is that of reverberation, and that the sound, dispersed by regular and irregular reflection and by diffraction, is of nearly the same intensity at all parts of the room soon after the source has ceased; and it will be the object of a subsequent paper to show that in respect to the initial distribution of the sound, and also in respect to discrete echoes, the position of the absorbent is a matter of prime importance.

Having shown that the hyperbolic law is a general one, interest centres in the parameter k , the constant for any one room, but varying from room to room, as the following table shows.

Room.	Volume.	Absorbing Power of Walls, etc., $= a$.	Parameter k .
1. Committee-room, University Hall.	65	4.76	13.6
2. Laboratory, Botanic Gardens.	82	4.65	11.1
3. Office, Botanic Gardens.	99	8.08	15.4
4. Recorder's Office.	102	5.91	21.8
5. Greenhouse, Botanic Gardens.	134	5.87	25.8
6. Dean's Room.	166	7.50	25.4
7. Clerk's Room.	221	10.6	43.5
8. Faculty-room.	1,480	34.5	243.
9. Lecture-room, Jefferson Physical Laboratory, 1.	1,630	69.	270.
10. Laboratory, Jefferson Physical Laboratory, 41.	1,960	101.	345.
11. Fogg Lecture-room.	2,740	175.	425.
12. Sanders Theatre.	9,300	465.	1,590.

The values of the absorbing power, a , and the parameter, k , are here expressed, not in terms of the cushions actually used in the experiments, but in terms of the open-window units, shown to be preferable in the preceding article. In the diagram (Fig. 17) the values of k are plotted against the corresponding volumes of the rooms; here again three different

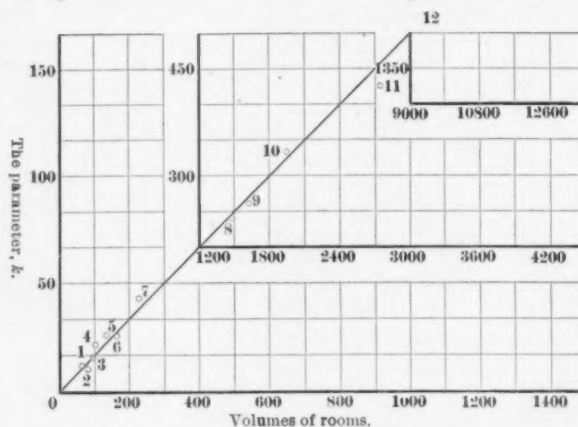


Fig. 17. The parameter, k , plotted against the volumes of the rooms, showing the two proportional.

scales are employed in order to magnify the results obtained in the smaller rooms. The resulting straight line shows that the value of k is proportional to the volume of the room, and it is to be observed that the largest room was nearly one hundred and fifty times larger than the smallest. By measurements of the coördinates of the line, or by averaging the results found in calculating k/V for all the rooms it appears that $k = .171 V$.

The physical significance of this numerical magnitude .171 will be explained later.

This simple relationship between the value of k and the volume of the room—the rooms tested varying so greatly in size and shape—affords additional proof, by a rather delicate test of the accuracy of the method of experimenting, for it shows that the experimentally determined curves approximate not merely to hyperbolas but to a systematic family of hyperbolas. It also furnishes a more pleasing prospect, for the laborious handling of cushions will be unnecessary. A single

experiment in a room and a knowledge of the volume of the room will furnish sufficient data for the calculation of the absorbing power of its components. Conversely, a knowledge of the volume of a room and of the coefficients of absorption of its various components, including the audience for which it is designed, will enable one to calculate in advance of construction the duration of audibility of the residual sound, which measures that acoustical property of a room commonly called reverberation. This phase of the problem is solved, therefore, to a first approximation.

The explanation of the fact that k is proportional to V is found in the following reasoning. Consider two rooms, constructed of exactly the same materials, similar in relative proportions, but one larger than the other. The rooms being empty, x , the absorbing power of the contained material, is zero, and we have $a't = k'$ and $a''t' = k''$. Since the rooms are constructed of the same materials the coefficients of absorption are the same, so that a' and a'' are proportional to the surfaces of the rooms; that is, to the squares of the linear dimensions. Also, the residual sound is diminished a certain percentage at each reflection, and the more frequent these reflections are the shorter is the duration of its audibility; whence t' and t'' are inversely proportional to the frequency of the reflections, and hence directly proportional to the linear dimensions. Therefore, k' and k'' , which are equal to $a't'$ and $a''t''$, are proportional to the cubes of the linear dimensions, and hence to the volumes of the rooms.*

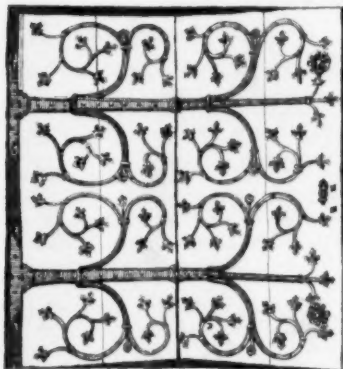
Further, when the shape of the room varies, the volume remaining the same, the number of reflections per second will vary. Therefore, k is a function not merely of the volume, but also of the shape of the room. But that it is only a slightly varying function, comparatively, of the shape of the room for practical cases, is shown by the fact that the points fall so near the straight line that averages the values of the ratio $\frac{k}{V}$.

The value of k is also a function of the initial intensity of the sound; but the consideration of this element will be taken up in a following paper.

WALLACE C. SABINE.

[To be continued.]

A DAY IN PARIS.



From the Church of St. Jacques, Liege, Belgium.

AFTER meeting the usual noisy drunken man, without whom the British landscape would be incomplete, I returned from Winchester to Southampton, and bestowed myself for the night in my stateroom on the boat for Havre, the next incident being our arrival in the dock at Havre, and the hurried transfer to the railway-station. For Paris passengers there is now no custom-house examination of trunks at Havre, and the *visite* to the hand-baggage is quickly made at the pier; so that I was able to take my seat

in the train with mind unruffled by the curiosity of officials. It would take a good deal to make a railway journey in France otherwise than interesting and amusing, but the country between Havre and Rouen is particularly flat and monotonous, and it was not made more charming by a cold rain, turning at intervals into snow. The bare poplar trees, which the Norman farmers have a way of training in a series of joints, to induce them to throw out a quantity of shoots, looked through the rain like gigantic hairy caterpillars standing on their heads, and the fields, covered with snow or mud, were only enlivened by laborers with umbrellas, or strings of horses with blankets thrown over their wooden collars so that they looked like lions harnessed to the plough.

After reaching the hotel in Paris, with my mind free from further anxiety on account of my baggage, I started out with an umbrella to get a general impression of the Exposition buildings from the river, which is the only place at the level of the ground from which anything like a comprehensive view can be had. Even then, the view is not very comprehensive, but, as the boat moves along, a varying panorama of buildings of all sorts and shapes is disclosed, which is very interesting. Naturally, the most important group of buildings is that formed by the two permanent Palaces of Fine-Arts, and these present a striking example of the skill of the French in arranging what may be called urban landscape. As seen from the river, the two colonnaded fronts, lining the sides of the new avenue, are imposing; but, as seen from the Avenue des Champs Elysées, with

the sculptured piers of the Alexander Bridge to lead on the eye to the dome of the Invalides, exactly in the centre of the vista, the new avenue is extremely striking. The sculpture of the groups is, or was, at the time I saw them, not quite finished, and the colonnade of the Grand Palais was filled with the staging built for the execution of the polychromatic decoration of tile-work behind it, so it is difficult to say just what the buildings would look like when completed, but they certainly promise a magnificent effect.

In other respects, Paris shows everywhere the preparations for the Exposition. Evidently, some of the preparations will not be completed by the opening-day, for even the excavation for the station of the Metropolitan Railway at the Arc de l'Etoile is not finished, and the new Invalides terminus of the Orléans Railway, which is a magnificent affair, is not yet covered in; but the Exposition buildings themselves are practically ready, and the completion of the great railway termini can well enough be deferred until the crowds begin to arrive in July and August. It is characteristic of the French pride in Paris that in all directions around the Exposition grounds the pavements are being repaired, worn places in the sidewalks cut out and filled with fresh asphalt, the public buildings scraped, and things in general made ready for company. The Americans and English would, under such circumstances, leave repairs not absolutely necessary to be done after the crowd had gone, so that they would not lose their freshness by the unusual trial; but the Parisians love strangers sincerely, and are never happier than in trying to make themselves agreeable to them. Even among their own people there is an amiable pride in the "Ville Lumière," which is very pretty. This is the season for the militia movements, and thousands of young men from the provinces are sent to Paris for drill, or in the course of their general manoeuvres. Passing by one of the large barracks near the church of St. Augustin, I saw a notice posted by the gate, with the assignment of days and hours when the *jeunes gens étrangers* of the different corps would be conducted on a tour "to see Paris." The idea of detailing our militia officers to take parties of their men around and show them the sights of the town would seem strange enough to us, but it is quite familiar to the French, who still keep faithfully to the principles of consideration for the individual which the Revolution brought, for the first time, into the world.

I had an illustration of the habit of almost affectionate anxiety to oblige which makes the Parisians, as a rule, so charming to the people of all other nations. In one of my visits, I noticed that the *ficelle* was wanting to the top-whip with which one of my young friends, like nearly all the other well-conducted young persons in Paris, was provided, and took the opportunity, on my return to the hotel, to supply the deficiency. The location of both the "Paradis des Enfants" and the "Bébé Incassable" was familiar to me, so I went into one of them to get the whip. On the way, I revolved my French vocabulary, to make up my mind how to ask for what I wanted. "Whip" I knew was "*fouet*," and "top" was "*toupie*," but how to connect them I was not certain. However, I concluded that the most grammatical way would be to ask for a "*fouet-à-toupie*." The woman of whom I made this request looked at me rather doubtfully. She understood the "*fouet*," but the rest of the expression seemed to convey no idea to her mind. She led me around the store, showing me whips of every kind, long, short and middle-sized, except the one I wanted. At last, when the search gave signs of becoming hopeless, I explained, "No, no, *un fouet pour fouetter les toupies*." The woman looked at me a moment, and suddenly a light seemed to break upon her mind. Seizing my hand ecstatically, she exclaimed, "*Ah, un fouet toupie!*" and extracted the desired article from a bin under the counter. It can hardly be supposed that the "greed" for making a sale of a three-cent whip would have induced any one to take so much trouble, and it is only fair to lay it to the account of a real amiability and desire to please which contrasts advantageously with the cold, "Ain't got any," with which the American "sales-lady" disposes of attempts to draw her attention away from the "feller" with whom she is conversing. C.

NOTES ON SOME EUROPEAN SYSTEMS OF FOREST ADMINISTRATION.¹—IV.

NOTWITHSTANDING that operations of a costly nature have failed to yield the results hoped for them, the French Administration of Forests has gone resolutely forward in the course marked out. The benefits have appeared but slowly. It took thirty years to conquer some of the torrents by means of the replanting of denuded mountain-slopes. It was learned that first operations were to be considered as tentative, as a basis only for permanent curative work. As to arrest of emigration, that may be looked for only when the forests and pastures shall have been completely rehabilitated. The benefits of reforestation are cumulative. More money is needed for the work on the Alpine forest-lands of France. Our oft-quoted authority, M. Miane, in his "*Reboisement*," advocates a loan of two hundred million francs to deal with the whole matter as it should be dealt with.

In the Chambers it has been argued again and again that inadequate appropriations mean waste. Finally, the people must be interested in the whole question so as to give it their cordial help. They must be taught how it benefits them.

¹ Continued from No. 1266, page 100.

One comes to recognize, after all, French bureaucracy, a strong factor in all Governmental problems, as one of the obstacles to the perfect practical success of their forestry administration. Certain things which are obviously advisable are, because of this obstacle, left undone; for instance, the employment of local labor is not enough insisted upon. The State should furnish more convincing object-lessons, to teach the people how reforestation and reclamation are going to pay them practically.

Switzerland has an excellent law to this end, which assigns to the peasant of the mountains certain rights in the timber-cutting every five years. This makes it his interest to protect the young trees. It is obvious that there could never be enough forest-guards to prevent trespass without the help of the people. To interest the people by giving them a share in the profits of forest-yield is the surest way to secure such help.

The peasant must be convinced of the benefit he will himself derive from a voluntary relinquishment of the use of his lands while they go into the hands of the Administration for curative and conservative treatment.

The principle involved should not be strange to him, for it is simply, on a larger scale, one which he applies to his own treatment of the home acre. But the freeholder is jealous of his rights as owner, and objects to reforms which are forced upon him, as in the nature of things they must inevitably be.

A people must be brought to see the actual economic advantages of forest protection, to the individual as well as to the commonwealth, to themselves as well as to posterity. And if this end has not as yet been fully reached in France, even after the striving of many years, we may scarcely hope that we are at all near it here in America. And yet, there is always hope that conviction will burst upon us suddenly, that our people will awake to the appalling waste of our forest wealth and do something decisive. It is a strong national characteristic that we insist always upon expecting the best from our people. When the awakening does finally come, what we shall have to fight hardest will be the national impatience to see, to "touch," as they say in France, the profits of forest conservation. We do not entirely monopolize that failing. It is one that belongs to the times, to all times, and to all races of men. In this connection let us note what M. Surell has to say of his own people in his "*Etude sur les torrents des Hautes-Alpes*":—

"In everything we undertake there is the wish to realize quickly; we thirst to enjoy, labor is not to our taste; our eager impatience shrinks from an enterprise whose end we shall scarcely see, whose fruits will ripen for a posterity of uncertain destiny; which seems to us lost in the mists of a far future; for which many of us, unfortunately, can find neither sympathy nor faith."

In this little study of the conditions and the various legislation out of which has grown up the present system of forest administration in France, we will have observed three things:—

1. That the basis of the whole system is essentially the theory of State intervention.

2. That the actual working results of the several laws discussed have invariably pointed toward less absolutism in the State's control, and more and more concession to local interests.

3. That even further concessions to the interests of individuals and communes affected by the works in hand are necessary to the attainment of better results than have yet been reached.

The organization of the executive which carries these forest-laws into effect is generally well known. The Minister of Agriculture is President of the Conseil des Forêts, of which the other members are the Director of Forests and three Administrators, who are severally the heads of the following bureaus:—

1. Legal Business, Instruction in Forestry, Records, Acquisition.
2. Working Plans and Utilization.
3. Reforestation of the Mountains, Public Works, Replanting, Clearing.

Forest officials are recruited from the College of Forestry at Nancy, to which only graduates of the Agricultural Institute in Paris are admitted.

The reader is referred to Gifford Pinchot's "*Government Forestry Abroad*" for a comprehensive description of the French Administration of Forests and its practical workings. Mr. Pinchot remarks that while the course of instruction at Nancy covers only two years, one-third the length of the German course, it gives good results. He notes that communal forests are brought under State control by the law which requires in each case the approval by the State Forestry Service of men selected for forest-guards. He mentions that a fourth of the communal forests are held in reserve for emergencies; that all sales of wood are conducted by State forest officers, the amount needed for use of each family being first set aside and distributed; and that most of these forests are, under "coppice" system, yielding about fifty-nine cubic feet of wood to the acre per annum. The same authority gives the net yield of State forests of France, in 1878, at about two dollars and a half the acre, representing about two-and-one-half per cent on the capital involved. He puts the wooded area of France at 17 per cent of the whole territory, and says that one-ninth of this, or 2,657,944 acres, is in State forests, and that of the latter more than one-half covers hilly or mountainous country.

For details of practice in the utilization of forest products and by-products, one may most profitably consult the "*Manual of Forestry*"—Schlich—a translation into English of the work of Mayr, which forms one volume of the series of text-books in use by the British

School of Forestry. There are some points in this practice which we might be able to adopt at once in connection with the sale of State and Governmental timber for cutting. The sale of standing timber is common enough in France, and is conducted on a perfectly commercial basis, but in these sales "the sylvicultural and protective conditions of the forests" are carefully safeguarded in the conditions of sale.

A sufficient time in advance of the sale of standing timber a pamphlet is issued giving the number and kind of trees in a certain cutting-area to be sold, with an estimate of their cubic contents, and a specification of the conditions, called "charges," with which the purchaser must comply, such as, "pruning, planting-up blanks, repairs to roads," etc., with the estimates of the probable cost of these works. With each such list also are printed the general rules applicable to the purchase of standing timber, and these rules are framed to give ample protection to the forests against the carelessness, ignorance and selfish indifference of some dealers and their agents.

This arrangement might be made feasible and effective with us by means of superintendence, by requiring bonds from buyers and reserving the delivery of whole cutting-area until compliance with contract conditions on parts first allowed to be cut over, or in some such way. The estimates of amount of timber to be expected from cuttings, and of the cost of conditions imposed, are usually verified beforehand by intending buyers, and figure as important factors in setting the price at public sales. These sales take place in the forest or at certain lumber-depots. They are conducted by the Préfet. This officer also conducts sales in private forests at a charge of 15 per cent for his services, and gives a Governmental guaranty of the solvency of purchasers.

As in other countries, there are certain regions in France where local prescriptive rights and royalties on the forest product—now mostly, however, extinguished—use up practically the whole supply. All such rights are to be first satisfied. In some districts the cutting of what might be called agricultural material, such as bean-poles and that kind of minor produce, is freely permitted—or at least these things will be sold at a fixed and nominal price. Otherwise sales are to the highest bidder. There is usually "a corrective tariff for the guidance of forest officials in making sales." Sales may be by public auction or by sealed tender.

The "Dutch auction," is used in France for big lots of standing timber. The seller puts up the lot at a high figure and calls upon the purchasers to respond to successive drops until he has a taker. This is supposed to prevent collusion of buyers and to defeat speculators. The terms of sale are subject to the endorsement of higher forest authorities, and prices are not allowed to fall too low.

There is a good deal of red-tape about registry of purchasers, the delivery, the conditions and time-limit of removal, and other details. Sales are also made by private contract, and "converted timber is also sold in small lots at auction." "The sale of standing trees with right of felling and conversion is preferred by large dealers. This gives them the crown and stump."

The disadvantages to the forest, says the "*Manual*," are that the buyers control the felling-area for a time; the Government loses on quantities; and conditions, however carefully specified, cannot be fully enforced; but it is the best system to follow in the case of clear cuttings, and is also used where forest-labor is scarce.

This business of sales is thoroughly systematized in France, and the authorities agree that the conditions are generally complied with by the large dealers, but the best expert opinion inclines to the view that "sale of converted timber pays best to the forests," and that State authorities should offer the highest wages for forest-labor to ensure good work.

It may be that we would gain a good basis for what we need as a Forest Administration in the United States under a carefully-framed bill for the present conversion and sale of ripe timber on the public timber-lands, controlled by departmental regulations formed on methods found to work satisfactorily elsewhere, but modified to suit our local conditions. Such sales of produce from our public forests, with careful assortment of yield, and Government guaranty of quantity and quality, would in nowise interfere with proper private enterprise, and would go far toward equalizing conditions for the whole lumber-trade. In Europe, increased means of communication have brought about a pretty constant average of prices, but there are still great differences as between prices in the Tyrol and in Switzerland, for instance, or even between cantons of Switzerland.

In the Alps generally the prices depend upon the "altitudes of different zones" of the timber-belt.

Governmental sale of timber does not eliminate the middleman. On the contrary, he remains the important factor that he is in the sale of all produce. He makes and extends markets, "and does a lot of work, in connection with his business, of benefit to the forester."

The qualifications the authorities would need to require in men chosen to control the conversion and sale of timber on the public lands of the United States might be limited to integrity, good business sense, aptitude, and some practical acquaintance with the lumber-trade of the country.

The higher attainments required for the operations of road-making in order to open the forest regions to commerce, of replanting, and of general conservation, would be found, as the scope of operations developed, among the young men among us who have been for some years past preparing themselves for forestry as a profession.

A. B. BIBB.

GERMAN DEPARTMENT-STORES.

A GREAT fire which during the Christmas-shopping season destroyed a large department-store at Rixdorf, a suburb of Berlin, Germany, has furnished the cue to the Berlin police to enact certain measures intended for the better protection of both the shopping public and the employés from the ever-present dangers of threatening conflagrations in structures of this kind. Persons erecting department-stores, or bazars, as they are called on the other side, hereafter will be obliged to comply with the following requirements, in addition to others that have been in force heretofore and are similar to our own: The separate sections of the store-building which, for the sake of easy communication, cannot be divided by fire-walls, must be capable of being cut off from each other by steel-plate rolling shutters, forming a perfectly fireproof partition, which, at the moment of danger, can be instantly lowered by simply pressing an electric button. To prevent the flames from breaking through the plate-glass front of the façade and thus leaping from a burning story to the next story above, fireproof steel-plate screens, twenty inches in depth, must be provided, both near the ceiling and near the floor of each story and extending the full width of the front. The cellar, or basement, is to be divided off into independent sections of about five thousand four hundred square feet each, completely shut off from each other by solid masonry-walls with automatically-closing steel doors. There must be two stairways leading from each of these cellar-sections into the open air. So much for new structures yet to be erected. Those now in use must be governed by the following directions: On all stair-landings hydrants must be provided in easy reach, with at least eighty feet of hose ready for immediate use, so that every part of a large store may be sprinkled without loss of time. It is forbidden to place in the aisles on the first floor any tables or counters that might hinder the free exit of the people.

Rugs, curtains and hangings of every description cannot be allowed to hang over railings of galleries or light-and-air shafts, such objects being often the means of communicating the fire from one floor to the next. Similarly inflammable built-up arrangements of ribbons, handkerchiefs, fans, parasols, etc., cannot be tolerated. It is also suggested that proprietors of department-stores should not rest content with observing the foregoing general directions, but should devise additional preventive measures of their own individual choosing. They should see that their employés are drilled to fight a fire at the start, that each person is fully informed about the different exits from the building. The salesmen should be directed how to quell a panic among the public, and how to safely conduct a crowd of people from the store. Employés, who keep their hats and wraps generally on the top floor, must be cautioned not to rush for the cloak-room in case of fire, while the proprietors are advised to insure the contents of the cloak-room, to guard the employés against loss.

To American readers this new evidence of the solicitude of a paternal government may appear exaggerated and objectionable, but it cannot be denied that much good may, and likely will, be accomplished by the strict enforcement of such measures.

F. G. LIPPERT.

BOOKS AND PAPERS

SINCE the time of Reid and Gilmore great advances have been made, or ought to have been made, in the manufacture and use of cement, and Mr. Butler's book¹ fills admirably a vacancy which has long been obvious to those who are entrusted with the responsible direction of works for which Portland-cement is required. Of course, plenty of elementary books on cements have been published within the past ten years, but the architect and engineer does not want elementary books. What he needs is the authoritative statement of experience, which will not only give him information that he can use in arranging for the employment of the material, but will correct or confirm the mass of desultory knowledge which every professional man picks up from the technical journals, and which he does not dare to store up as a part of his stock of professional knowledge without such expert revision. Mr. Butler, who has had many years' experience in manufacturing and testing Portland-cement, is well qualified for this task, and the great variety of suggestions and observations that he includes in his book make it particularly valuable to the practitioner.

We cannot say that the perusal of Mr. Butler's chapters on manufacture do much to reassure the engineer or architect who is dependent on the maker for the quality of the cement that he uses. Although the best manufacturers secure a tolerably uniform quality in their product by continual testing, the properties of Portland-cement are so greatly affected by variations in the proportions of the materials, the manner of burning, the kind of coal or coke used, and other circumstances, that it will seem to the reader surprising that anything like uniformity in the finished material should be possible. In England the old-fashioned kiln, in which the lumps of mixed clay and lime are mixed with the coke for burning them, is generally in use, modified only by the addition of drying-floors, to utilize the waste

heat for drying the moist lumps of material. It is not surprising to find that cement so made often contains "noticeable quantities" of sulphur; but this is usually harmless where the cement is used for concrete. Whether it would be harmless in case a steel frame were buried in concrete, or grouting made with such cement, is, we should suppose, at least doubtful, and American architects, who use immense quantities of Portland-cement in contact with steel, would be very glad to have the question investigated.

Mr. Butler's earlier chapters are intended rather for the manufacturer than the user of cement, but they contain some very useful suggestions. In speaking of the grinding of cement he makes the important observation that the "flour," or impalpable dust, of cement is "the essential and most active part." It seems that, under the microscope, the "flour," instead of appearing as irregular black or gray lumps, shows white, transparent crystals, like white sugar. It would seem as if these crystals, formed by the final disintegration of the lumps, were alone capable of entering into the new combinations formed in the hardening of cement, and the production of such ultimate crystals in large proportion should be the aim of the manufacturers. Unfortunately, the most rapid grinding processes do not favor their formation, and no sifting will separate them from the larger lumps, so that the manufacturer is, to a certain extent, obliged to choose between economy of production and quality of product.

Another property of Portland-cement, as now made, is that it must be stored for some time before it is fit for use. Years ago the users of English-cement were accustomed to empty the bags, as received, on the floor of some unoccupied room and let it "season" there. This inconvenient and expensive proceeding is no longer necessary, as all manufacturers "season" their own cement uniformly before sending it out.

In using cement, recent experience has shown some curious facts. Every architect will remember reading about the wonderful properties of Indian cement, which consists of burnt lime mixed with sugar and water; and we have known the virtues of the Roman mortar, which is reported to have been made with milk, attributed either to the sugar in the milk or to some saccharine addition. However all this may be with the Roman and Indian mortars, sugar behaves very differently with Portland-cement. Mr. Butler says that he once had occasion to test some bags of cement, which proved far inferior to the requirements of the specification. The briquettes not only broke under a tension abnormally small, but small reddish-brown blotches formed over them. On sifting samples of the cement, "one or two crystals" were found which proved to be crystals of sugar, and it was discovered that the cement had been put into old sugar bags, and that the particles still adhering to the bag had been sufficient to spoil all the cement in the bag.

THE publishing house of Hoepli, of Milan, has been fortunate in securing the services of Professor Melani in the preparation of its series of artistic manuals. In nothing is a profound knowledge of the subject treated, and a clear and condensed style of treating it more necessary than in a popular manual, but it is rare to see these two things so happily combined as in the little series of which the present work² forms the third number.

As is expected in a handbook, the history of Italian art begins from the earliest period, the tombs of Corneto furnishing several examples of Etruscan painting. Too much use is not made of the tempting abundance of material of this kind available, but what is given is sufficient to suggest to the professional reader the directness of descent of later Italian art from the antique. Naturally, Pompeian and Roman mosaic and painted decoration follow at greater length, with abundant illustration, some of the examples given being, so far as we know, new to text-books; and, after a short dissertation on the early Christian painting in the Catacombs and elsewhere, we come to the art of the Middle Ages, which Professor Melani begins with the Byzantine mosaics at Ravenna. From these the transition is easy to Giotto and the Florentines, and thenceforth we find ourselves on familiar ground. The book virtually finishes with Canaletto, although a discreet glance is given at the Moderns. The illustrations, probably inevitably, are a mixture of line engravings and photographic process-plates, but both are good, and the selection is made with admirable judgment. At the trifling price for which this little work is sold, nothing that we know of approaches it as a comprehensive treatise on the subject. The Italian is very easy, and the illustrations explain themselves, and readers may remember that there is no duty on books in a foreign language, and that they can receive works like this by mail without delay or extra expense, except a trifle for postage.

NORWEGIAN BUILDING-PASTEBOARD. — A specially prepared pasteboard is used for lining houses in Norway, and is noteworthy on account of its being damp-proof and a non-conductor of heat, while it also deadens sounds and keeps away vermin. The pasteboard is used in layers, with asphaltum between and pressed into a solid plate. It is pliable, so that it can be bent around angles without breaking, and will not rot. This variety is known as Savareid building-pasteboard. — N. Y. Evening Post.

¹ "Portland-Cement": Its Manufacture, Testing and Use. By D. B. Butler, Associate Member of the Institution of Civil Engineers. New York: Spon & Chamberlain, 12 Cortlandt Street. 1899.

² "Pittura Italiana, Antica e Moderna": di Alfredo Melani. Second Revised Edition; 137 Plates and 23 Engravings in the text. Milan: Ulrico Hoepli. 7½ francs.



[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

NEW COURT-HOUSE OF THE APPELLATE DIVISION, EAST 25TH ST. AND MADISON AVE., NEW YORK, N. Y. MR. JAMES BROWN LORD, ARCHITECT, NEW YORK, N. Y.

THE building is constructed entirely of American white marble from North Adams, Massachusetts, except the columns, which are from Proctor, Vermont. The design is free Classic and will be enriched with sculpture later. Above the main pediment there will be a large group of "Justice," by Mr. Daniel Chester French. The bas-reliefs of the pediment itself are being executed by Mr. Charles H. Niehaus, and represent "The Triumph of Law over Anarchy." The two large seated statues flanking the entrance on either side are by Mr. F. W. Ruckstuhl, and represent "Force" and "Wisdom." Reclining on the two pediments over the two windows on either side of the entrance-doors are figures of the four hours of the day, by Mr. M. M. Schwartzott. The large group surmounting the central portion of the Madison Avenue façade is by Mr. Karl Bitter, representing "Peace." The caryatides by Mr. Thomas Shields Clarke represent the four seasons. Upon each of the pedestals of the balustrade surmounting the top of the building will be individual statues of historic law-givers, executed by the following sculptors: Mr. Philip Martiny, Mr. William Couper, Mr. Charles A. Lopez, Mr. E. C. Potter, Mr. J. S. Hartley, Mr. George E. Bissell, Mr. Herbert Adams, Mr. J. T. Donoghue, Mr. A. Lukeman and Mr. H. K. Bush-Brown. The room is lighted by a stained-glass dome and by stained-glass windows, executed by Maitland Armstrong & Co. The floor is carpeted to avoid noise, and the ceiling which is divided into panels by heavy plaster beams, is richly modelled and gilded. There is a private entrance arranged for the Justices from Madison Avenue, which avoids their going through the public hall-way, and the dais of the Court-room is reached by a private passage running behind the staircases and elevator, and connecting with the staircases and elevator, and with the stenographers' rooms. The second story is devoted to the private offices of the Justices, and the ante-rooms for their private secretaries. Also a large library and consultation-room is provided in this story, and ample storage room for extra volumes. The third story also contains offices for two of the Justices, with ante-rooms, storage accommodations and apartments for the janitor.

PLANS AND DETAILS OF THE SAME.

DETAILS OF MAIN PORTICO OF THE SAME.

[The following named illustration may be found by reference to our advertising pages.]

CHÂTEAU D'EAU: PARIS EXPOSITION OF 1900. M. E. PAULIN, ARCHITECT.

This plate is copied from *l'Architecture*.

[Additional Illustrations in the International Edition.]

COURT-ROOM OF THE APPELLATE COURT, NEW YORK, N. Y. MR. JAMES BROWN LORD, ARCHITECT, NEW YORK, N. Y.

[Gelatine Print.]

THE main court-room is treated with marble pilasters, with bronze-gold capitals, and wainscoting of the same Sienna marble, ten feet, nine inches in height, leaving frieze spaces of about four feet three inches between the wainscot and the cornice, except the wall-surfaces between the pilasters directly facing the bench of the Justices, where a lower wainscot leaves spaces for three square panels. The bench, screen and dais are executed in dark oak, very richly carved, as are also the railings enclosing the private space reserved for lawyers. In the main court-room, the three large panels opposite the dais of the Justices have been painted by Mr. H. O. Walker, Mr. Edward Simmons and Mr. Edwin Howland Blasfield. The central panel is by Mr. Walker and represents "Wisdom," attended by "Learning," "Experience," "Humility," and "Love," and by "Faith," "Patience," "Doubt" and "Inspiration." The figure of "Wisdom" is intended to personify biblical or spiritual wisdom. The figure "Love" is meant to carry out the sentiment of the figure of "Wisdom." The panel to the right is by Mr. Blasfield and represents "The Powers of the Law." "The Law" draws her sword in behalf of "Appeal." On either side stand magistrates in black gowns and

also figures of a Roman magistrate typifying "Roman Law." An early Anglo-Saxon typifying "Common Law," a bishop typifying "Canon Law." Two female figures flying above are about to place upon the head of "The Law" the crown, as symbol of power. In the lower corners of the picture two children support shields bearing the seal of the Court of Appeals. The panel to the left is by Mr. Simmons and represents "Justice of the Law." In the centre "Justice," "Peace" to her left, "Plenty" to her right. "Peace" recoiling from "Brute Force," who is withheld by "Fear." "Plenty" assisting the needy, with a figure of "Labor" behind, who hails "Justice" as deliverer. In the foreground a child, typifying "Mercy." The two frieze panels to the right and left of these three large pictures are by Mr. George W. Maynard, and represent the seals of the City and State.

DETAIL OF SOUTH WALL: APPELLATE COURT-ROOM, NEW YORK, N. Y.

[Gelatine Print.]

THE small decorated panels are by Mr. Joseph Lauber.

THE LIBRARY CHIMNEYPiece: APPELLATE COURT-HOUSE, NEW YORK, N. Y.

[Gelatine Print.]

ST. OLAVE'S GRAMMAR SCHOOL. MR. E. W. MOUNTFORD, ARCHITECT.

HOUSE AT REIGATE, ENG. MR. CHARLES E. SALMON, ARCHITECT.



RIVER POLLUTION IN JERSEY. — The State Sewerage Commission has determined to make the cleansing of the Passaic River its first work, and to this end has asked the municipalities which are now sewerage into that river to make known to the Commission their views as to the most feasible method of disposing of the sewage of their respective communities and speedily abating the nuisance. This action is tentative, the Commission having power, under the law recently enacted enlarging its powers, to fix the date at which river pollution must cease, but the Commissioners feel that public opinion is now so aroused that the cities and towns along the Passaic will act without the pressure of the law. It is believed that a general agreement will be reached within a few months, either to erect plants for the scientific treatment of the sewage of the Passaic River communities, or else to build the much-discussed trunk-sewer to the sea. The former plan seems to be in favor with most of the Commissioners, but W. H. Hunt, the Chairman of the Commission, regards the trunk-sewer project as the most feasible, and the commission will agree to the plan most in favor with the municipalities directly interested. Whichever plan is adopted, the cost will be enormous, but the new law provides for the formation of sewerage districts and the issuance of long-term, low-interest bonds on the credit of the municipalities, so that the work will not be burdensome. — *N. Y. Times*.

A FRENCH MONUMENT FOR WATERLOO. — In the course of the proceedings which followed the annual dinner of the French military historical society, the Sabretache, which was held the other evening in Paris, the details of a proposal for the erection of a monument to the memory of the French soldiers who fell on the field of Waterloo were made public. The scheme originated with MM. Henry Houssaye, Gustave Larroumet, and Count de Maurow, who privately purchased a piece of ground forming part of the battlefield situated close to the Belle Alliance farm, where the last two squares of the Old Guard fell. This piece of ground they have presented to the society, which has undertaken to erect the monument, which, it is expected, will cost \$4,000. Half of this sum was subscribed at the dinner, and the other half will be furnished by members who were not present at the festival. The monument will be designed by M. Gérôme. It will be very simple, and will consist of a pyramid or column of granite, at the summit of which will figure a bronze eagle mortally wounded, but still defending the flag. It is specifically stated that this project on the part of the Sabretache Society has no political character. The idea is solely to mark by a pious souvenir the place where are buried 25,000 Frenchmen, the flower of the armies of the Revolution and the Empire. — *N. Y. Evening Post*.

THE MANUFACTURERS AND THE WANING NATURAL-GAS SUPPLY. — Glass-manufacturers in Indiana are preparing for the time, thought to be rapidly nearing, when the natural gas will be exhausted, and other sources of cheap heat and power will have to be sought. According to a correspondent of the *Indianapolis News*, the manufacturers in Muncie are making and storing great quantities of glass. One of the Muncie concerns has acre after acre of finished ware piled high in its mammoth warehouses, much of the goods having been carried for more than a year. The same condition exists in most of the larger factories in the gas-belt, and those that lack capital are borrowing money for the purpose. Glass can be manufactured more cheaply with natural gas than in any other way. It was this that led to the establishment of so many factories in the gas-belt. The supplies are accumulated in anticipation of a necessity to move, and in the expectation that prices will be higher when coal supplants gas as fuel. — *Exchange*.

THE AMERICAN ARCHITECT AND BUILDING NEWS

ADVERTISERS' TRADE SUPPLEMENT.

No. 216.

SATURDAY, MAY 5, 1900.

VOLUME LXVIII.
No. 1271.

A PERFECT CEMENT AND PLASTER MIXER.

THE Broughton Mixer here illustrated is manufactured by W. D. Dunning, Syracuse, N. Y. The makers claim many points of superiority for it over any mixer in the market.

All working-parts and mixing-chamber are made of iron and steel. It has two shafts running horizontally, geared to run in opposite directions, so that the paddles placed on the shaft in a screw-form lift the material from the bottom of the case and throw it in two directions from one end to the other, keeping it in constant motion and obtaining a perfect mixture.

All bearings are run in self-oiling boxes outside of the case, so that the material does not come in contact with them. The receiving-chamber passes through the floor above, forming a hopper for receiving material. The gearing has a worm attachment meshed into it, and attached to a vertical shaft running through the floor and operated by a hand-wheel on top, which lets material into mixing-chamber gradually, so as not to slacken speed of the machine. The shaft attached to lower case has a double lever which allows the operator to let the material from the mixing-chamber into bags. The lower receiving-chamber has a bag attachment with five pockets each provided with a slide-gate and an automatic bag-holder.

There is no time lost during the operation, for while one charge is being bagged another is mixed and a third is put into the receiving-hopper above.

The Mixer has a capacity of forty to sixty tons per day of ten hours, and will hold from two to three thousand pounds of material at one time. The high speed and double set of paddles revolving in opposite directions makes results possible with the Broughton Mixer that can be obtained from no mixer on the market having but one set of paddles.

The manufacturers will be pleased to furnish estimate and submit sketch to any person desiring information. The Broughton Mixer is the strongest, fastest and most durable Mixer made. These Mixers are in most of the large factories throughout the country.

AUTOMATIC SPRINKLER.

It gives us pleasure to acknowledge the receipt of the new catalogue of the International Sprinkler Co., whose works and main offices are in Philadelphia.

Mr. Clarke Merchant, President of Merchant & Co., Inc., is President, and the inspiring spirit of this Company, which was reorganized from a former concern that had been in the manufacture and installation of

great insurance companies and bodies are entirely satisfied with the International system and heartily endorse it. During the past six months this Company has been taking numerous and important contracts for fire-extinguishing apparatus all over the country, and we are at liberty to state with authority that it has doubled its business in this time. As a matter of fact, the Company only needs to be generally known to stand in the front ranks of manufacturers of this class of work.

Mr. Merchant makes the explicit statement that this Company is in the field to stay, and as an indication of this they are now engaged in the construction of a large new addition to their manufacturing plant which will be completed early this summer.

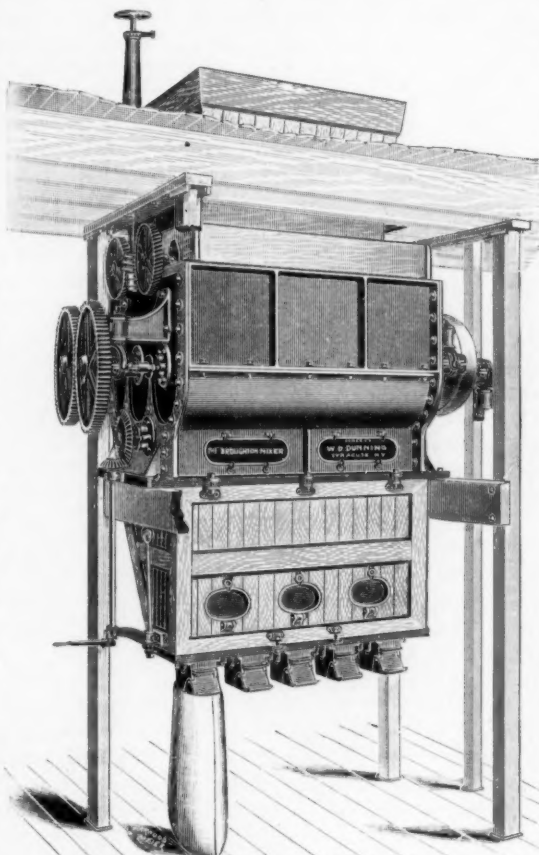
The Company owns valuable patents which exhaustive investigation has proved are perfectly sound and original, and which have marked points of superiority over anything heretofore put on the market.

The Superintendent of the Company, Mr. Frank McNamee, has been engaged in the manufacture and installation of sprinkler contracts for more than a quarter of a century, and has earned a wide and high reputation for workmanship of the best character.

Any one who is interested in the protection of any class of property from fire is invited to correspond with the Company or to send inquiries to any of the offices or representatives of Merchant & Co., Inc. They will immediately have placed at their disposal a fund of information on this subject.

The recent great advances in insurance rates in all the large cities is an indication of the importance of equipping property of every class with automatic sprinklers, which method alone is a protection against an

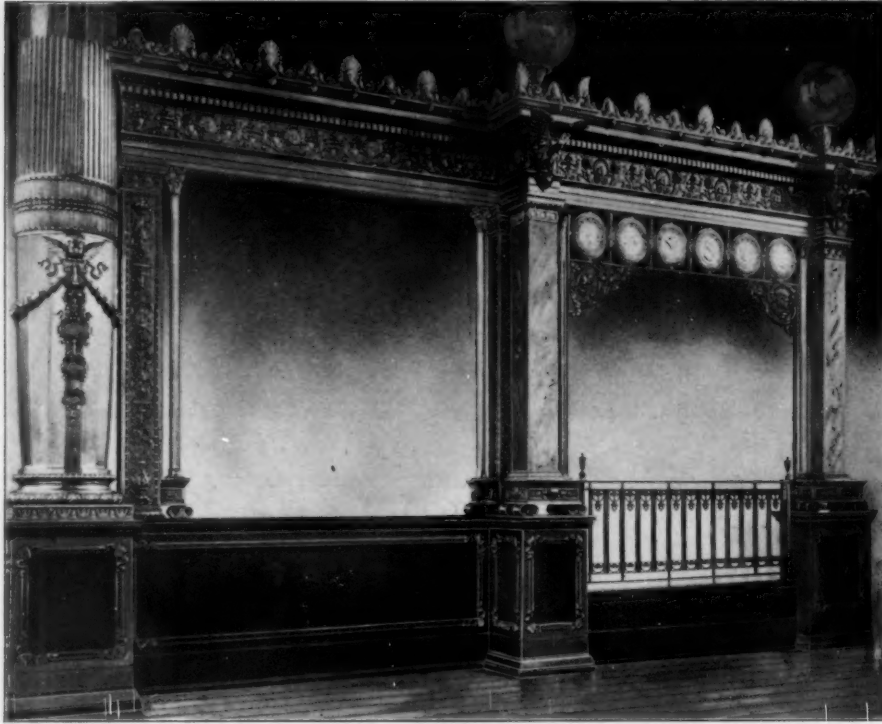
increase in fire insurance. The record of all approved automatic sprinklers for saving property is really wonderful. The statistics of insurance companies show that an average of fire-loss in buildings equipped with automatic sprinklers is less than 7% of the buildings that are not so protected, hence the reduction of insurance rates 20% to 70% when mills and factories are equipped with sprinklers.



The Broughton Mixer.

sprinkler work for a number of years. The progress that this Company is making in every way is quite in line with the activity and capacity of the gentleman who is its head.

The catalogue is a model of the printer's art, and outside of its typographical excellence it is a thoroughly business-like and detailed statement covering the installation and manufacture of automatic fire-extinguishing apparatus. It includes reproductions of the insurance approvals of the International devices which make it perfectly plain that the



SECTION OF FACADE AT ENTRANCE TO U. S. EXHIBIT
IN MINES AND METALLURGY BUILDING, PARIS EXPOSITION, 1900
This Facade is 162 feet long, 15 feet high, and was Designed and Executed by
THE WINSLOW BROS. COMPANY

The Winslow Bros. Company Chicago Ornamental Iron and Bronze

REMOVALS.

THE office of E. Thiele, importer of Portland-cement, for many years at 78 William St., has this day been removed to 99 John St.
NEW YORK, N. Y., April 10, 1900.

THE U. S. Mineral Wool Co., who have been located for so many years at 2 Cortlandt St., New York City, have removed to 143 Liberty St., where a cordial invitation is extended to those interested in the use of Mineral Wool for fire-protection and other purposes to call and investigate the merits of the Company's product. The new headquarters will afford every facility for handling the rapidly growing business of the U. S. Mineral Wool Co. with the greatest convenience and dispatch, and are admirably situated for those entering or leaving the city by the leading railroads and steamship lines.

IDEAL GAS-RANGES.

WHILE for the moment we are in this journal advertising merely our Ideal Low-tank Closet, it should not be forgotten that we also manufacture an Ideal Gas-range — of which we give this description: —

Baking. — A roomy, convenient, perfect baking-oven is appreciated by no one so much as the person in charge of the kitchen, and who is responsible for the palatable, well-cooked food served to the household.

Ovens in Ideal Common-sense Ranges are constructed with the greatest care, and are absolutely quick and even bakers. The oven bottoms are cast-iron and removable.

Broiling. — In the Ideal Common-sense Range, the broiler is located at a point directly to the right, and on a line with the top cooking surface, and in place of a cramped and stingy little broiler, we give broiling-space ample for all requirements. This broiler is constructed so as to ventilate perfectly, with absolutely no objectionable odor escaping into the room.

Warming Oven. — Since the introduction of gas for cooking, one of the principal objections of the practical housewife has been the lack of warming-space where food could be nicely kept until ready to be served. In the Ideal Common-sense we have completely removed that objection, as we furnish a large warming-oven, conveniently located, having a drop-door which adds to the convenience in resting large platters.

Water-heater. — Directly beneath the warming-oven we have fitted a water-heater of capacity sufficient for all ordinary necessities. The heater is constructed of wrought-iron pipe, elbows and return bends, and is strongly encased in a galvanized jacket. The burners are economical and efficient, and the construction entire is so that the water-heater complete can be readily attached or detached.

Closet. — A just complaint of the practical user has been, how and where to keep the usual cooking-utensils necessary in a clean, dry, handy place. In answer, will say that directly under the cooking top will be found a large, neatly-arranged closet for just such purposes.

We wish in conclusion to state that the Ideal Common-sense is all that the name implies. The prices and various styles are fully illustrated and described in our circulars, and we will gladly ship a sample for your inspection and approval, assuring you that this class of goods will sell strictly on their merit.

THE IDEAL MANUFACTURING CO.,
DETROIT, MICH.

A NEW BRIDGE-BUILDING PLANT.

THE Berlin Iron Bridge Co., of East Berlin, Conn., have made an extensive purchase of real estate at Pittsburgh, Pa., and have already started on the new plant to be located at that point. They have bought fifty acres of land between the Pennsylvania Railroad and the Ohio River, upon which they will locate their plant, and in addition, fifty acres

back from the river, and upon this latter piece they will put up a number of houses for the use of their employes. The foundations for the buildings are now being put in place, and it is the intention that this plant will be in complete operation by the first of July, as the orders for the machinery equipment have been placed for some months.

The Office-building will be 60 feet square and four stories in height, and will be a fire-proof construction throughout. The Template Shop will be 60 feet in width and 300 feet in length, two stories in height. The Main Shop will be constructed entirely of steel and glass, and will be 220 feet in width and 700 feet in length. The entire plant will be equipped with new machinery, which will be of the heaviest and most modern design, and the orders have been placed with the Hilles & Jones Co., of Wilmington, Del., the Cleveland Punch & Shear Works Co., of Cleveland, O., the Niles Tool Works Co., of Hamilton, O., and the Brown Hoisting & Conveying Co., of Cleveland, O.

The hydraulic plant will be very elaborate, and will be furnished by Wm. H. Wood, of Media, Pa. The floor-surface of the Main Shop is to be controlled by twenty-three travelling-cranes of various sizes and design, of the heaviest capacity, all furnished by the Chisholm & Moore Mfg. Co., of Cleveland, O. The fuel used will be natural gas, the engines being furnished by the National Metre Co., of New York, N. Y. The machinery will be operated throughout by electricity, the generators and motors being furnished by the General Electric and Westinghouse people.

The Berlin Iron Bridge Co. have had a very large experience, extending over long years, in designing and building manufacturing plants, and they intend that this their own plant shall be the most perfect and complete of its kind in the world. No pains or expense have been spared in making it such, and the Company are now taking contracts to be built at this

Atlas PORTLAND CEMENT

Guaranteed to be Superior to any Imported or Domestic Cement.

Used Exclusively in the Following New York Buildings:

HAVEMEYER BUILDING
ST. PAUL BUILDING
AMERICAN SURETY BLDG.
BANK OF COMMERCE

SINGER BLDG.
UNIVERSITY CLUB
N. Y. LIFE INS. BLDG.
STANDARD OIL BLDG.

JOHNSTON and PRESBYTERIAN BLDGS.

Atlas Portland Cement Company

143 LIBERTY STREET
NEW YORK

plant for delivery after July 1st. The capacity will be from 3,000 to 4,000 tons per month.

CALIFORNIA REDWOOD PLENTIFUL AND CHEAP.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — There seems to be some anxiety among the retail dealers and builders as to the supply of finishing lumber, on account of the disastrous fire at Ottawa a few days since.

We wish to say that there is no cause for alarm, as California Redwood is plentiful and does not burn up like white-pine. Redwood is cheaper than white-pine was before the Ottawa fire, and it has been demonstrated that it is superior to any other lumber for building purposes. Our arrangements are such that any amount can be supplied.

Besides being superior for purposes that white-pine has been used for, California Redwood is fast taking the place of many of the expensive hardwoods for interior finish and decorating purposes. For finish which is to be carved, Redwood has no equal, as it works easy and does not chip off or crumble under the tool, and does not season-crack like other woods, if well dried before being used.

We are prepared to meet any demand that may be created by the destruction or scarcity of any other wood now in use for building purposes.

California Redwood is meeting with much favor with architects and builders, and is now considered one of the staple woods for building purposes. Very respectfully,

BARTLETT LUMBER COMPANY,
O. H. SMITH, Manager,
BOSTON, MASS.

PAINT FOR FACTORIES.

It so happens that the Dixon Company is able to make large use of all of its own products with the exception of crucibles and articles pertaining to foundries. Not the least important of these articles made use of is Dixon's Silica-Graphite Paint.

This paint has found a wide use both as an ornamental and as a protective paint. Every one of our various smoke stacks at our mines at Ticonderoga, at our large manufacturing plants in Jersey City, and at our cedar-mill in Florida is protected with Dixon's Silica-Graphite Paint. We use both the dark-red, known as the No. 3, and the lustrous black, known as the No. 4. Both seem to be equally good, and the difference in color makes a pleasing variation.

Tin roofs and all outside exposed ironwork are fully protected with Dixon's Silica-Graphite Paint, No. 2 (slate color), and the fact that our roofs require repainting only about every eight or ten years, is a very conclusive proof of the durability of Dixon's Silica-Graphite Paint.

We also use this paint on all exposed piping throughout our factories, both water, gas, and steam piping.

Visitors at our Jersey City works invariably admire the handsome black fronts of our several boilers, and mention that our boiler-fronts are so very unlike most of the boiler-fronts seen.

From what we have already said, the conclusion can easily be drawn that these boiler-fronts are painted with Dixon's Silica-Graphite Paint. We use the No. 4, which is the lustrous black already mentioned.

We strongly recommend the consideration of this paint to all our fellow-manufacturers, and shall be very glad to send printed matter to anyone interested.

JOSEPH DIXON CRUCIBLE COMPANY.
JERSEY CITY, N. J.

OBITUARY.

EDWARD SMITH & COMPANY, 45 Broadway, New York, N. Y., announce with profound sorrow the death of their Vice-president, Mr. John Augustus Elmendorf, on Thursday, April 5, 1900.

WE regret to learn of the death of Mr. Edward Keasbey, who died at Perth Amboy, N. J., April 27, at the age of seventy-three. He was president of the Raritan Hollow and Porous Brick Company, and was a large property-owner. He was born in Salem, N. J., and was once employed for a year in Panama. In 1856 Mr. Keasbey returned to the United States, and for five years was superintendent of a street railway between Newark and Irvington. He came to Perth Amboy in 1869, and had since been interested in the development of clay land and the manufacture of clay products. He was a lifelong Republican and an ardent member of the Baptist Church. He was married three times, and leaves a widow and four children.

SOUND BUILDING-CONSTRUCTION.

In all buildings, hollow vertical flues and open spaces in walls or partitions should be completely closed and filled, either with brick and cement or some non-conducting, non-burning material, such for instance, as mineral wool. The cheapest thing to do—and it should always be done—is to cut off all manner of communication by hollow passages

from one story to the next above by so-called "fire-stop," consisting in rows of bricks laid in mortar between the furring studs of brick or stone buildings, or in the hollow spaces of the outer studs of frame structures, filling completely the whole space from the outside of the wall to the interior finish of wainscoting or baseboards. Additional safety may be gained by substituting for the ordinary lathing, stout wire-lathing or netting.

The hollow spaces between floor-boards and the lathing and plastering of ceilings accumulate dirt and dust, and are objectionable, not merely from a sanitary point-of-view, but principally on account of the increased danger in case of fire. How often, in inspecting them, do we find them filled with chips of wood, shavings, painters' rags, or other inflammable building-rubbish, which should never be allowed to accumulate in them.

Such spaces, moreover, form the hiding-places of vermin and mice and rats. The latter, which have a well-known taste for phosphorus, often accumulate unburnt matches, which are readily ignited by rubbing and gnawing, and thus the origin of many mysterious fires may easily be explained. Rats and mice also gather oily waste and greasy rags, and the spontaneous combustion of such material causes, according to Mr. Edward Atkinson, of Boston, even more fires than are caused by matches. To avoid all this, all horizontal spaces between floor-joists should be closed by completely filling-in from the sill or girders, upon which the floor-joists rest, to the wall, with concrete plaster or brickwork. The details of improved building-construction just described should form a part of the builder's specifications for all classes of buildings.

Among the materials most suitable to accomplish the above is Mineral Wool, which on account of its fluffy nature is peculiarly adapted for the purpose, and especially because of its being fireproof and easily applied.

NOTES.

THE large block of buildings comprising the stores of Boggs & Buhl, Allegheny, Pa., have recently had installed a Scaife Water Filter with a capacity of over 125,000 gallons per day. Pure, clear water is thereby furnished for the steam-boilers, laundry department, as well as for drinking purposes and general use. No chemicals or coagulants of any kind are used in these filters, which are manufactured by Wm. B. Scaife & Sons, Pittsburgh, Pa.

THE Berlin Iron Bridge Co., of East Berlin, Conn., have received the contract for thirteen important bridges on the N. Y., N. H. & H. R. R. Ten of these are large, heavy four-track bridges, and three of them are to carry

ALSEN'S PORTLAND CEMENT

Highest Quality, Most Reliable, Best Color, Most Enduring Surface, Greatest Bulk to the Barrel.

NOTABLE INSTANCES WHERE ALSEN'S CEMENT HAS BEEN USED BECAUSE OF ITS SUPERIOR QUALITY.

CATHEDRAL OF ST. JOHN THE DIVINE, N.Y.
WASHINGTON LIFE INSURANCE CO.'S BUILDING, N.Y.
MANHATTAN LIFE INSURANCE CO.'S BUILDING, N.Y.
AMERICAN SURETY CO.'S BUILDING, N.Y.

THE U. S. NAVAL OBSERVATORY, WASHINGTON, D. C.

ELECTRIC R.R. SUBWAY, BOSTON.
METROPOLITAN SEWERAGE WORKS, BOSTON.
SEA WALL, LAKE FRONT, CHICAGO.
BRIDGES OVER HARLEM RIVER, N.Y.

Alsen's Portland Cement Works, New York Office, 143 Liberty Street.

AGENTS AT BOSTON: WALDO BROS., 102 Milk Street.

highways over the tracks. Six of these are located at Bridgeport, Conn., and are plate-girder bridges for carrying four tracks over streets. There is also a very long, heavy four-track rivetted lattice-bridge located near Boston on the Plymouth Division. All the work is to be completed by October 1st.

SIMPLE, POWERFUL, EASILY OPERATED.

THE "Little Giant" Door Holder, manufactured by Sargent & Co., New Haven, Conn., combines simplicity of construction with a powerful action. It is easily operated with the foot—no stooping necessary. A gentle



tap of the foot upon the crank will throw the rubber end in position, as shown by the cut, thus securely holding the door at the required angle; a slight pressure of the foot upon the crank will release it from the floor. It can be used without injury to polished floors, and will hold securely on tiling, wood or carpeted floors.

BUILDING INTELLIGENCE.

Reported for the American Architect and Building News

CLUB-HOUSES.

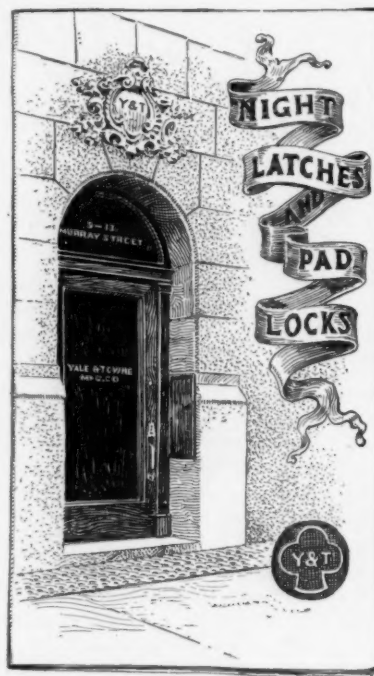
Joplin, Mo.—Fourth Ave., cor. Virginia Ave., five-st'y & base. bk. & terra-cotta Y. M. C. A. building, 50' x 120', gravel roof, steam; \$45,000; o., Y. M. C. A.; a., Garstang & Rea.

Springfield, O.—Four-st'y bk. & st. Y. M. C. A. building, 82' x 198', slate & tin roof, steam & hot blast; \$60,000; o., Y. M. C. A.; W. J. Fraser, sec.; a., Vernon Redding, Mansfield.

EDUCATIONAL.

Mitchell, S. D.—Three-st'y bk. & st. dormitory, 50' x 125', slate roof, steam; \$25,000; o., Dakota University; a., W. L. Dow & Son, Sioux Falls.

Owasso, Mich.—Two-st'y bk. high school, 180' x 210', slate roof, fan blast; \$60,000; o., Board of Education; a., F. W. Hollister, Saginaw.



Size of Brochure, 6 x 3 1/4 inches.

The No. 42 Yale Night Latch

is interestingly described and illustrated in an Artistic Brochure, which will be sent on request.

The Brochure, with its explanatory illustrations, indicates how a Genuine Yale Lock may be distinguished from its many imitations.

It also illustrates the Company's extensive line of Padlocks, the most comprehensive in the world.

The Yale & Towne Mfg. Company.

GENERAL OFFICES:

9, 11 and 13 Murray St., New York City.

BUILDING INTELLIGENCE.

(Educational Continued.)

Peoria, Ill.—Two-st'y & base. bk. & terra-cotta school, 75' x 90', tile roof, steam; \$30,000; o., City; a., Herbert E. Hewitt.

Wooster, O.—Two-st'y bk. school, 75' x 86', slate roof, steam & fan; \$20,000; o., City; a., J. R. Webster.

FACTORIES.

Minneapolis, Minn.—One & two-st'y machine-shops, 47' x 237', slate roof, steam; \$20,000; o., University of Minnesota; a., Chas. A. Aldrich.

Philadelphia, Pa.—Callowhill St., Nos. 1434-1438, three-st'y bk. machine factory building, 50' x 140'; \$15,000; o., I. H. Johnson Jr. & Co.; b., George F. Payne & Co.

Mascher St. and Allegheny Ave., six-st'y bk., st. & fr. factory, 60' x 257', one-st'y bk. boiler & engine house, 36' x 42' & 42' x 49'; \$130,000; o., Tapestry Mills Co.; b., William Steele & Son.

New York, N. Y.—W. Twentieth St., No. 11, nine-st'y bk. factory & store, 26' 6" x 92', concrete & asphalt roof; \$135,000; o., Estelle W. Spitzer, 156 Fifth Ave.; a., Geo. W. Spitzer, 156 Fifth Ave.

HOSPITALS.

Chicago, Ill.—West Side, three-st'y bk. & st. main hospital building, 42' x 240', two-st'y operating building, 32' x 34', two-st'y consumptive ward, 22' x 70', steam; \$75,000; o., Norwegian Deaconess Hospital; a., Charles Thirslew.

BUILDING INTELLIGENCE.

HOTELS.

New York, N. Y.—W. Thirty-sixth St., Nos. 155-159, twelve-st'y bk. hotel, 37' 8" x 125'; \$300,000; o., Curtis Estate, 44 Wall St.; a., F. R. Comstock, 44 Wall St.

HOUSES.

Morgantown, W. Va.—Two-st'y bk., st. & terra-cotta dwell., 38' x 50', slate roof, hot water; \$9,000; o., B. H. Hite; a., E. F. Jacobs.

New York, N. Y.—Madison Ave., cor. 82d St., 2 five-st'y & base. bk. dwells., 25' 37' x 98' 2"; \$120,000; o., McCafferty & Buckley, 384 Park Ave.; a., R. W. Buckley, 384 Park Ave.

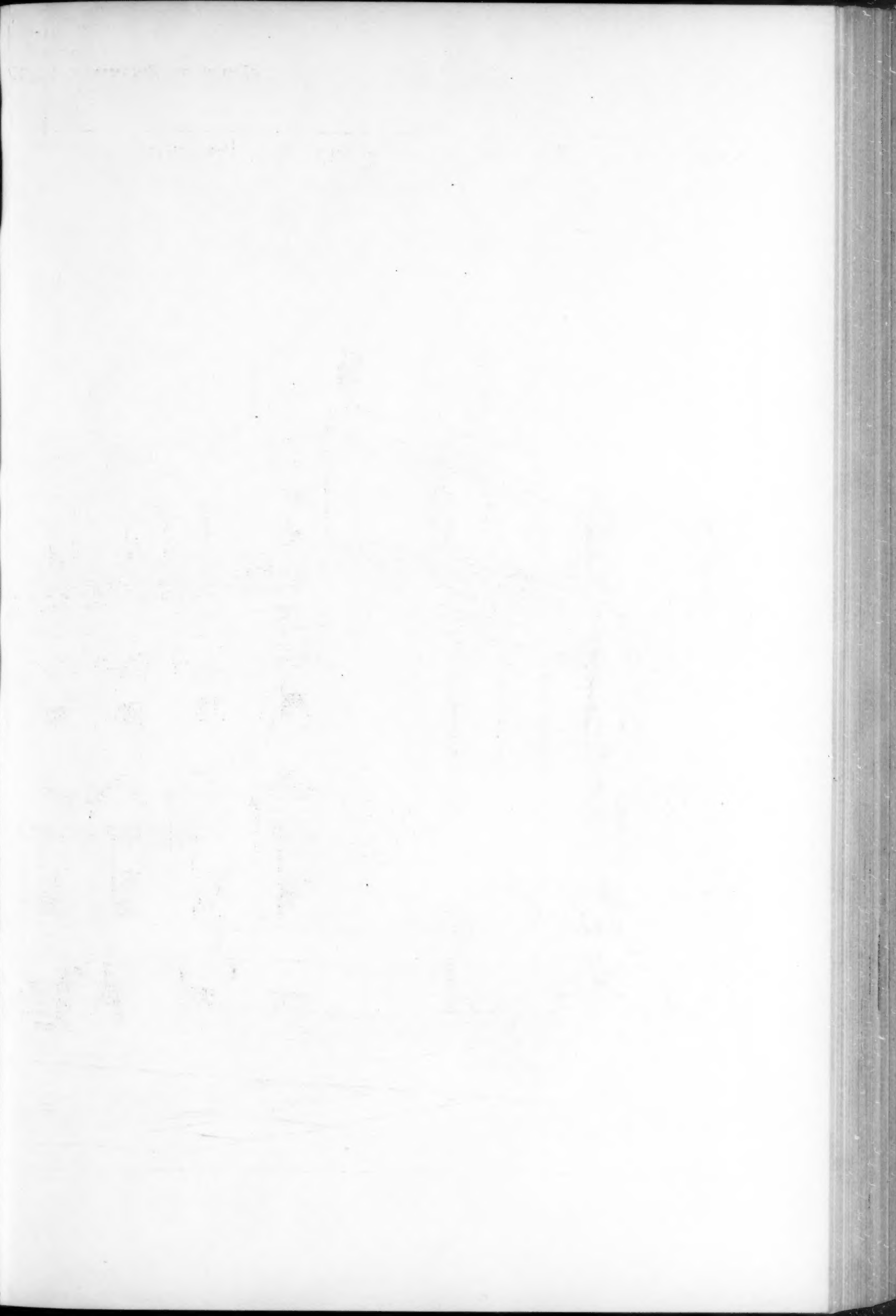
W. Fifty-second St., No. 31, six-st'y bk. dwell., 46' 6" x 92' 5"; \$103,000; o., Raymond Hongland, 15 W. 66th St.; a., C. P. H. Gilbert, 1123 Broadway.

Philadelphia, Pa.—Nineteenth and De Lancey Sts., four-st'y bk. dwell., 42' x 56', mansard roof; \$35,000; o., Edward B. Smith; b., J. S. Cornell & Son; a., Cope & Stewardson.

Sioux City, Ia.—Two-st'y & attic bk. & fr. dwell., 37' x 48', shingle roof, hot water; o., C. D. Killam; a., J. L. Skene.

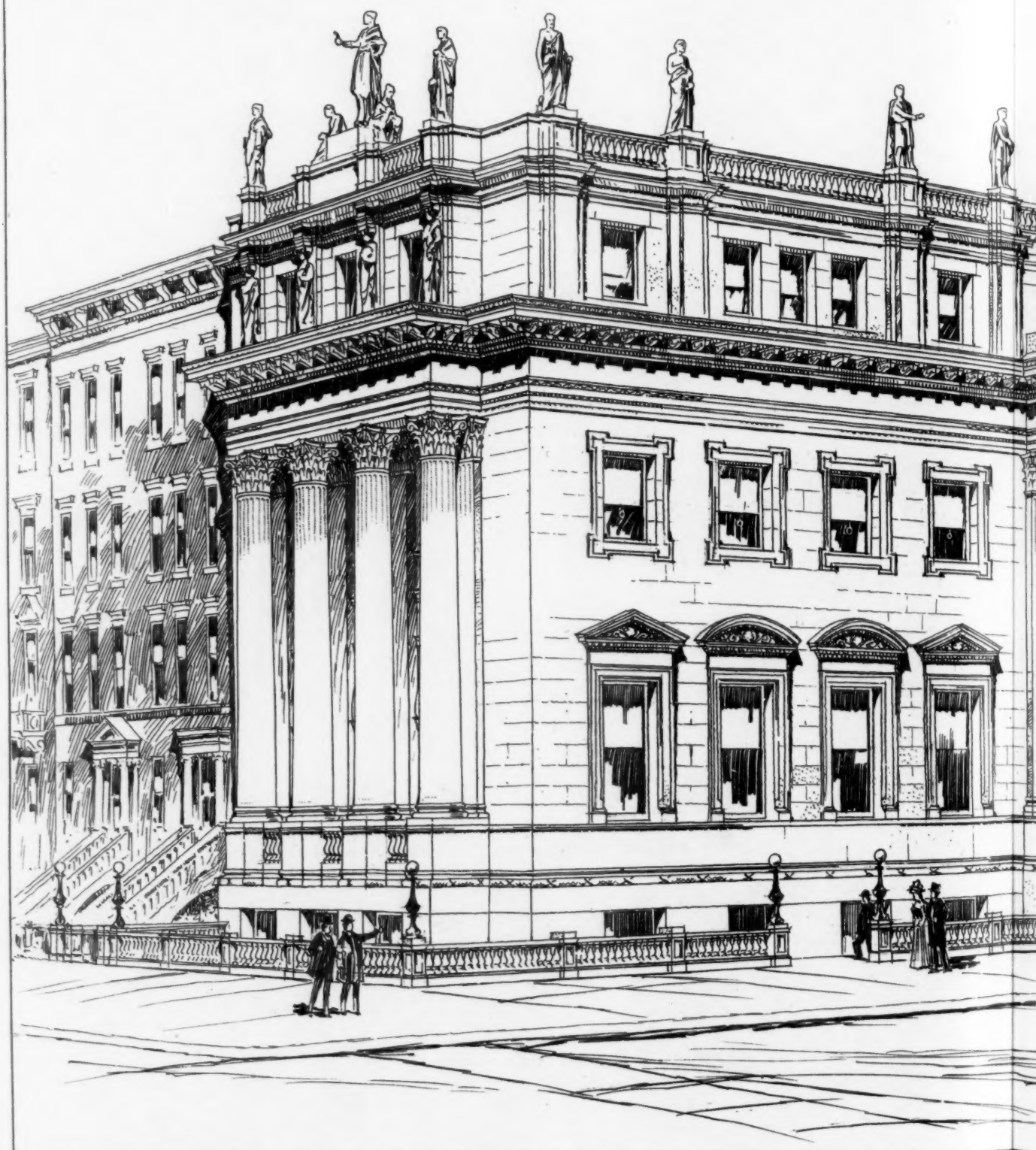
Sullivan, Ind.—2 1/2-st'y st. bk. & terra-cotta dwell., 33 1/2' x 47', slate roof, hot water; \$10,000; o., O. M. Patton; a., Matthews & Clarke, St. Louis, Mo.

Yonkers, N. Y.—Two 2 1/2-st'y fr. dwells., 31' x 38' & 20' x 32'; \$5,000 each; o., F. D. Caulfield, Jr.; a., A. F. Leicht, 99 Cedar St., New York City.



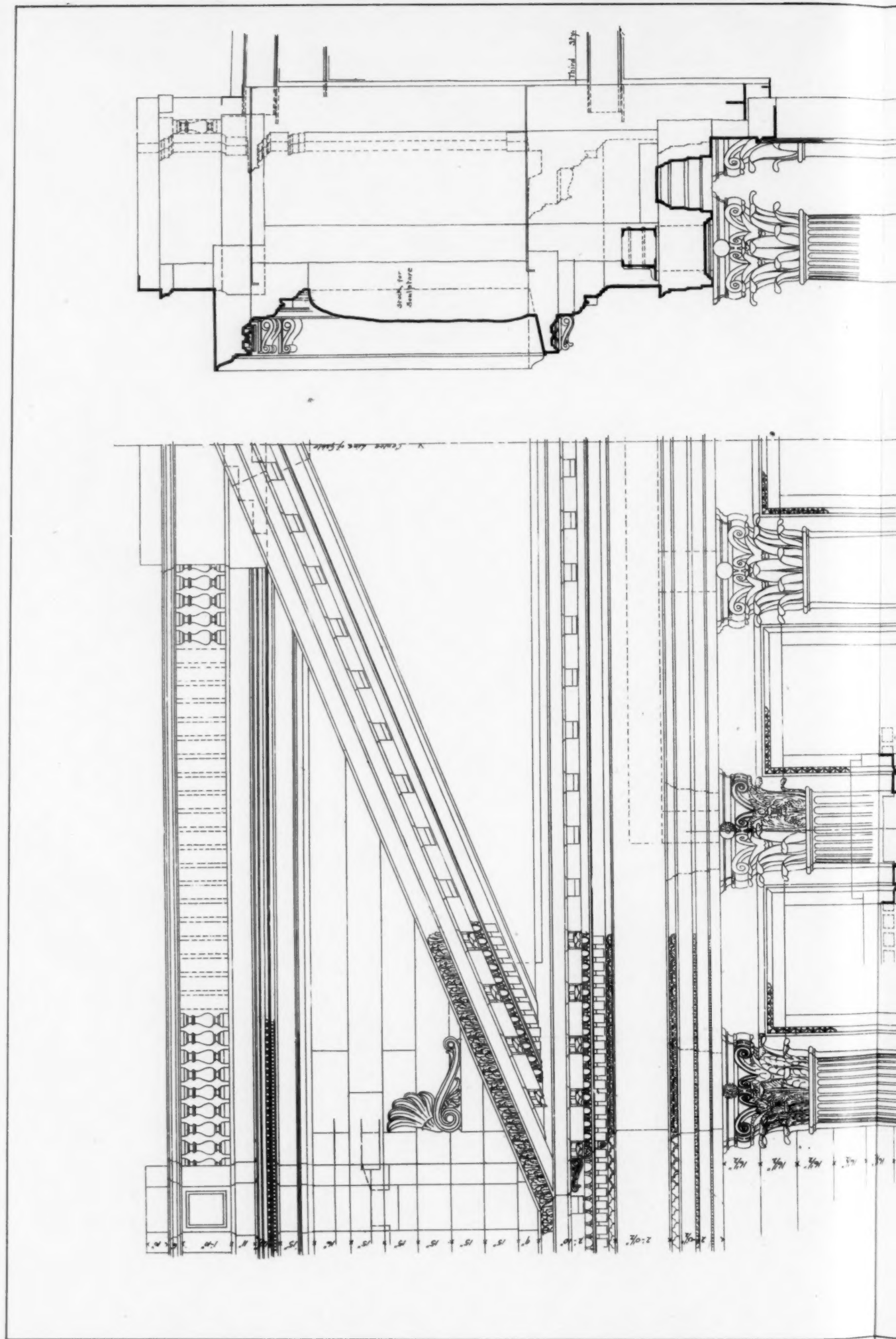
NEW COURT HOUSE OF THE APPELLATE DIVISION

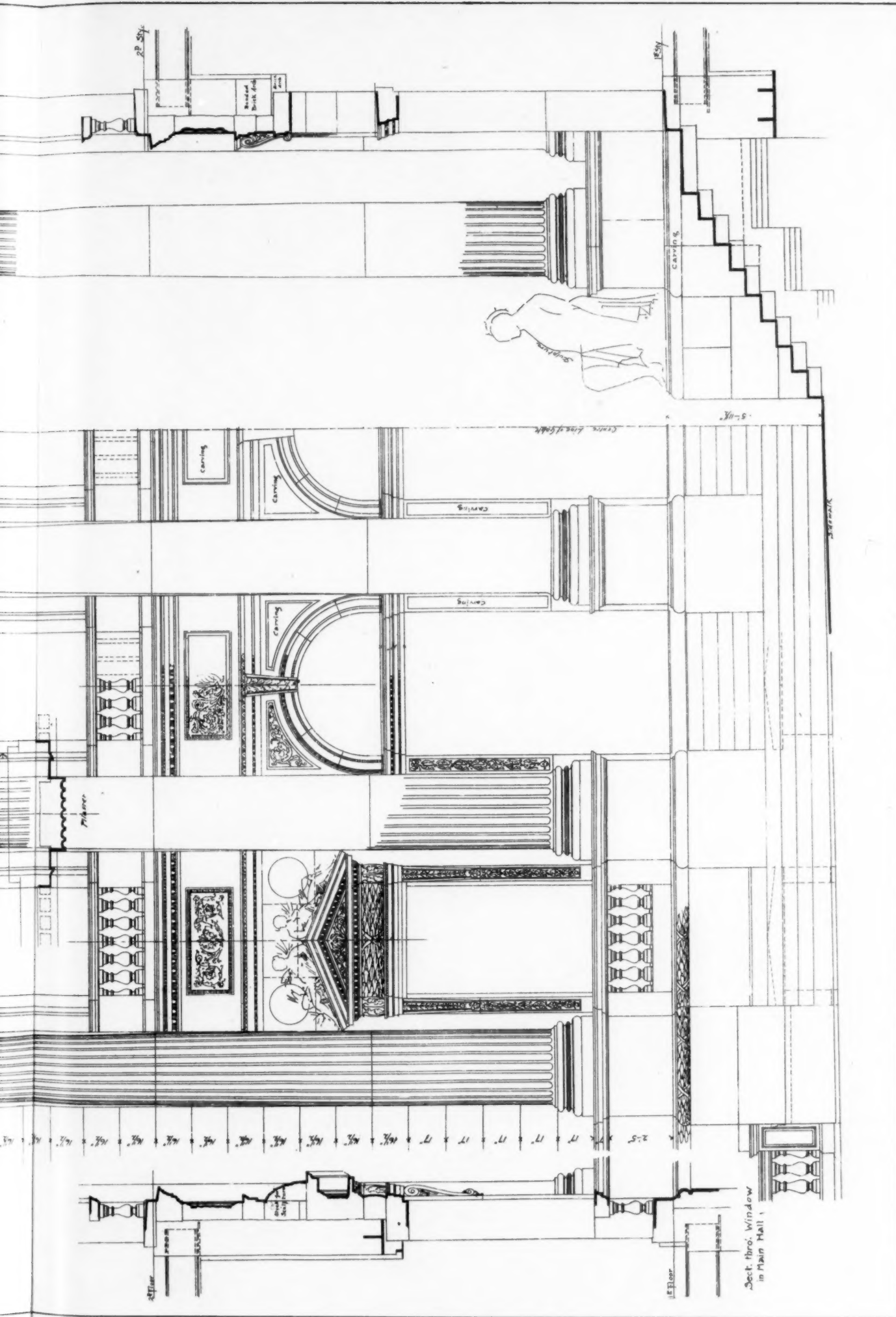
EAST 25TH ST. AND MADISON AVE. NEW YORK.



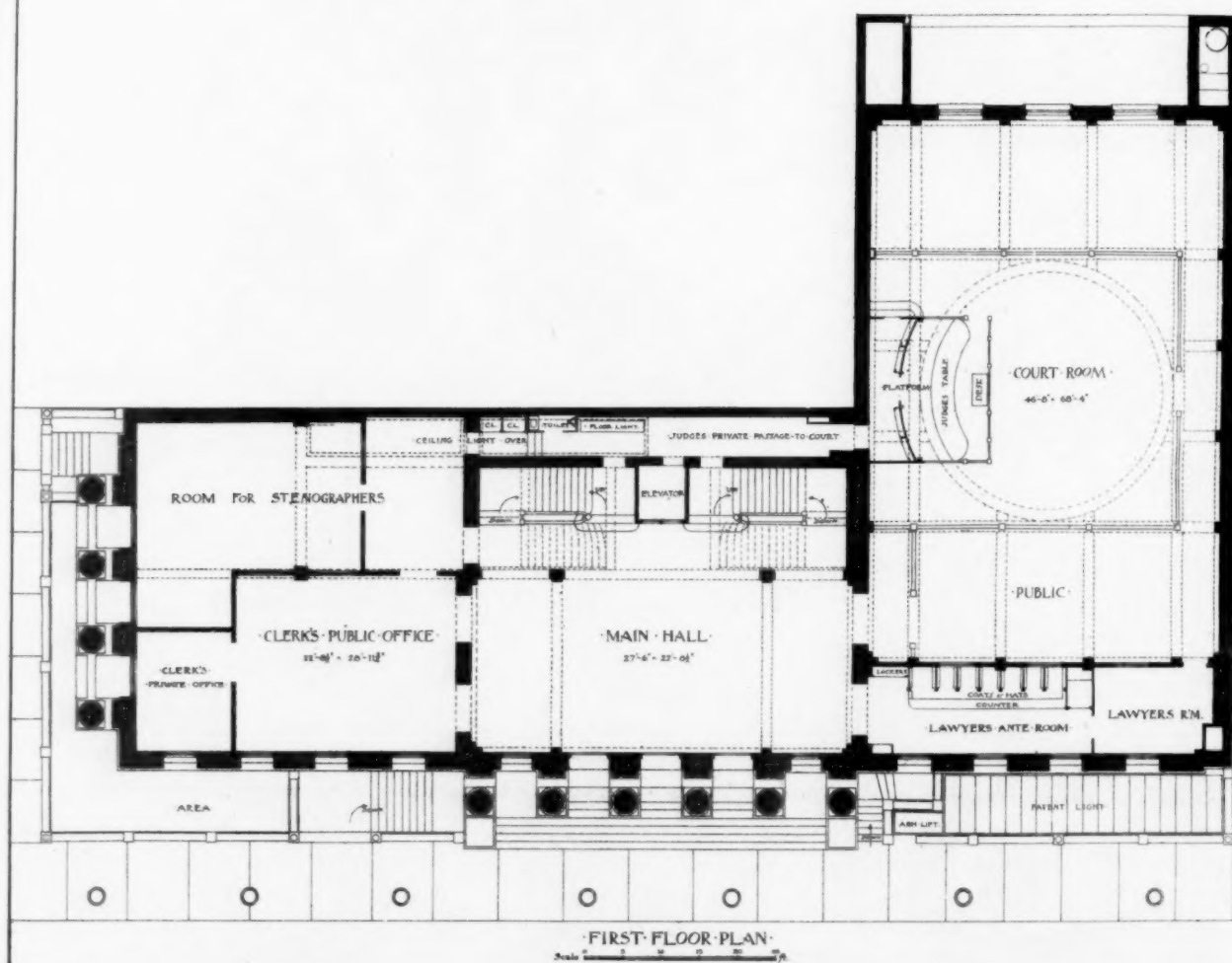
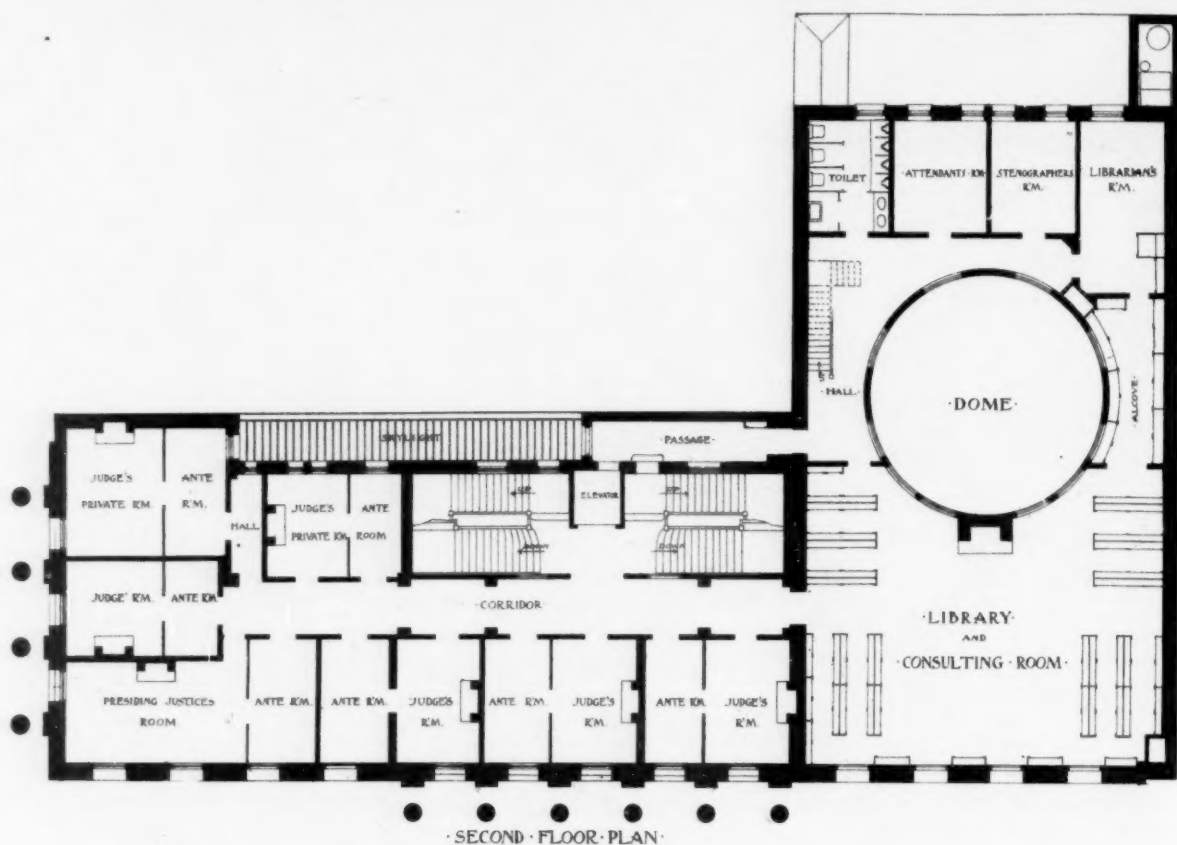
JAS. BROWN • LORD • ARCHITECT.

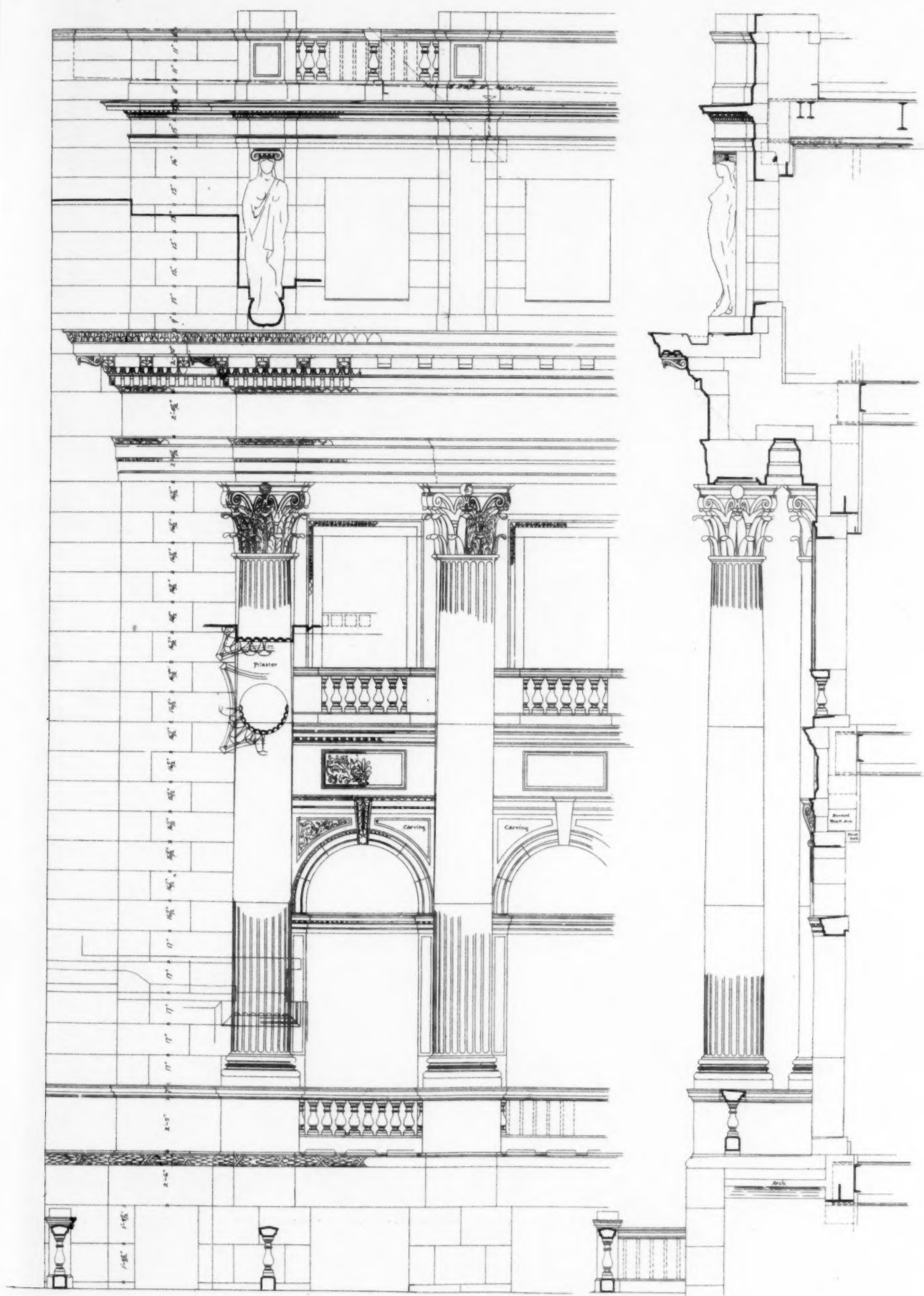






DETAILS OF MAIN PORTICO: COURT HOUSE OF THE APPELLATE DIVISION, NEW YORK, N. Y.
JAMES BROWN LORD, ARCHITECT.





THE AMERICAN ARCHITECT AND BUILDING NEWS

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

VOL. LXVIII. — No. 1271.]

SATURDAY, MAY 5, 1900.

PRICE, { INTERNATIONAL ISSUE, 50 CTS.
REGULAR " 15 "

ARCHITECTURAL INSTRUCTION.

BOSTON, MASS.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

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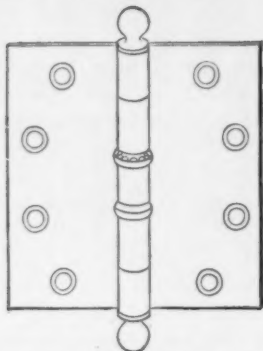
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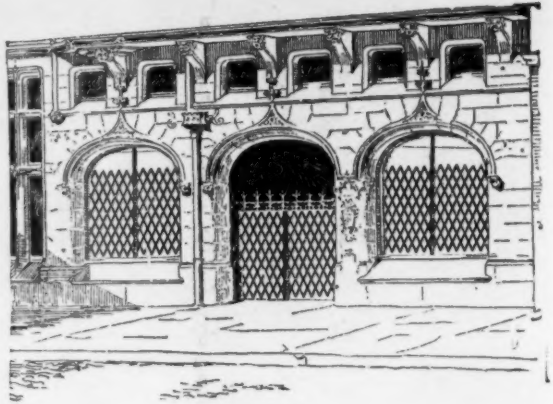
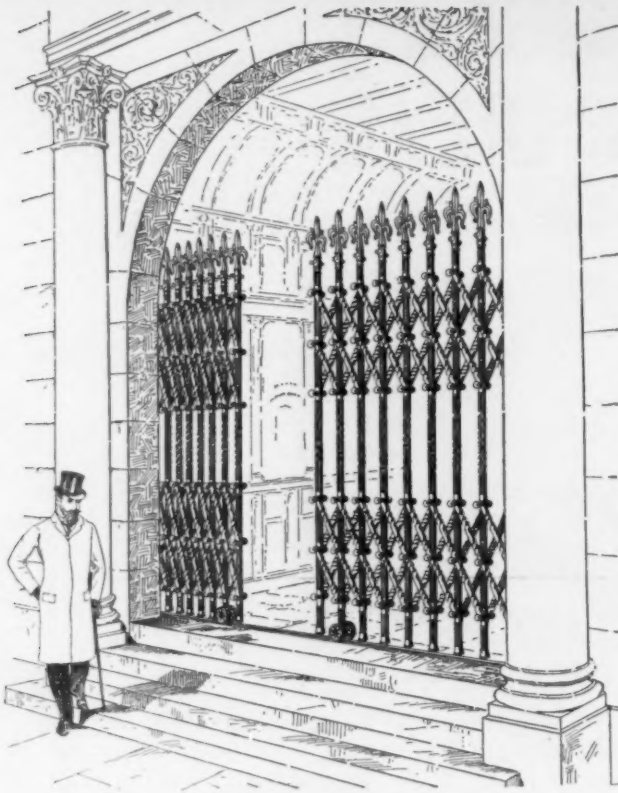
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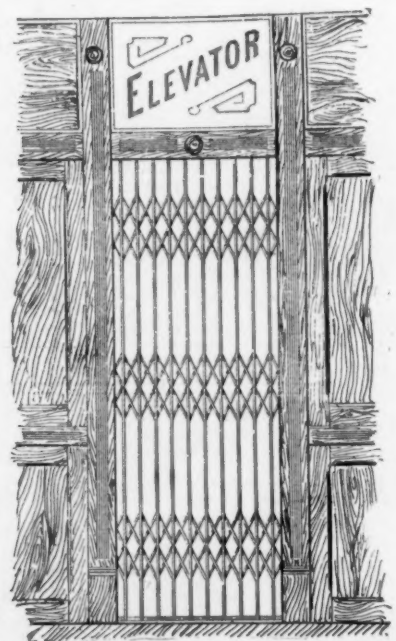
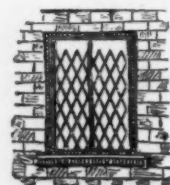
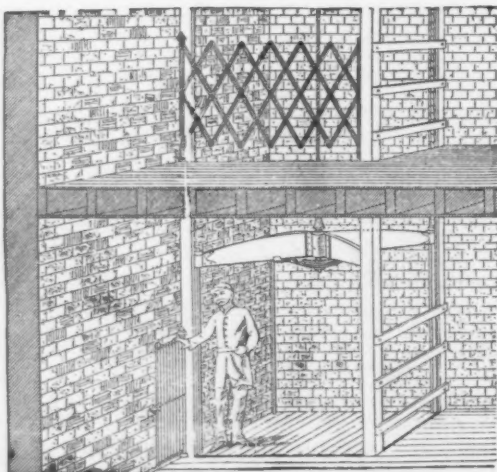
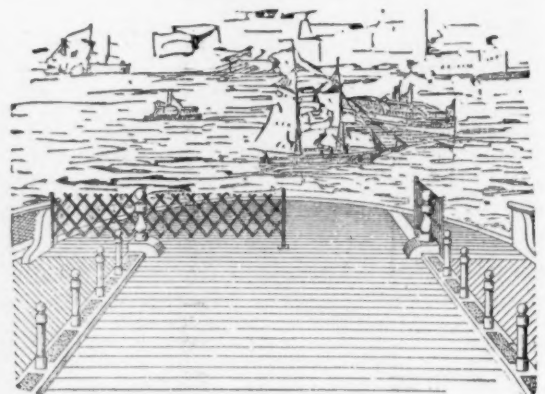
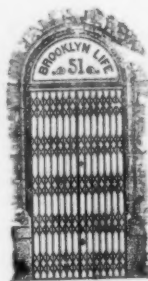
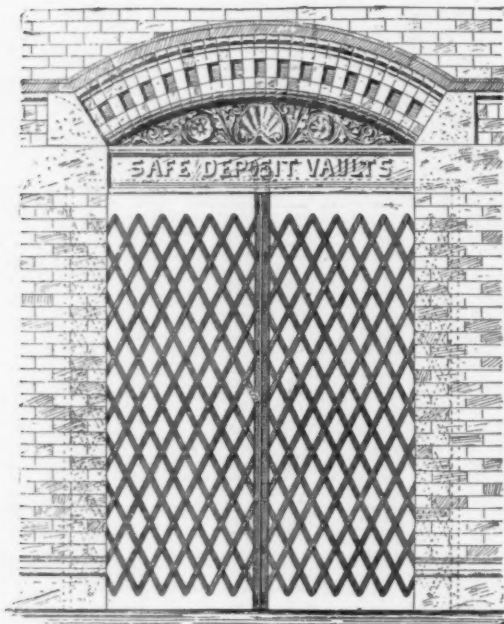
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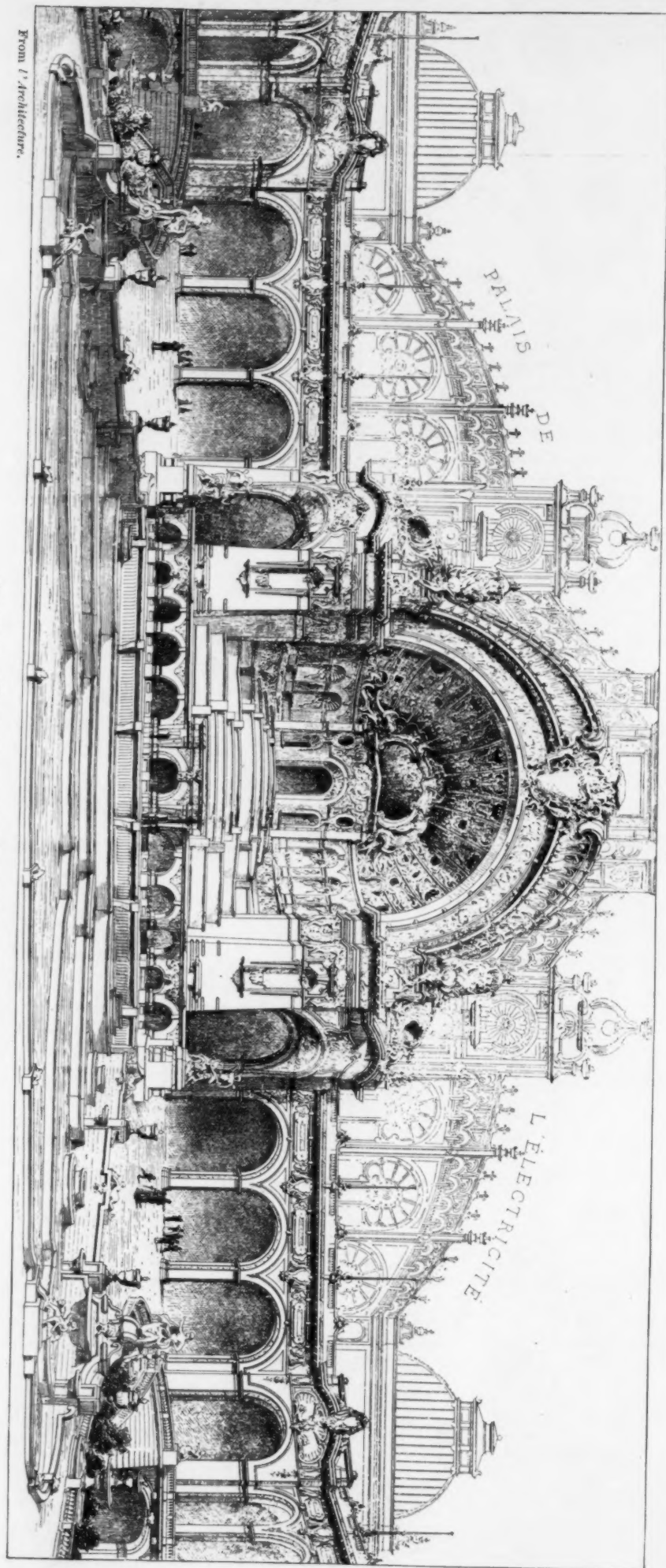
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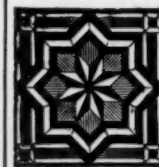
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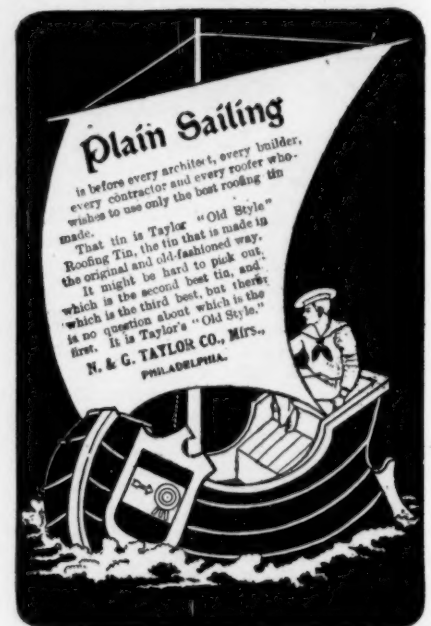
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Marshall College have let the contract for the erection of a science building on the college campus, to cost \$29,500.

Minneapolis, Minn.—F. B. & L. L. Long, architects, have prepared plans for a building to be erected on 4th St. and 2d Ave. N., for Winston, Farrington & Co. It will be 116' x 135', five stories and basement, of brick and stone trimmings; cost, \$100,000.

J. & E. C. Haley, architects, have drawn plans for a row of brick flats to be erected on Grant St. and Spruce Pl. They will extend 153' on Grant St. and 100' on Spruce Pl.; cost, \$75,000.

F. D. Orff, architect, has plans for a row of five brick and stone flats to be erected on Lyndale and Erie Aves., by Francis M. Henry. They will be 50' x 50', three stories and basement; cost, \$70,000.

Wm. M. Kenyon, architect, has prepared plans for a flat building to be erected on 8th Ave., S. E. and 4th St., by Clute Bros. It will be 65' x 180', three stories, pressed brick and cut stone trimmings; cost, \$55,000.

New Haven, Conn.—Lewis & Maycock have purchased a site near the Calvary Baptist Church on Chapel St., on which during the summer they will build a three-story brick and brownstone building.

New Ulm, Minn.—The New Ulm Turnverein will erect a \$20,000 opera-house. It will be 62' x 112', with a seating capacity of about 800.

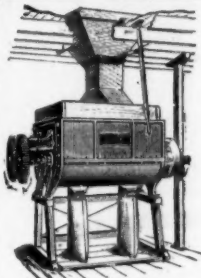
New York, N. Y.—The Building Committee of the Gallaudet Home for Deaf Mutes, Camelot-on-Hudson, which was recently destroyed by fire, met last week and selected plans for a new house submitted by Joseph M. Lawlor, 220 Broadway. The new building will cost \$50,000 and will be equipped with electric-lights, steam heat, plumbing, elevator and dumb waiter. Contracts not let.

Oxford, Mass.—Architects Barker & Nourse, of Worcester, have completed plans for a cottage house of eight rooms to be erected here. The owner is W. S. White, of Worcester; cost, about \$3,500.

Pawtucket, R. I.—William R. Walker & Son, architects, have furnished plans for the Susan A. Goodwin Memorial Convent to be erected here for the Sisters of Mercy. The building will be constructed of brick with trimmings of Vermont white marble, 56' x 56', and will be three stories in height; cost will be about \$25,000.

Philadelphia, Pa.—Contractors Doyle & Doak are receiving bids for a new factory to be built for Alfred F. Moore, on the site of the buildings recently destroyed by fire at 3d and Race Sts. The new building is to be five stories high, 80' x 142' 4". It will be built of steel, with a front of Pompeian brick.

Pittsfield, Mass.—Architect L. L. Bridge, of Springfield, has prepared plans for the new hotel and theatre to be erected on Summer St., by C. A. & B. J. Burbank. The hotel will be constructed of brick with brownstone trimmings, 40' x 109', and four stories in height. The theatre will be built just in the rear of hotel and will be an entirely distinct structure except that the entrance will be in the



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

hotel. It will be 68' x 117', and the auditorium will have a seating capacity of about 1,300.

Putnam, Conn.—Reports state that C. H. Kelley has prepared plans for R. H. Bradley for a theatre building to cost \$30,000.

Sandusky, O.—G. J. Hardway, of Cleveland, has prepared plans for a seven-story theatre and office building, to cost about \$140,000.

Seranton, Pa.—Plans for the armory to be built by the 13th Regiment have been prepared by L. C. Holden, 1133 Broadway, New York, N. Y. It will be built of brick and stone, and cost \$150,000.

Seattle, Wash.—The Pacific Amusement Co., recently organized with John Cort at its head, is projecting a scheme to build a new theatre to cost \$350,000. The proposed building is to be four stories in height, to be built of brick with stone trimmings after a Moorish type of architecture. The plans are by Architect E. W. Houghton.

Spokane, Wash.—J. B. Blanchet, architect, of Vancouver, has prepared plans for the Academy of Holy Names for a new building to cost complete \$75,000. It will be 74' x 120', of brick, with all modern conveniences.

Springfield, Mo.—Architect J. L. Heckenlively is preparing plans for a \$7,500 stone residence for Mrs. John O'Day.

Sterling, Kan.—F. S. Allen, of Joliet, Ill., has prepared drawings for a new school building. It will be constructed of pressed brick and stone, with steam heat; cost, about \$17,000.

St. Louis, Mo.—Architect Louis Mullgardt, 415 Commercial Building, is preparing plans for a new photograph studio, to cost about \$30,000.

Toledo, O.—The National Supply Co. have had plans prepared for a brick and stone factory building, to cost about \$50,000.

Architects Wachter & Hudson are preparing plans for an \$8,000 flat building to be erected on Michigan St., for James T. Welch.

Uxbridge, Mass.—Architects Fuller & Delano, of Worcester, are preparing plans for the proposed brick and stone savings-bank building.

Worcester, Mass.—Architect E. T. Chapin has

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

prepared plans for a new residence to be erected on Germain St. for Thomas Brown. The house will be two and one-half stories, 42' x 54', and will cost \$8,000.

Architect John P. Kingston is making plans for a 12-room private residence to be built on Scrimgeour Road for Jas. B. Scrimgeour. The house will have hardwood finish, two fireplaces, hot water heat, and be shingled all over; cost, \$8,000.

APARTMENT-HOUSES.

Brooklyn, N. Y.—Bedford Ave., nr. St. John's Pl., 3 four-st'y bk. aparts., 26' 10' x 80', steam heat; \$54,000; o., Thos. Brown, 667 Tenth St.; a., F. S. Lowe, 186 Remsen St.

Bedford Ave., cor. St. John's Pl., four-st'y bk. flat, 23' x 90', gravel roof, steam; \$25,000; o., Thos. Brown, 667 Tenth St.; a., F. S. Lowe, 186 Remsen St.

New York, N. Y.—Beach Ave., n.w. cor. Westchester Ave., 4 four-st'y bk. flats; \$75,000; o., Aaron Abrams, 37 W. 117th St.; a., U. S. Baudesson, 693 Jackson Ave.

CLUB-HOUSES.

Providence, R. I.—Spruce St., nr. Brayton Ave., one-st'y fr. club-house, 37' x 47'; \$5,000; o., Italian Union Benevolent Society; a., W. H. Colwell.

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New York, N. Y.—One Hundred and Sixteenth St., five-st'y bk. & st. school, 150' x 201' 10", slag roof; \$250,000; o., City of New York; a., C. B. J. Snyder, Park Ave. & 59th St.

HOUSES.

Boston, Mass.—Beacon St., No. 532, three-st'y bk. dwell, 26' x 70', flat roof, furnace; \$25,000; o., Mary H. Kittredge; b., Morrison Bros.; a., G. A. Avery.

Draper St., nr. Bowdoin St., 2½-st'y fr. dwell, 34' x 53', pitch roof, steam; \$5,000; o., A. H. Linton; b., John Harney; a., A. Moorehead.

Cummings Road, No. 12, 2½-st'y fr. dwell, 24' x 26' x 41', pitch roof, furnace; \$8,000; o., a. & b., Edw. L. Rogers.

Coolidge St., nr. Mansfield St., 2½-st'y fr. dwell, 30' x 50', pitch roof, hot water; \$5,200; o., Wm. G. Moray; a. & b., O. A. Ford.

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Mountford St., Nos. 43-45, 2 three-st'y bk. dwells., 40' x 48', flat roofs, steam; \$20,000; o., Herbert C. Birtwell; b., Boston Construction Co.; a., Benj. Fox.
Brooklyn, N. Y. — Albemarle Road, cor. E. 14th St., two-st'y & attic fr. dwell., 65' 6" x 71' 6"; \$16,000; o., F. A. M. Birrell; a., F. Freeman, 132 Nassau St., New York.
Hancock, Mich. — Two-st'y bk. dwell., 48' x 50', shingle roof, steam; \$7,500; o., J. R. Cooper; a., Charlton, Gilbert & Demar.
Indianapolis, Ind. — Woodruff Pl., two-st'y fr. dwell., 53' x 60', slate roof, hot water; \$6,000; o., Charles Spahr; a., Charles E. Bates.
Lima, O. — Circular St., two-st'y & attic fr. dwell., 32' x 52', slate roof, furnace; \$5,000; o., T. C. Morrison; a., Charles E. Gennin & Co.
Mishawaka, Ind. — Three-st'y bk. & st. dwell., 38' x 72', slate roof, hot water; \$7,000; o., N. Schellenger; a., C. A. Brehmer.

(Continued in Supplement.)

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[At New London, Conn.]
Sealed proposals for water tower will be received at the Bureau of Yards and Docks, Navy Department, Washington, until May 12, to construct a steel tower and water-tank of 100,000 gallons capacity, at the Naval Station, New London, Conn. MORDECAI T. ENDICOTT, Chief of Bureau. 1271

SCHOOL-HOUSE.

[At Toledo, O.]
Sealed bids will be received until May 12th, by the Board of Education for erecting a school-house. FRANKLIN HUBBARD, clk. 1271

HIGH SCHOOL.

[At Findlay, O.]
Sealed bids will be received until May 11th, by the Board of Education for the construction of a high-school building. T. F. GILLESPIE, clerk. 1271

OPERA-HOUSE.

[At Waynesburg, Pa.]
Sealed bids will be received until May 10th, for the construction of an opera-house. W. I. WEBB. 1271

HOSPITAL ANNEX.

[At Chelsea, Mass.]
Sealed proposals will be received at the Bureau of Medicine and Surgery, Navy Department, until May 10, 1900, for making certain improvements to present hospital buildings and the erection of an annex at the U. S. Naval Hospital, Chelsea, Mass. W. K. VAN REYPEN, surgeon general, U. S. Navy. 1271

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Sealed proposals will be received until May 17th, for the erection of a brick church for the Presbyterian Society. J. N. OSBORN, ch. 1272

BANK BUILDING.

[At Springfield, Minn.]
Sealed proposals will be received until May 15th, for the erection of a bank building for the State Bank of Springfield. HENRY BENDIXEN. 1272

LIBRARY.

[At Washington, D. C.]
Sealed proposals will be received until May 16th, for the erection of the building for the Washington Public Library. B. E. GREEN, Supt. of Construction. 1272

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[At Waterloo, N. Y.]
Sealed bids are wanted by the Board of Education until May 15th, for a high-school building. GEO. BELLOWS, sec. 1272

FAIR BUILDING.

[At Columbus, O.]
Sealed proposals will be received until May 16th, by the department of agriculture for the erection on the State Fair Grounds of an auditorium central court building, a horticultural building, horse exhibition building, carriage building, dining building, and an addition to power hall. W. W. MILLER, sec. 1272

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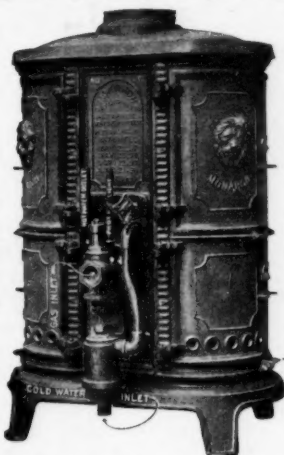
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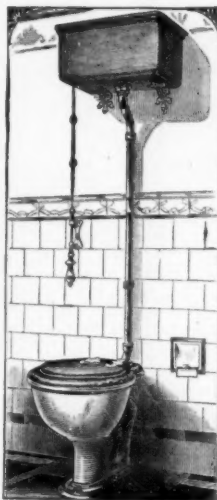
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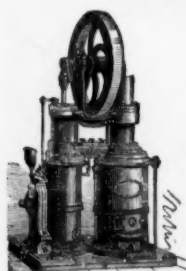
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1273

Treasury Department, Office Supervising Architect,
Washington, D. C., April 14th, 1900. Sealed propo-
sals will be received at this office until 2 o'clock P. M. on
the 12th day of May, 1900, and then opened, for the
water-supply, plumbing and interior finish of
toilet-rooms for the U. S. Mint Building at Philadel-
phia, Pa., in accordance with drawings and specifica-
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the Superintendent of the building at Philadelphia,
Pa. JAMES KNOX TAYLOR, Supervising Archi-
tect. 1271

COURT-HOUSE.

[At Crookston, Minn.]
Sealed bids will be received until May 10th, for
the erection of a court-house. JOHN GLEASON,
County Auditor. 1271

PROPOSALS.

Treasury Department, Office Supervising Architect,
Washington, D. C., April 14, 1900. Sealed proposals
will be received at this office until 2 o'clock P. M. on
the 12th day of May, 1900, and then opened, for the
boiler plant and steam heating and ventilating
apparatus, etc., for the U. S. Mint Building at Phila-
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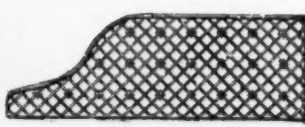
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SECTION 1. No Member should enter into
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builder, contractor, or manufacturer.

SECTION 2. A Member having any ownership
in any building material, device or invention,
proposed to be used on work for which he is
architect, should inform his employer of the
fact of such ownership.

SECTION 3. No Member should be a party to
a building contract except as "owner."

SECTION 4. No Member should guarantee an
estimate or contract by personal bond.

SECTION 5. It is unprofessional to offer draw-
ings or other services "on approval" and
without adequate pecuniary compensation

SECTION 6. It is unprofessional to advertise in
any other way than by a notice giving name,
address, profession, and office hours, and
special branch (if such) of practice.

SECTION 7. It is unprofessional to make altera-
tions of a building designed by another archi-
tect, within ten years of its completion,
without ascertaining that the owner refuses
to employ the original designer, or, in event
of the property having changed hands, with-
out due notice to the said designer.

SECTION 8. It is unprofessional to attempt
to supplant an architect after definite steps
have been taken toward his employment.

SECTION 9. It is unprofessional for a Member
to criticise in the public prints the professional
conduct or work of another architect except
over his own name or under the authority of
a professional journal.

SECTION 10. It is unprofessional to furnish de-
signs in competition for private work or for
public work, unless for proper compensation,
and unless a competent professional adviser
is employed to draw up the "conditions" and
assist in the award.

SECTION 11. No Member should submit draw-
ings except as an original contributor in any
duly instituted competition, or attempt to
secure any work for which such a competition
remains undecided.

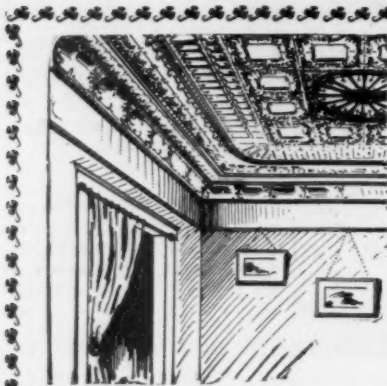
SECTION 12. The American Institute of Archi-
tects' "schedule of charges" represents mini-
mum rates for full, faithful and competent
service. It is the duty of every architect to
charge higher rates whenever the demand for
his services will justify the increase, rather
than to accept work to which he cannot give
proper personal attention.

SECTION 13. No Member shall compete in
amount of commission, or offer to work for
less than another, in order to secure the work.

SECTION 14. It is unprofessional to enter into
competition with or to consult with an archi-
tect who has been dishonorably expelled from
the "Institute" or "Society."

SECTION 15. The assumption of the title of
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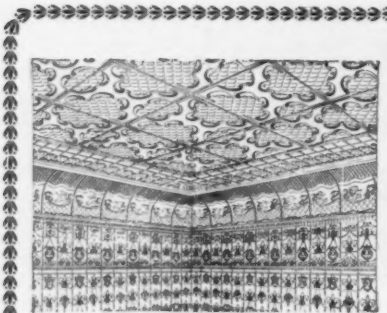
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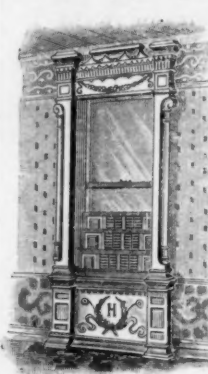
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" red.....	@ 12 00		Pressed " @ 17 00
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Philadelphia.....	19 00 @ 21 00	105 00 @ 120 00	Dom. { @ 85
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Milwaukee.....		120 00 @ 135 00	
Moulded:		Domestic.	
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" Buff.....	@ 27 00	90 00 @ 100 00	
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