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DECEMBER 24, 1898.



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THE insurance companies in New York are, according to the daily papers, much exercised over the Broadway fire, near the Home Life Insurance Building, and also by the fatal elevator-accident which took place in the city a few days ago; and, in consequence, as they say, of the burning of the woodwork in the upper stories of the Home Insurance Building, some of them have cancelled their policies on other high buildings, and there is general talk of an advance in rates on such structures. There is no doubt that, under the excitement of competition, very low rates have been made of late on the lofty fireproof office-buildings in New York, but they are not yet proved to be insufficient to cover the risk, and there are very strong reasons why the companies, in their own interest, should keep such rates at the lowest possible point, in order to encourage building of the kind. Mr. Bonner, the Chief Engineer of the New York Fire-department, is often quoted as disapproving of twenty-story buildings, and some of the insurance companies, anxious to find a pretext for advancing premium rates, assume that he looks at the question from their standpoint. There could hardly be a greater mistake. Chief Bonner, in speaking of the sky-scrapers, has in mind the safety of their occupants, which experience shows to be threatened by the smoke from burning furniture, drawn upward through the elevator-shafts. This danger, which, very properly, gives him great anxiety, and which is not yet efficiently guarded against in any existing building, does not concern the fire-insurance companies at all. Unless they maintain a life or accident department, they need not, commercially speaking, trouble themselves if all the tenants of all the office-buildings in New York were to be asphyxiated to-morrow. Their interest is in the structures themselves, and in the neighboring buildings, and it is obvious that, looked at from this point, the higher a fireproof building is the better it is for them, for the reason that its height is an important element in the protection that it affords to lower buildings near it. All the accounts of the Broadway fire agree that the conflagration in the Rogers-Peet Building, under the influence of the fierce gale prevailing, would undoubtedly have extended through the greater part of the block had it not been held back by the Home Life Building; so that, at the cost of a few thousand dollars' damage to the Home Life Building, the underwriters, in all probability, saved a loss of millions in the remainder of the block. It would seem as if the insurance companies, reasoning thus, would have hastened to encourage the building of similar defences against the most destructive agency to which the property that they insure is exposed; but, instead of

that, many of them utilize the opportunity to make lifelong enemies of their former customers, by cancelling their policies, and to do what they can to prevent any one else from doing the fire-insurance companies in New York the greatest service that could possibly be rendered them, that of subdividing the district where the largest risks are carried, by barriers which no fire can either burn through or leap over, so as to render extensive conflagrations every day less to be feared.

THE other matter about which the underwriters profess some strange notions is that relating to the insurance of elevators by the liability companies. A loss of several thousand dollars was incurred not long ago, through the carelessness of an elevator-boy. This catastrophe caused great alarm, as it would appear, among the companies, and there is talk of raising the insurance rates from thirty-five dollars a year on each elevator, which is the present minimum, to one hundred dollars a year. There are said to be nine thousand elevators insured in New York. At thirty-five dollars premium, which is increased in many cases, the income from these is from three hundred and fifty thousand to four hundred thousand dollars a year. A force of about thirty inspectors could give a half-day's inspection to each elevator every six months. Supposing the wages of these thirty inspectors to amount to fifty thousand dollars a year, there would still remain from three hundred thousand to three hundred and fifty thousand dollars a year to be divided between the policy-holders, in the way of indemnity, the underwriters, for managing the business, and the brokers or agents. How much goes to the first-named, it is impossible to say; but the public, which is not so much impressed as the companies with the alarming frequency of elevator-accidents, will find it hard to believe that an income of a thousand dollars a day is insufficient to pay indemnity to the persons injured in that way in insured and inspected elevators in New York City, and leave a tolerable surplus for the underwriters.

THE fire-limits, that is the boundaries within which no wooden frame building can hereafter be erected, are to be extended in Boston. The change has come none too soon, and the extension proposed is far less comprehensive than it should be, but it is at least better than nothing. To judge from the newspaper reports, some strange ideas appear to have prevailed in the community in regard to the effect of the reform. The Charlestown district, for instance, has long been closely built up, in part with brick houses of the quiet and cheerful character which pleased Bostonians fifty or seventy-five years ago, but mostly with blocks of cheap wooden buildings, in which a conflagration would work fearful havoc. The attempt was made to have the fire-limits extended over Charlestown, so that when a wooden house was pulled down it could only be replaced by a brick building; but a violent and, apparently, successful protest was made by representatives of the Charlestown people, who imagined, as it seems, that the new ordinance would require them to pull down forthwith their present habitations, and build them over again with brick. It is hardly necessary to say that nothing of the kind was contemplated, but a small pretext in favor of leaving things as they are counts for a great deal in Boston.

THE Société Centrale des Architectes Français, in connection with representatives of French artistic and literary society, has undertaken to erect a monument to the memory of the late Charles Garnier, and a committee has been appointed for the purpose, of which the Minister of Public Instruction is honorary president, and M. Bartaumieux, Treasurer of the Société Centrale, is treasurer. The monument, of which M. Pascal will be the architect, is to be erected in the enclosure of the Opéra, on the side bounded by the Rue Auber, facing the Grand Hotel. A certain sum will be contributed by the Government toward the expense of the undertaking, and the management of the Opéra has arranged to give a representation of *Walter of Aquitaine*, the proceeds of which will be added to the fund; but the committee expects the greater part of the cost to be defrayed by private subscription, and earnestly requests individuals and associations to contribute according to their ability and interest. Subscriptions will be received in Paris at the office of the Société Centrale, 168

Boulevard Saint-Germain; at the bookstore of Messrs. Hachette et Cie, 79 Boulevard Saint-Germain, at the cashier's office of the Opéra, or by M. Bartaumieux, the Treasurer, 66 Rue La Boétie. American subscriptions may, if desired, be sent through the office of this journal.

THE *Builder* says that the municipal authorities of the City of Florence have in mind to remove the Ponte Vecchio, perhaps the most striking mediæval structure in the city. That modern town officials in Italy should be disposed to sacrifice the narrow and dirty streets which seem to strangers so picturesque, in favor of the air and sunshine which their fellow-citizens need, is quite comprehensible; but the Ponte Vecchio does not take away light and air from any one, and it is interesting and beautiful, to the Florentines as well as to strangers. If it is decaying, so as to be dangerous for traffic, it could, probably, be repaired with little difficulty and at small expense, and one of the chief attractions of the city would be saved. In a similar way, the authorities of Lucerne are said to have been contemplating for some time the destruction of the old wooden bridge over the Reuss, which is, to tourists generally, the most distinguishing feature of the town, next to Pilatus and the Lake. The Royal Institute of British Architects has prepared, at its rooms in Conduit Street, a petition to the Florentine authorities, protesting against the removal of the Ponte Vecchio, and another might with advantage be devoted to the Lucerne Bridge; while, although the Italians and Swiss are not likely to pay much attention to American opinion, a memorial from this country, sent through the Italian and Swiss embassies, might have some effect. There would be many Americans to sign it, for the modernizing of Florence and Lucerne to the level, say, of Turin, would be particularly grievous to people who have no antiquity, and very little picturesqueness, at home.

A NEW treatment for the preservation of wood is described in the Vienna *Monatschrift für den Öffentlichen Bau-dienst*. At present, the railway companies, which are the largest consumers of wood-preserving materials, impregnate their wooden ties with sulphate of copper, oil of creosote, or chloride of zinc, according to circumstances—the Southern Railway, which uses beech ties, preferring sulphate of copper, while the Northern lines find creosote more suitable for their oak ties, and all the roads using chloride of zinc occasionally. The trouble with all these applications is that the solutions employed only soak a little way into the wood, rarely more than an inch, in any case, while they tend, particularly in the case of zinc chloride, to destroy the fibres, and are sooner or later washed out by rain, leaving the wood exposed to decay. The new process, which is due to an architect named Hasselmann, consists in impregnating the wood, under pressure, with a boiling solution of alum and sulphate of iron, with a little sulphate of copper, afterwards boiling the sleepers for some time in the solution. By this treatment the timber is said not only to be thoroughly saturated, but to combine chemically with the salts, so that, while the test by ferrocyanide of potassium will show directly no iron in the inner fibres, evidence of the presence of iron immediately appears, when the wood is treated with sulphuric acid, to break up the combination of the fibres with the chemicals, before making the test. As described, the process seems to be a rather long and expensive one, but railway companies can afford to pay well for an effective means of preserving ties.

AN illustration of the way in which any scientific process may be made dangerous is furnished by the *Bautechnische Zeitschrift*. A mechanic named Schroeder, in Westphalia, made himself an acetylene apparatus out of tin, or thin sheet-iron, and lighted his workshop with it, much to his satisfaction, although his neighbors warned him of the dangerous character of his flimsy apparatus. As he did not get blown up immediately he inferred that he knew more about the matter than his neighbors did, and decided to extend his operations to lighting the street in the vicinity of his house. As this required a larger gas-holder, he appropriated for the purpose a rain-water cask which stood in his court-yard. He put in a quantity of carbide of calcium, and then turned in water, and, in order to see whether the acetylene gas was being generated with sufficient rapidity, lighted a match, and held it in the cask. It is hardly necessary to say that an explosion took place, killing Schroeder on the spot; and, as one of the scientific journals

plaintively remarks, another "fatal accident" is charged up against the acetylene industry.

ONE by one, the Alpine passes have been appropriated by railway lines, and carriages and diligences, and even mules and *chaises-à-porteurs* have been supplanted by cars and locomotives on scores of mountain routes. The old diligence route from Geneva to Chamonix, by way of Sallenches, has been, within a few years, invaded by the Paris-Lyons-Mediterranean Railway, which has extended its lines from Geneva to the station of Saint-Gervais, almost under the shadow of the Mont Blanc range; but at this point it has been necessary to take diligences to climb the remaining twelve or thirteen miles to Chamonix. Now, however, the plans are ready for traversing this distance in cars, drawn by an electric locomotive over a narrow-gauge track, and by 1900 trains will undoubtedly enter the village of Chamonix. The River Arve, which drains the glaciers of the Mont Blanc range, will furnish power, two stations having been planned, one at Servoz, not far from Saint-Gervais, and the other at Chavants. Later, it is intended to continue the line through the Chamonix valley through Argentière, toward Martigny, stopping at the Swiss frontier—but definite plans have not yet been made for this part of the work.

WE have before noticed the curious ignorance of Englishmen in regard to heating-apparatus. Some years ago an assemblage of architects was gravely informed that a serious objection to heating by steam was that when steam-radiators were struck by a current of cold air they were "only too likely to fly to pieces"; and so good an authority as *The Builder* warns those of its readers who may be disposed to use anthracite coal, which is just now being introduced into England, that "nearly all the grates and fireplaces as at present made would have to be removed to make way for metal capable of withstanding the great heat produced by anthracite." Americans who live east of the Alleghanies, and, in consequence, use hard coal, will be amused at this, but it is so desirable to encourage the use of anthracite in London that a few words of explanation in regard to the best way of managing it, from those who have been accustomed to it all their lives, may be of service.

IN the first place, anthracite seems, to one accustomed only to soft coal, very hard to kindle. Our Puritan ancestors, when anthracite was discovered, after trying, as they thought, in every practicable way to make it burn, concluded that it was incombustible, and gave up the attempt to use it. Since then, the art of making up hard-coal fires by starting with a roaring blaze of kindling-wood, and adding to it, when at its hottest, successive small quantities of coal, has become so familiar that every house-servant can make up the range fire in the morning without difficulty. It is necessary, however, that ranges, furnaces and grates for burning anthracite should have bars as far apart as the size of the coal used will allow, and that there should be free access of air under the bars. There is no danger of the coal crumbling, as there is in the case of soft or bituminous coal, and running to waste through the grate-bars, and, on the other hand, it is absolutely necessary that the air should draw up through the mass of coal, so that what are called here the "low-down," or "half low-down," grates, in which a lump of cannel or Cumberland coal lies on a flat plate, receiving oxygen only from the front and sides, are useless for anthracite. With the latter fuel, the bottom of the grate, which must be of open bars, should be at least four inches from the hearth, and is often made much more, and the sides must be closely enclosed, as a current of air at the side of, or behind, a fire of anthracite burning in a grate will surely check, or altogether extinguish, it. If, however, these things are looked out for, so that air can reach the burning coals only from the front, or from directly underneath, and, still more, if a sheet-iron "blower" is provided to shut off air from the front until the fire is well kindled, anthracite is the cleanest, most lasting, and most efficient mineral fuel in use, burning practically without smoke, and being easily controlled, so that a fire in the grate of an ordinary room will last all night without attention, and can be maintained for weeks with nothing more in the way of care than shaking out and feeding morning and night, and, perhaps, an occasional application of the "blower" in the morning.

SOME PALACES ON THE GRAND CANAL.¹—IV.

Fig. 27. Palazzo Loredano.

PALACES belonging to the Byzantine period in Venice confined their color largely to the outside. Golden mosaic picked out with black or indigo lined the loggias and panelled the spandrels of the arches, and all the façades were more or less incrustated with precious marbles. So ruthless have been the alterations and restorations of the buildings that little external coloring remains. Indeed, only six buildings belonging to the period when Venice trafficked with the Moors and Saracens have preserved their original lines or disposition. Conspicuous among these is the Casa Loredano (Fig. 27), built by the Bocasani family, natives of Padua. This palace was afterwards purchased by the Farnese of Rome, and their escutcheon, of three golden chevrons on an azure field, may still be seen in various parts of the palace.

Mr. Ruskin dwells at considerable length upon the charm of the design, and asserts his belief that all who examine it carefully will "feel" it at last to be the most beautiful on the Grand Canal.²

But the "constructive sense" inherent in every architect requires stronger abutments at either end of a long line of arches like those on the second story, when the upper portion of the building is so



Fig. 28. Palazzo Camerlenghi.

heavy. And even the stilted arches, and costly marbles composing the columns, are little more than reminiscences of Ravenna.

On the other hand, it is manifestly unfair to criticise a building which has been so intemperately restored as the Casa Loredano, especially when those restorations are alterations.

¹Continued from No. 1199, page 97.

²"Stones of Venice": Appendix, Vol. II, p. 392.

In 1363 the house and its dependencies passed into the hands of Federigo Corner Piscopia, and three years later it was visited by Peter Lusignan, King of Cyprus, whose armorial bearings are sculptured above the windows on the front. Here also, probably, dwelt Loredano, the persecutor of Foscari, and here Leonardo Loredano established the State Inquisition and schemed successfully against the League of Cambrai.

On the opposite bank to that occupied by the Casa Loredano, and closely neighbored to the Rialto Bridge, rises the Palazzo Camerlenghi (Fig. 28), designed by Guglielmo Bergamasco (1525), architect of the famous Emiliano Chapel at Murano, and many great monuments at Padua and Treviso.

This palace was occupied by the Chamberlains of the Republic, as its name implies. Its style is very similar to that evolved by the Lombardi; indeed, it may be said to copy the freedom of handling in the configuration of the masses, which goes to make up the Lombardi charm.

Carelessness of this kind is only pardonable in "the first fine, careless rapture of inspiration." Used by an imitator, it becomes affectation. A better example of this picturesque quality may be seen in the Palazzo Sagredo (Fig. 29), built in the fourteenth century. Close by the Sagredo rises the so-called masterpiece of Venetian Gothic, or the Ca d'Oro (Fig. 30). This building has no irregularity of skyline, no bold vertical lines sweeping upward from the ground, as is usual with Gothic buildings beyond the Alps. Neither does it convey any idea of constructive cleverness. Its charm lies in the distribution of its traceried windows, in the delicate filigree formation of its arches, in the dainty figure-work of its stone embroideries. Indeed, the façade is merely a beautiful decorative panel on a large scale. One sees the same spirit in the contemporary school of paintings by the Pre-Raphaelites, where pictures are treated as panels, and careful attention was given to detail accompanied by "utter disregard of its relation to its environment," provided that the said detail is of pictorial value.

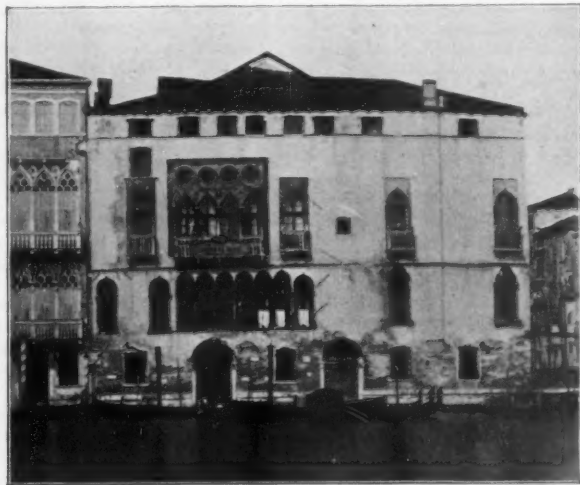


Fig. 29. Palazzo Sagredo.

Not that the Ca d'Oro is treated inappropriately. Its fanciful arches and interlaces are singularly effective above the blue and olive of the rippling water. But the architect has not treated the building as a feature of the landscape, nor has he allowed the decoration to grow out of the constructive requirements, as in Normandy, Provence, Auvergne, and other homes of Gothic art. However, when everything is said, the Ca d'Oro is a beautiful building, and the Arabo-Byzantine feeling which dominates the façade seems like an echo from the East, as it were, in a slightly lower key. Paintings, executed by Carpaccio in the sixteenth century and by Gentile Bellini in the fifteenth, show the Ca d'Oro glowing with color and picked out with gold along the devious turns of its mingling arches. And because of these pictures and certain vestiges of crimson color and pale gilt still remaining, it was thought that the building derived its name from its external coloration. But recent investigations have proved, almost beyond a doubt, that the palace was named after the wealthy family of Doro,³ who came early to Venice from Torcello with the Querini, Dauli, and others, and they it was who commissioned Calendario⁴ to build it. How well the architect fulfilled his trust is it not chronicled on the façade?

It now only remains to speak of the last great palace bordering the Grand Canal (i. e.), the Palazzo Vendramin-Calergi (Fig. 32), the last home of Richard Wagner and the home successively of the families of Loredano, the Duke of Mantua, the Duke of Brunswick, the Calergi, the Grimani-Calergi, the Vendramin-Calergi, the Duchess of Berri and the Duca delle Grazie. It was erected in 1481, from the designs of Pietro Lombardo, and is described by the younger Sansovino as "the most splendid on the Grand Canal." Architecturally speaking, this is undoubtedly true. The vigorously modelled façade, with its arched mullioned windows separated by engaged

³A Doro is mentioned in a decree of Basil and Constantine, emperors of the East, 982 A. D., and another was ambassador in 1136.

⁴Calendario, architect and sculptor. See former article.

columns, was the first of its kind in Venice, and became very popular as a method of treatment throughout Italy; while the distribution of the masses in the basement and the proportioning of the cornices remain almost unsurpassed. In no Venetian building do the orders

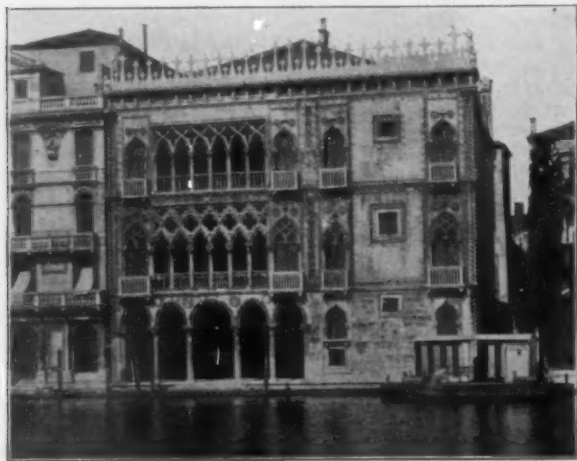


Fig. 30. Palazzo Ca d'Oro.

seem more constructively necessary to the whole, and less like applied ornament; and the carving throughout is singularly appropriate and agreeably chosen. This palace forms a fitting climax to the wonders of form and outline along the Grand Canal. Its interior under the Calergi was like a jewel-box or a chamber in the Taje-Mahal. It contained columns of Oriental jasper, doors inlaid with ivory and ebony arabesques, and mantels of black *brèche*. Masterpieces by Titian, Bellini and Giorgione hung upon the tapestried walls, — men whose art was not entirely at the mercy of the weather, like that of the Barbizon school, but who painted the warm throbbing human life around them, and stirred the imagination with glowing color; men who not only painted what they saw, but "tried to see something worth painting." Even the bedrooms were hung with gold-and-silver brocade, or lined with panels painted by Andrea Schiavone and chiselled by Giovanni of Verona; wardrobes resembled mosaics of precious stones, and even the commonest utensils employed the skill of Ghisi of Mantua and other masters of his craft. Campori and Molmenti tell of silver-canopied couches covered with rarest damask fringed with gold and emblazoned with escutcheons in which the designs far surpassed the material, and speak of basins, coffers and marvellous chessboards inlaid with jasper, chalcedony, and jewels of a rarer kind.

It would be idle to describe the collections of Damascened armor, rondaches, halberds and banderoles, the painted wall-panels by Salviati, Montovano, and John of Udine, and the bronzes, Oriental jewels, and antiquities stored up in the palaces of the Grand Canal. Suffice it to say that the Renaissance architects designed the exter-

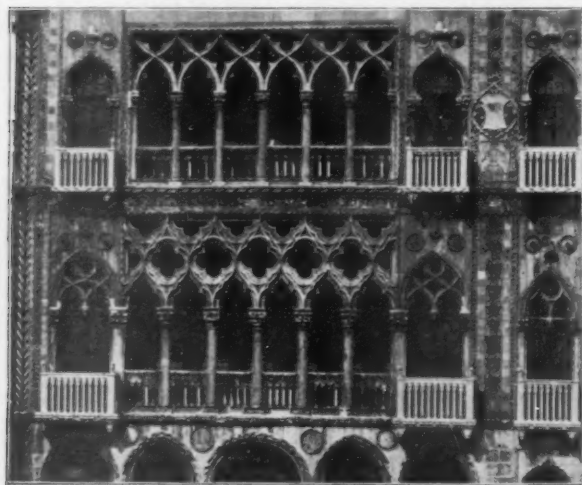


Fig. 31.

ors of their buildings like giants and finished the interiors like jewellers.

For nearly a hundred years Venice continued to build beautiful dwellings for her nobles and merchant-princes — inspired, no doubt, by the good examples shown in the Vendramini, Conaro, Grimani, and similar palaces. But toward the last days of the Republic archi-

tecture began to decline. The creative spirit died and imagination ceased.

Then the pendulum swung itself the other way.

Like those who have read Mr. Howells's novels, the Venetians felt that they had exhausted the possibilities of the commonplace. The extravagances of the Barocco began: Constructive lines were concealed under masses of meaningless carving. Design became subservient to execution. Cupids, clouds, scroll-work, and gilded lightning mingled together on the altars of the churches like an architectural *fricassée*. Paintings reflected the loves and license of the nobles. Nearly all the palaces were treated like *bonbonnières*, without their elegance. The proportions were awkward, and the details were coarse. Indeed, the Baroque methods affected every material susceptible to artistic treatment, whether in stone, wood, metal, porcelain, or glass, and soon the real art of Venice became merely a matter of retrospect.

This is not surprising, when one glances at the unexampled immorality which swept over the community. For, though it is an exploded theory that "art mirrors nature," it is certainly true that art reflects nature's human side. Addison, who visited Venice at the beginning of the eighteenth century, refers in strong terms to the "licentiousness of the clergy," and to "the viciousness and debauchery of the convents." "The nobles," he adds, "generally thrust the females of their families into convents, the better to secure their estates. This makes the Venetian nuns famous for the liberties they allow themselves. They have operas within their own walls, and often go out of their bounds to meet their admirers, or they are very much misrepresented." Other writers speak of monks and nuns mingling at masked-balls and domino-fêtes, with the sanction of the Papal Nuncio himself; of exiled courtesans being recalled by edict of the Senate to act as spies, and provided with palaces and

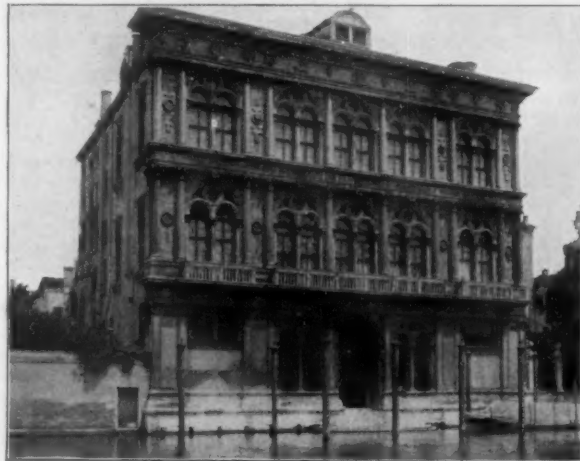


Fig. 32. Palazzo Vendramin-Calergi.

revenues; of wives and daughters sold by legal contract; of gambling resorts personally operated by the senators, and of almost nightly acts of assassination.

With such surroundings Venetian art necessarily became weak and inefficient, for the great temptation of the mediocre artist is "to speak to the lower range of emotion rather than to the higher." But no great school was ever developed by these methods. The restless aspiration of Gothic art, and the repose and self-restraint which characterized Classic art, aimed at the highest in those about them, and found no echo in the intemperance of ornamentation introduced by the Baroque architects.

These latter may have been called sincere according to their light; but they saw no difference between aspiration and desire, between grandeur and display.

In the world of affairs men are chosen for their achievement, but in the art-world it is the conception that counts.

Fortunately the Baroque artists affected the Grand Canal only very slightly. They cheapened the churches of Murano and the various *sestieri*; but the palaces of the *Canalezzo* remained comparatively pure. Strongly, they rise above the tranquil water — severe pictures in old gray and green. Sometimes the sunset causes their walls to glow again with the colors of Titian and Giorgione. But even when the hurrying footsteps of the night have trodden all the color out of the sky, the charm and the enchantment still remain; for architecture is the art of ornamental construction, not the art of ornamental decoration, and power is more persuasive than prettiness.

C. T. MATHEWS.

POTSDAM PALACE IN DANGER. — The committee of experts appointed to inquire into the unsanitary condition of the new palace at Potsdam, hitherto a regular royal residence during the greater part of the year, reports that the water from the Havel is increasingly permeating the land around the palace, and that unless the river is regulated and extensive improvements are made in its banks the whole palace, which cost 20,000,000 marks and on which the present Emperor has spent 6,000,000 marks, will become permanently uninhabitable. The Prussian Diet will be asked to vote the necessary sum. — *N. Y. Tribune*.

MODERN PRACTICE IN THE ENGINEERING PLANTS OF LARGE BUILDINGS.¹

I AM glad to comply with the suggestion that I give you my views in outline as to what is good practice in the mechanical equipment of the modern building. Necessarily, however, this review must be brief, and very general in character.

The prime considerations are safety, reliability, simplicity, small space occupied, low first cost, and low expense of operation and maintenance. All these cannot, of course, be secured together, but good judgment must be used in selecting the apparatus which will best meet the requirements of the particular case.

In general it may be said that the number and size of units—boilers, engines, pumps, etc.—should be such, that with any one unit out of service—for cleaning or repairs—the remaining units can handle the maximum service, if called upon to do so. As the best machinery can safely stand overloads of from one-third to one-half for short periods, there should never be less than three units, each capable of doing from one-third to one-half the maximum work.

The ordinary tubular boiler is preferable where there is sufficient room, where extreme safety is not essential, and where first cost is of prime importance. Where space must be economized, however, and where extreme safety at high pressures is necessary, the water-tube boiler will be found worth its increased cost. In economy of fuel, quick steaming and dryness of steam neither type has any advantage over the other, assuming that both are intelligently designed and operated.

Many specifications prohibit the use of the drift-pin. No boiler was ever built without one, and probably no boiler ever will be so built. Its judicious use is not objectionable, with light hammers, in bringing the plates together, and rounding out the holes. Any other use, however, should not be permitted. The working steam pressure should be 90 pounds to 100 pounds, if simple engines are to be used, and 125 if compounds are selected.

The chimney should be at least 100 feet high above the grates, and higher, if necessary to bring its top well above adjacent buildings. In area it should equal the aggregate tube area of the boilers. For water-tube boilers one-ninth the grate-area may be used. It should preferably be circular in section, and lined with fire-brick. The smoke-flue leading to it should be of at least equal area, circular in section and as short and direct as possible. When bends are unavoidable they should be of long radius. Good draught is of prime importance in securing the best results with the fuels ordinarily burned here.

Smokeless furnaces should always be adopted, for æsthetic and sanitary, as well as economical, reasons. There are many good devices of this character, such as the down-draught, the automatic stoker, and the fire-brick arch.

The steam-engines and large pumps should be of the compound type—where the steam is worked through two cylinders in series—thus giving an economy of 20 to 40 per cent in the use of fuel over simple or single-cylinder engines. The low-speed Corliss engine represents the highest economy, but is rarely available for buildings, on account of the space it requires, and the fact that it cannot be direct connected, except to low-speed high-priced dynamos. Compound high-speed engines occupy much less space, are capable of direct connection, regulate better, and approach the single-cylinder Corliss closely in economy. Where space is extremely valuable, high-speed engines of the vertical type may be successfully employed. There are now a number of satisfactory makes on the market at reasonable figures of cost.

Condensing-engines are rarely available in buildings on account of increased space necessary, greater complication, higher first cost, and the fact that the exhaust is needed for heating for a considerable portion of the year.

Very close regulation of speed is now possible, without danger of racing, and should be required. The variation over all ordinary ranges of load and steam fluctuations may be kept within one per cent, and should never exceed 2 per cent.

The dynamos should, of course, be of the low-speed, direct-connected, multipolar type, over-compounded slightly. They must be capable of standing reasonable overloads for short periods, and must not heat unduly in any parts under any conditions of service. Their regulation, non-sparking qualities and efficiency—not less than 91 per cent at full load—should also be guaranteed.

The switchboard should be of marble or slate, so located that all parts are readily accessible. It should be provided with all necessary indicating, regulating, switching and testing instruments, including—if the plant is a large one—a recording watt-metre. There should also be provision for a connection to an external plant, for use in the event of accident to the local plant, or at night and on Sundays and holidays.

The distributing system may be either the two or three wire, at 110 or 220 volts' pressure, depending upon the character of the work. Arc and incandescent lamps and motors may all be operated from the same mains and apparatus, but it is customary to bring all the wires back to the switchboard separately for ready control. The enclosed arc-lamp has practically displaced all other types on account of its uniformity of operation, noiselessness, simplicity and freedom from frequent carboning. Its efficiency, however, is very low.

¹Extract from an address by William H. Bryan, M. E., delivered before the St. Louis Chapter of the American Institute of Architects, November 29, 1898.

The elevator system presents the most complicated problem connected with the modern building, on account of the rapidity with which advancements are being made in all the standard forms—hydraulic, electric and steam. An intelligent selection can only be made by carefully studying the requirements of the particular building under consideration.

Until very recently the hydraulic elevator stood at the head, and for a wide range of service is still, in my opinion, without a peer. It has behind it a long record of excellent performance, small repair-bills, great reliability and durability, and smoothness of operation. Recent improvements in using higher pressures, and high-duty pumping-engines, have given it a renewed lease of life. Broadly speaking, I should say that the hydraulic elevator is preferable where the speeds are high, the lifts long, where many stops and starts are made between terminals, and where the average load approximates closely to the maximum.

The principal objection to the hydraulic elevator as usually constructed is—next to its high cost—its low fuel efficiency, due to three features:—

1. No part of the live-load can be counterbalanced—nor even all of the dead-load.
2. The maximum amount of power is required irrespective of the load—the empty car requiring as much as the heaviest load.
3. The direct-acting steam-pump ordinarily employed is very wasteful in the use of steam.

The first two points seem to be very difficult to remedy, but the third may be met in large plants by the use of high-duty pumping-engines.

The electric elevator has made immense strides in the last few years, and to-day is available for a wide range of work. When counterbalanced to half the average load the power required is only that necessary for acceleration and to overcome friction, assuming that the same total load is handled in both directions. It can be counterbalanced as desired, and there is a reduction in power with light loads. Being always operated by automatic engines—preferably compound—its fuel efficiency is high. Being a drum machine, however, it has its speed and travel limitations. Furthermore, for frequent stops, the starting-current becomes an important factor in lowering the fuel efficiency and bringing undue strains upon the generating plant. This, however, is being very largely remedied in the most recent types. The electric elevator would seem to be preferable for moderate speeds and lifts, and where the average loads are light and the intermediate stops not too frequent.

An important advantage of the electric elevator is that it is unnecessary to duplicate the generating plant. The same dynamos which generate electricity for lights furnish current for the elevator motors, and one reserve unit serves for both. This greatly simplifies the arrangement of the plant, reduces its cost and economizes space. The electric elevator has yet to demonstrate its equality with the hydraulic, however, in the matters of reliability and low cost of repairs. The latest forms, however, appear to meet all reasonable requirements in these directions.

You will notice that I have not considered the screw form of electric elevator, recently brought out for high lifts and speeds. In my opinion, this type has not yet reached such perfection as to warrant its adoption except for special cases. Its starting-current is high and its efficiency low.

We must not overlook the steam-elevator, which has a field of its own. It has many excellent points, in spite of its wasteful use of steam. Where low first cost is imperative, where fuel economy is secondary, and where simplicity of plant is desirable, and the service not severe, you cannot do better than purchase a good modern steam-elevator.

Coming now to the heating, ventilating and piping systems, we find that the exhaust-steam from the engines is used in the heating mains. As a rule, there is a surplus of exhaust in the up-to-date building, even in the coldest weather, and where compound engines are employed.

Where large numbers of people assemble the indirect system with fan has been quite successfully introduced. It is particularly adapted for schools, hospitals and auditoriums, where a constant supply of pure air is required. It is capable of automatic regulation. As a rule, it is more expensive to operate than the ordinary direct system, on account of the large amount of air which must be heated.

A modification of this is the direct-indirect, where external air is admitted through the ordinary direct radiators,—a plan which may often be adopted for low first cost where a small amount of fresh air is required.

The most common system is, and probably will remain, the direct. In common with the indirect and the direct-indirect, it may be operated either by steam or hot water. The latter is preferable—particularly for residences—where moderate temperatures are desired for the spring and autumn months. It has been adopted for some large buildings in the East, the water being circulated by steam-pumps. Combination systems—interchangeable at will between steam and hot water—are entirely practicable, but have not come into very general use. They give the benefit of the hot-water system in mild weather, while the ability to use steam in severe weather keeps down the cost. Some intelligence in handling such a plant is of course necessary.

Here in the West we have come to use the single-pipe system almost exclusively, on account of its greater simplicity and lower

cost. Now that the rules governing its design are fairly well understood, it is in service an entirely satisfactory plan.

In the design of direct-heating plants two points are frequently overlooked: the necessity of heating the large amount of air which finds its way through the doors and windows, shafts, etc., and the heat loss due to unceiled roofs. These are of prime importance.

Among meritorious improvements recently introduced, and which are meeting with very general adoption, are the Paul and Webster Systems of air removal from the radiators. They possess many important advantages, the principal ones being, first, the ability to heat the building without pressure, thus greatly relieving the engines whose exhaust is used — increasing their power and improving their economy; and second, getting a greater amount of work out of a square foot of radiating-surface, thus reducing the amount required, the space it occupies, and its cost.

I need not discuss here the details of the auxiliary apparatus, such as heaters, receivers, blow-off tanks, regulating and relief valves, exhaust-heads, separators, grease-extractors, boiler-feed and house pumps, pipe-covering, fittings, etc. Their name is legion — and a book could be written about each of them. It must suffice to say that each should receive the same conscientious consideration from the expert that he gives the more important features of the work.



TO THE SATISFACTION OF THE ARCHITECT OR OWNER.

IT is sometimes provided in a contract that the owner may disaffirm the contract and cancel the same "if he is dissatisfied with the quality, progress," etc. Just what latitude is to be given to the expression has led to much litigation; the contention on one side being that the purchaser can disaffirm the contract simply upon being dissatisfied, within the time specified, and that such dissatisfaction need not rest upon any ground of reason, and that the grounds or reasons of his dissatisfaction cannot be inquired into or determined by any court, or any one except himself.

It seems to us, said one of the Supreme Courts recently, that this is the proper interpretation to be placed upon such a contract. The parties to it have so written it, and the fact that to so construe it may result in a hardship is a circumstance that will not be considered. Such a contract is permissible and legal, and when deliberately executed should be enforced. It contains express authority to disaffirm when the purchaser is dissatisfied. To allow him to disaffirm only when his dissatisfaction rests upon some valid and reasonable objection is to practically deny him the exercise of the privilege expressly conferred by the contract, and denies him the right to exercise his judgment in the matter, and makes his right depend solely upon what others may think as to the merits of the article or animal he has purchased, or the work for which he is to pay. It substitutes their judgment for his. Others may be perfectly satisfied, and think that a man of ordinary desires should be likewise, and that no reasonable ground for dissatisfaction exists. But, on the other hand, he may, with equal good faith, be dissatisfied for reasons that are sufficient for himself, and may think that one situated as he is would have grounds for his dissatisfaction. The true rule of construction of contracts of this character, and the one supported by reason and the weight of authority, is that the purchaser may disaffirm the contract if he is dissatisfied, and his reasons or grounds of dissatisfaction may not be determined or inquired into by any one else. It is a matter left solely to his election. This doctrine finds support in many cases, notably in the following: —

In *Cattle Co. vs. White*, 82 Tex. 470, in construing an instrument that stipulated that the buyer may "cut back all horses not desired," it was held that he was not required to take any of the horses, although they might fill the requirements of the contract. In *Harder vs. Board*, 97 Ind. 456, under a contract that provided that the "board had a right to revoke or set aside the contract when not satisfied with the work done," it was held that the board could revoke contracts when not satisfied, and that this provision gave them this right. In *Goodrich vs. Van Nortwich*, 43 Ill. 445, a party purchased a mill, and at the time it was agreed that if the mill suited him, and answered his purpose, he was to keep it; otherwise, it was to be returned within thirty days, and the purchase-money refunded to him. Within the time agreed the mill was returned, on the ground that it did not suit, whereupon the seller refused to repay the money, and the court held the buyer to be the sole judge of whether it suited him; that it did not depend upon the opinion or judgment of others; it was a right reserved by contract, and he could not be prevented from exercising it.

Courts of law must allow parties to make their own contracts, and can enforce only such as they make; whether the contract is wise or unwise, reasonable or unreasonable, is ordinarily an immaterial inquiry. The simple inquiry is, What is the contract? Herein, only whether the buyer is satisfied. Like decisions may be found in all the States.

Compliance with Contract and Specifications. — Where a contract provides that work is to be done according to certain plans and specifications, and materials furnished to be of the best, and to be to the entire satisfaction of the architect and owner, if it appears that

the materials furnished were satisfactory, and the work was done according to the plans and specifications, the contractor is entitled to recover.

[*McNeill vs. Armstrong* (U. S. Cir. Ct. App.), 81 Federal Rep. 943.]

Rejection must be at Time of Inspection. — Under a contract providing that a builder is to make a job to the "satisfaction" of the owner, who has power to reject all work and materials not the best of the kind specified, and that the work is to be inspected as it goes on, and accepted by the owner before final settlement, such owner waives all defects in work and materials not rejected at the time of such inspection and during the progress of the work.

[*Laycock vs. Moon* (Supt. Ct. Wis.), 71 N. W. Rep. 372.]

When Caprice may Govern. — A contract for roofing a house with tile of a peculiar and rare color to the satisfaction of the owner and his architects requires the contractor to make the tiles accord with their tastes, however capricious and exacting they may be; but in the absence of an express contract-provision as to the work of putting them on, defined by the plans, specifications and details, such work is not subject to the arbitrary caprice of the owner or the architects, as no question of personal tastes or preferences is involved.

[*McNeill vs. Armstrong* (U. S. Cir. Ct. App.), 81 Federal Rep. 943.]

"Good and Workmanlike Manner." — In the absence of an established legal custom to attach a peculiar meaning to the words "good and workmanlike manner," where a tile layer, after notice that "nice work" is expected, and an inspection of the pattern which he is expected to follow, professes himself competent to do the work, and expressly agrees to lay the tiles in a "good and workmanlike manner," he must lay them in a manner considered skillful by those capable of judging of such work in any place.

[*Fitzgerald vs. LaPorte* (Ark.), 40 Southwestern Reporter, 261.]



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

DETAIL OF THE BALL-ROOM: "SHERRY'S," NEW YORK, N. Y. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

[Gelatin Print, issued with the International and Imperial Editions only.]

UNITED STATES PUBLIC BUILDING, HELENA, MONT. MR. J. K. TAYLOR, SUPERVISING ARCHITECT OF THE TREASURY DEPARTMENT.

[Issued with the International and Imperial Editions only.]

UNITED STATES POST-OFFICE, BROCKTON, MASS. MR. J. K. TAYLOR, SUPERVISING ARCHITECT OF THE TREASURY DEPARTMENT.

[Issued with the International and Imperial Editions only.]

THE BALL-ROOM: "SHERRY'S," NEW YORK, N. Y.

COMPETITIVE DESIGN FOR "SHATTUCK PRIZE" FOR ARTISANS' HOMES. [LIMITED COMPETITION.] SUBMITTED BY MESSRS. PEABODY & STEARNS, ARCHITECTS.

IN determining how best to use a lot of land such as that presented to us for consideration, the character, habits and wants of the probable tenants all would be guides of the utmost importance. In the present instance, the value per square foot of the land is the only hint from which we can guess at these details.

Perhaps there is no more satisfactory way of housing artisans than that found in the long blocks of 16-feet-wide Philadelphia houses. Land costing \$1.50 per square foot, however, forbids this very satisfactory style of building, as it does the still more satisfactory single or double isolated suburban house.

We find, in fact, the question before us is, how to house artisans most comfortably in tenements built after the Boston Building-laws, and at the same time obtain a fair income from invested funds.

Obviously it is possible to cover more or less of the land with these tenements. In populous and costly parts of New York crowding is essential. In Brooklyn and more suburban sites the unoccupied portion of the lot is much larger. In many of the German and English model tenements the open spaces are very ample. Our only guide seems to be this price of \$1.50 per square foot. Land of this value does not seem to compel the crowding of buildings. Therefore, we have left large open spaces for light and air, which might also be used as recreation-grounds, or divided by fences into cloths-yards or gardens, as is done in some German houses of this class.

Our large courts could be further occupied by additional buildings and yet leave as much open space as would be obtained by ordinary streets. In our estimate of cost and income this possible change in our plan is considered and figured on.

In a building where rooms are to be let at the price named a system of elevators is out of the question. Under these circumstances, four stories are the most that would let well, and we have made our buildings four stories high.

Staircases entirely open to the weather seem out of place in our climate, but unquestionably windows on the staircase-halls and water-closets opening directly to the light and air will bring more sweetness and cleanliness than any system of interior wells that can be devised. Therefore, in general, our stairs and all our water-closets are lighted from outside windows.

In accordance with the Boston Building-law, every apartment opens on two staircases. The law permits one of these to be an outside fire-escape. These galleries with their attendant stairs greatly disfigure a building and are most untidy adjuncts of a tenement-house. They also give access from one apartment to another. For every reason, the interior fire-escapes that we have adopted seem preferable.

The number of staircases can be greatly diminished if the apartments are arranged to open upon long corridors. In a populous building these long halls offer very many obvious objections. We hold it to be far preferable to divide the blocks frequently and have each main stair serve but two or three families on each floor. This is the system we have adopted.

As regards the individual tenements, we have studied them so as to have the least possible space given to corridors. Each room has its closet, each water-closet and scullery its window. The system of placing sink and tub in a separate small scullery with a water-closet off of it we find adopted in many tenements here, as well as abroad. We have adopted it in some of the blocks shown in our design. It seems to us a neat and convenient scheme. In counting the rooms in a tenement we have not counted these sculleries, so that, if the system were not approved of, this really could be counted as a small additional bedroom, or the space could be absorbed in the living-room. Each tenement is open to the air on at least two outside walls, which should permit a thorough draught of air in hot weather.

We have made the rooms in general quite as large as is customary in buildings of this class and we draw attention to the ingenuities of our plan which, at the small scale demanded, are shown with some difficulty.

Oil is frequently used for lighting in these apartments, but it would probably be well to pipe the building for gas and possibly wire it for electricity, as the use of the latter is becoming more frequent. Steam-coils would heat the public staircase-halls and the lines of water-closets, baths and sculleries, and steam might be introduced into the laundry-tubs, but the heating of the apartments in general had probably better be left to the individual tenants. A combination coal-and-gas-range would permit them to cook by either coal or gas. A chute would receive ashes and a lift in each hall permit bringing up coal and supplies.

A bath off the public hall on each story could be shared by the tenants of each floor.

Each tenement would control a portion of the cellar, and for drying clothes either a plot on the roof or in the open areas.

A central building might contain the general heating-apparatus, a public laundry, a public cook-stove, a savings-bank, a nursery, reading and recreation rooms, and possibly a hall. As income might be derived from these various enterprises and as tenements might take their place we have reckoned their equivalent in apartments in counting up income.

So large a population would support a certain amount of shops. We have shown eight of these, although it is impossible to tell on which street they had better be placed.

The buildings would have to be fireproof to meet the demands of the Boston Building-laws. We propose using one of the many economical fireproof floors and thin expanded-metal partitions on light steel supports. The exterior would be of ordinary brick with galvanized-iron cornices.

Many large tenements giving six stories and 60 or 70 feet high above the sidewalk seems to have been built for about \$9.00 a square foot or 12 cents a cubic foot from cellar-floor up. Our buildings are four stories instead of six, which would reduce the price thus named a third. On the other hand, they must be fireproof, which will increase the price. We judge and are advised that it would be possible to build the four-story buildings within the Boston Building-law for \$8.00 per square foot, or 16 cents per cubic foot.

Accepting this, the statement stands as follows:—

2 suites of 5 rooms at \$3.00 per week.....	\$6
174 " " 4 " " 2.50 " "	435
111 " " 3 " " 2.00 " "	222
38 " " 2 " " 1.50 " "	57
10 " " 1 " " 1.00 " "	10
Building for general use equal to 8 suites of 4 rooms at \$2.50 per week.....	20
	\$750
For 52 weeks.....	\$39,000
Rent of 4 large stores at \$750.....	3,000
" " 4 small " " 500.....	2,000
Gross rent.....	\$44,000
Reduction of 25 per cent for agent, repairs, water-rates, taxes, care and cleaning, and loss by vacancies and non-payment of rents..	11,000
Net rent.....	\$33,000

Cost of 160,000 sq. ft. of land at \$1.50 per sq. ft.....	\$240,000
Cost of 3,360,000 cubic ft. of building at 16 cents per cubic ft., or of 67,200 sq. ft. covered at a cost of \$8 per sq. ft.....	537,600
Total cost.....	\$777,600

This net rent of \$33,000 shows a profit of .0424 per cent on the outlay.

The land under discussion of course permits closer building and, accordingly, a higher income. If buildings are added now or at any future time on the sites marked "A" and "B" on both sides of the plan there is an addition of 96 three-room tenements, giving an additional income of \$9,984 per year, and when 25 per cent is deducted for expenses, etc., as in the other case, the net income would be raised from .042 per cent on the investment to .046 per cent.

SYLLABUS.

Area occupied by yards.....	92,800
" " " areas.....	None
" " " light-shafts.....	"
" " " public corridors, baths, stairs and outside walls on one floor.....	10,720
Leasable space on one floor.....	56,480
	160,000

WHEN "A" AND "B" SHALL BE BUILT.

Area occupied by yards.....	79,840
" " " areas.....	None
" " " light-shafts.....	"
" " " public corridors, baths, stairs and outside walls on one floor.....	12,880
Leasable space on one floor.....	67,280
	160,000

PLANS OF THE SAME.

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

HOUSE AT PANGBOURNE, ENG. MR. JOHN BELCHER, ARCHITECT.

This plate is copied from *The Builder*.

A GROUP OF STATUES.

[Additional illustrations in the International Edition.]

A CORNER OF THE BALL-ROOM: "SHERRY'S," NEW YORK, N. Y. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

[Gelatine Print.]

SKETCHES AT NORFOLK, VA., BY MR. E. ELTON DEANE, NEW YORK, N. Y.

NEW FOUNTAIN IN THE COURT-YARD: SAVOY HOTEL, STRAND, LONDON, ENG. MR. T. E. COLLCUTT, ARCHITECT.

NO. 54 MOUNT ST., W., LONDON, ENG. MR. FAIRFAX B. WADE, ARCHITECT.



[The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.]

"TRIAL BY FIRE."

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

NEW YORK, N. Y., December 19, 1898.

Dear Sirs,—In your "Trial by Fire" signed John A. Fox in the *Boston Transcript*, it is stated: "Hitherto sky-scrapers . . . were . . . in fact barriers against fire. To this claim the recent New York fire gives an emphatic negative."

This is a misstatement of fact. The Home Life Building was a decided barrier against the havoc caused by the intense heat. The building is now intact as far as walls and floors are concerned, and no one can tell what the extent of the fire might have been if this splendid example of engineering skill had not been in the fire-fiend's path. I am not one who condemns the "sky-scraper." It has come to stay and its limitations are not dependent upon futile legislation.

The silhouette of lower New York is, to my mind and that of many others, much improved since the picturesque skylines of these same "sky-scrapers" have come to vary the dull monotony of uniform and uninteresting cornice-lines at the same level.

GEORGE MARTIN HUSS.

THE NEW CITY PRISON, NEW YORK.

54 BIBLE HOUSE, NEW YORK, N. Y., December 20, 1898.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—As the strength of our structural ironwork in the new City Prison has been called in question by the Commissioner of Buildings, thereby reflecting on our reputation as architects, we beg leave to ask you, in justice to ourselves, to insert in your paper the accompanying protest which we have presented to the Board of Estimate and Apportionment in relation to the matter, so that the public may be able to judge where the blame lies.

Yours truly, WITHERS & DICKSON.

December 20, 1898.

TO THE HONORABLE THE BOARD OF ESTIMATE AND APPORTIONMENT, NEW YORK CITY:—

Gentlemen,—On the 27th of last September we presented to your Honorable Board a protest against the consideration of any detail plans for the cell-work, etc., for the new City Prison, other than those prepared by us as the architects of the building, our designs for which having been approved by all the proper authorities, including that of your Honorable Board.

We now desire to say that some other plans for the cell-work, ostensibly prepared by parties calling themselves architects, and approved by our Commissioner of Correction, were on the 28th of November laid before the Commissioner of Buildings who, upon examination of these plans, found that the structural ironwork as now being built by contract in accordance with our plans for the prison was not sufficiently strong to carry the steel cell-work as proposed by these parties. Upon this the Commissioner of Correction stopped work on the building.

We now beg leave to add a further protest against your consideration of the plans referred to above, should they be brought before you, on the following grounds:—

In the first place, the plans and arrangements of these cells are copied from those prepared by us, and now on file in the office of the Department of Correction.

In the next place, we claim that the structural ironwork in the building was designed intelligently, so that it should be of just the strength required by the building-laws to carry a load of steelwork such as we intended to impose on it. To prove to your Honorable Board that we are entirely correct in the above assertion, we will say that we are fully sustained in the calculations we made as to the strength of our ironwork by Mr. George B. Post, the Examining Architect of your Honorable Board for this work, who will confirm our statement that, were our plans for the cells carried out, there would be no necessity for strengthening the girders. We therefore consider ourselves entirely vindicated in the claim which we make, that our structural ironwork is right and needs no bolstering up!

The plans for the cell-work referred to above, in opposition to ours, were got out, we understand, by, and in the interest of, a firm of jail builders in the West, and are essentially the same as those presented by a Mr. C. C. Cook, of Hartford, Conn., to your Honorable Board last December, and approved by the then Commissioner of Correction, Robert J. Wright, who had appointed Mr. Cook his architect for this very work, which plans, we beg to add, were not approved, in consequence of our then protesting against their consideration. Moreover, the weight of the steel called for in these plans—one-third more than that proposed by ours—will not only necessitate the strengthening the main girders, at great and unnecessary expense, but the cell-work will cost, in addition to this, at least \$40,000 more than the work contemplated by us, besides an additional commission on the cost of the work to the other architects. Our commission is, of course, secured to us by law.

These plans also show a large amount of meretricious ornamentation in the shape of pilasters, ornamental capitals, consoles, cornices, etc., which are not only entirely out of place in a prison, but would be receptacles for dust and dirt, and as such could not but be deleterious to the inmates.

Practitioners of architecture everywhere will uphold us in the position we take, that where an architect is appointed, as in our case, to design and superintend the erection of a building, every portion of it should be under his direction and supervision, and that it would be a breach of contract to employ other parties to carry out any special part of it.

We would, therefore, respectfully request that your Honorable Board decline to adopt and approve any new plans for the cell-work—steam-heating, plumbing, electric-work, etc.—in completing the new City Prison, and that your Honorable Board order contracts to be made and carried out in accordance with the plans already approved and filed in the office of the Commissioner of Correction.

Yours respectfully, WITHERS & DICKSON.

THE HEIGHT OF THE "WESTMINSTER CHAMBERS," BOSTON.

BOSTON, MASS., December 21, 1898.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—In a notice in your paper in regard to carrying the Westminster Chambers above the limit of the law, I see it stated that the designs for the upper stories were approved by the Park Commissioners before being carried into execution. This is a mis-

take which naturally grows out of the statement of the City Solicitor. The Commissioners distinctly declined to approve the plans.

After the building was up they were urged by the Mayor and the Law Department of the City to accept and approve an accomplished fact. This they declined to do in the form presented. On October 31st they signed an approval of the "sculptured ornaments erected on the building"—not of the building behind them—an equivocal endorsement, which the counsel for the defence, for such in fact, though not nominally, he is, contends is a justification of the transgression of the law.

C.

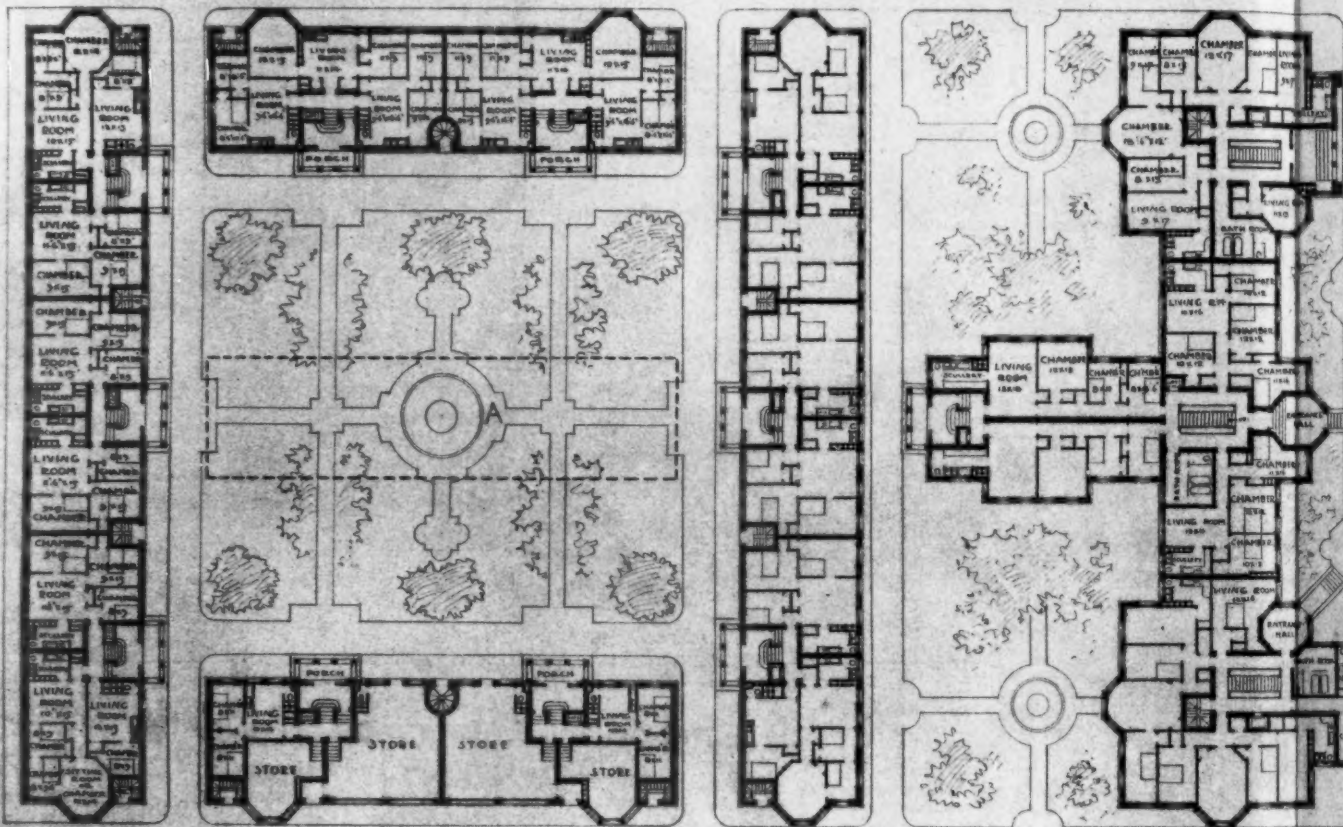
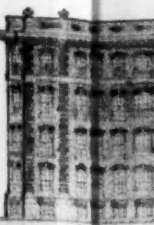
NOTES AND CLIPPINGS

MOVING A TALL CHIMNEY.—A tall steel chimney-stack of the Meriden Curtain-Fixing Company, at Meriden, Conn., which had been thrown nearly a foot out of plumb by the settlement of its base, was recently not only restored to a vertical position but removed bodily a distance of 15 feet horizontally. The stack was of riveted steel $\frac{1}{2}$ of an inch thick, and 100 feet high. It stood 16 feet above the ground, on a pair of 72-inch horizontal boilers with an 8-inch wall between them, under the centre of the stack. In planning for the straightening and removal, ten braces were first riveted to the base-plate and the stack and the boiler which had settled was blocked on four jack-screws. Two pairs of steel girders, 28 feet long, were placed underneath the base-plate and the stack was brought to a vertical position by jacks under each end of the girders. The girders extended from a wall about 2 feet outside of the boilers to a new brick foundation, 5 $\frac{1}{2}$ feet square and 16 feet high, the intermediate distance being filled-in with false-work to prevent springing while the stack was passing. Two yellow-pine shoes 5 $\frac{1}{2}$ feet long were inserted between them and the base-plate of the stack. The top of each shoe was bevelled at the ends in a peculiar manner. At one side of each end the bevel began 18 inches from the end and on the other side 24 inches, so that when the two shoes were properly arranged they could take bearing only under the edge of the stack, and strains on the thin outer edges of the base-plate were thus avoided. Iron brackets were clamped to the tops of the girders to serve as reaction pieces, and jack-screws were set horizontally between them and the ends of the wooden shoes and base-plate to push the stack along on the girders, which were lubricated with oil and soft soap. Each jack was worked by two men, who advanced the stack $\frac{1}{4}$ of an inch at every stroke and moved it to the new position in three hours. The guys that were already attached to the stack were considered too weak to be relied on and no use was made of them in the moving, the base being kept so level that the stack was never more than 6 inches out of plumb. The work of removal was accomplished by five men in two days. — *Providence Journal*.

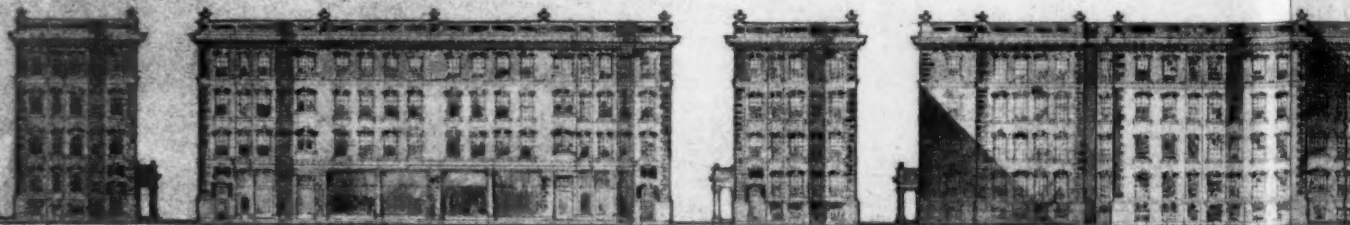
ROMAN EAGLE vs. GALLIC COCK.—The French flung away the imperial Eagle in 1870. The Emperor William seems to have taken up this bird of prey, at any rate for a decoration of the "Hohenzollern." Professor Calandrelli, our Paris correspondent says, has executed for him a gigantic spread eagle in repoussé brass. The bird holds forked lightning in its talons, and measures 8 yards 9 inches at the wing tips. It will be perched on a console projecting from the prow of the Emperor's yacht. The Roman eagle was raised from the dead by Napoleon when he thought of adding the Kingdom of Italy to the French Republic. It figured, but always in the plural, in his addresses to his soldiers on the eve of battle or on the morrow of victory. The eagles—that is to say, the French standards—were represented as flying over Europe. In 1815 the eagle ceased to be the heraldic bird in France. Louis Philippe adopted the cock for the national emblem. In 1852 the eagles were revived by Louis Napoleon, to be massacred on the 4th of September, and the two or three following days. I was present at some massacres of eagles at the Tuileries and the Elysée. Each massacre took place to the accompaniment of fervid oratory and imprecations. The eagles then were "des sales oiseaux de proie," and the symbol of defeat. The heraldic cock came in again, but has been irregularly used. It is of Gallic origin. Gallus was a cock whose crowing kept the neighborhood awake. The cock was a good emblem of that Louis XIV and Napoleonic policy which would not suffer any neighbor to be equal with France nor to approach her in greatness. There was a deal of the gamecock in the spirit of French chivalry and the military instincts of the French nobility. — *London News*.

THE ARC DE TRIOMPHE, PARIS.—The long period which has elapsed since the restoration of the Arc de Triomphe was commenced does not give Parisians much belief in the excellence of the system for municipal works. When it was announced the Czar was to arrive the scaffolding around the structure was removed, but apparently the restoration is not complete, for, judging by the quantity of timber and stone which is at the place, the arch is not in a sound condition. It is declared that the principal cause of the delay is the want of money, and if votes can be obtained work will be expeditiously carried on. Strangers will be amazed if in 1900 they see a continuance of the present state of preparation, which has the inconvenience of suggesting the insecurity of Chalgrin's masterpiece. — *The Architect*.

MICA.—The 300 mica-mines situated in the locality of Hazaribagh, Gaya, and Monghyr, in India, furnish more than one-half the amount of this substance that is used by the world. It is known as Behar mica, and the available supply is said to be practically inexhaustible. In the neighborhood of 2,000,000 pounds were mined last year, of which the greater part was exported from Calcutta, chiefly to Great Britain and America. The use of mica in electrical industries is constantly increasing, and wherever a mine is discovered its paying properties are being most carefully investigated. — *N. Y. Evening Post*.



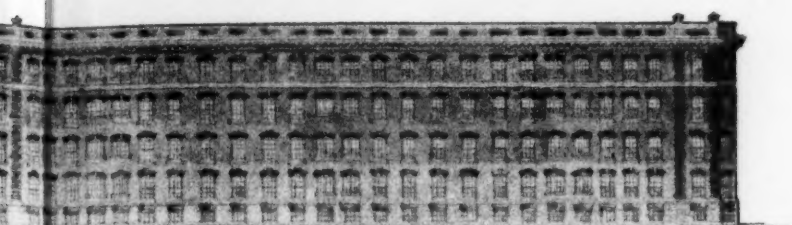
ONE HALF FIRST FLOOR PLAN



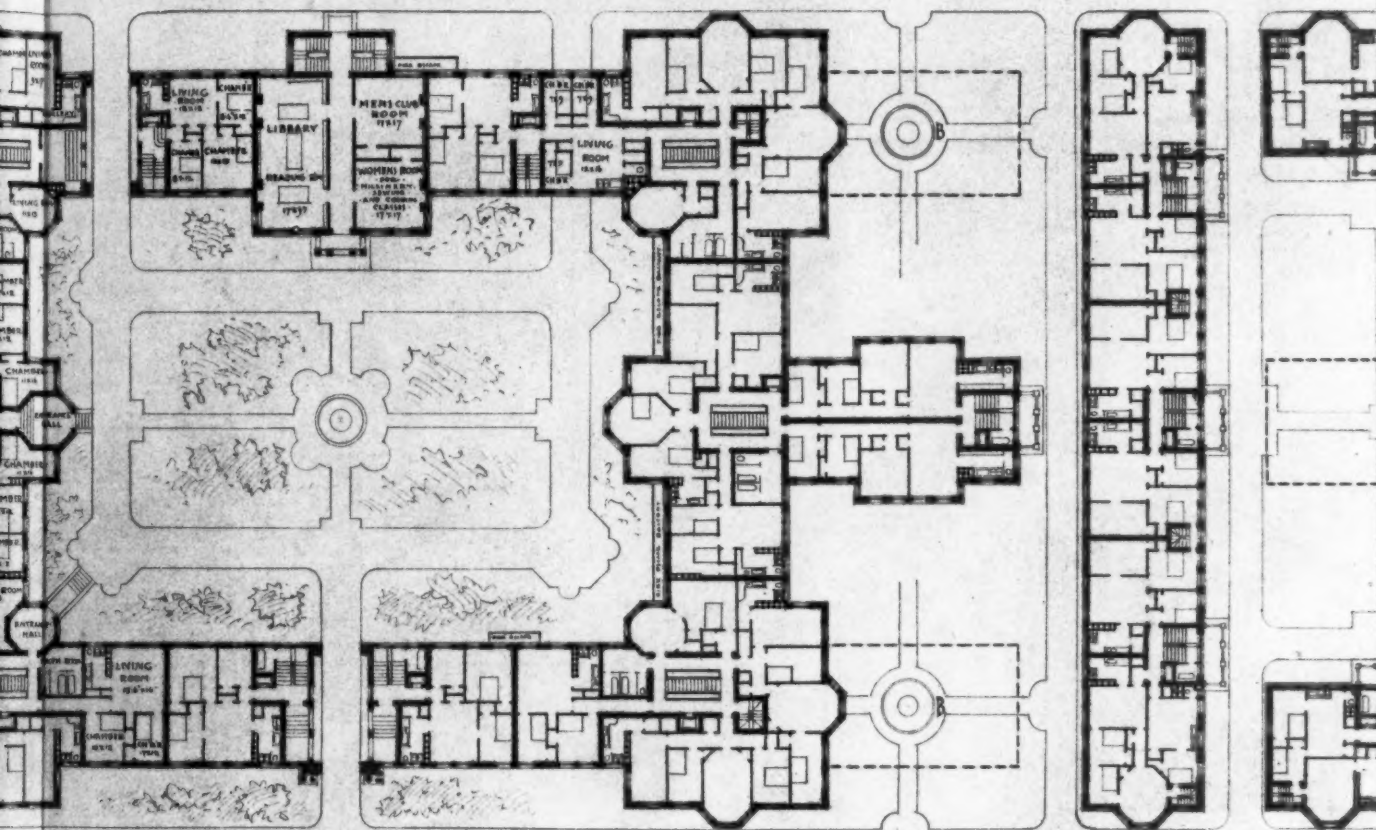
ELEVATION

SHATTUCK PRIZE FOR COMPETITIVE DESIGNS FOR A

PEABODY & STEARNS, ARCHT



ELEVATION ON SIDE STREETS.



NOTE OVER MAIN ENTRANCE
IN 3RD, 3RD AND 4TH STORIES
THERE WILL BE A THREE ROOM
APARTMENT

PLAN ONE HALF SECOND FLOOR PLAN

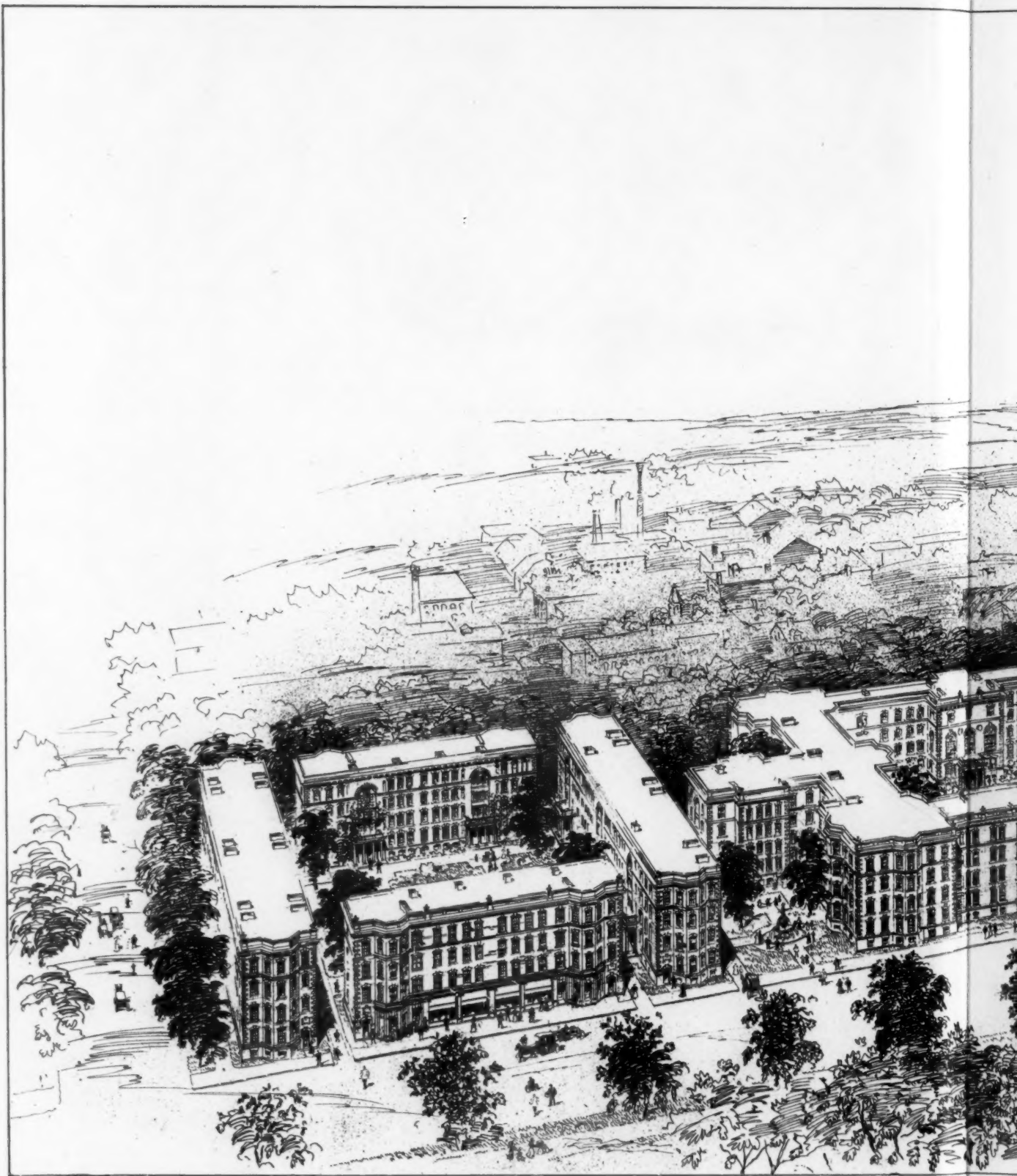


ELEVATION ON PRINCIPAL STREET.

DESIGNS FOR ARTISANS' HOMES (LIMITED COMPETITION.)

LEARN, ARCHITECTS, BOSTON.

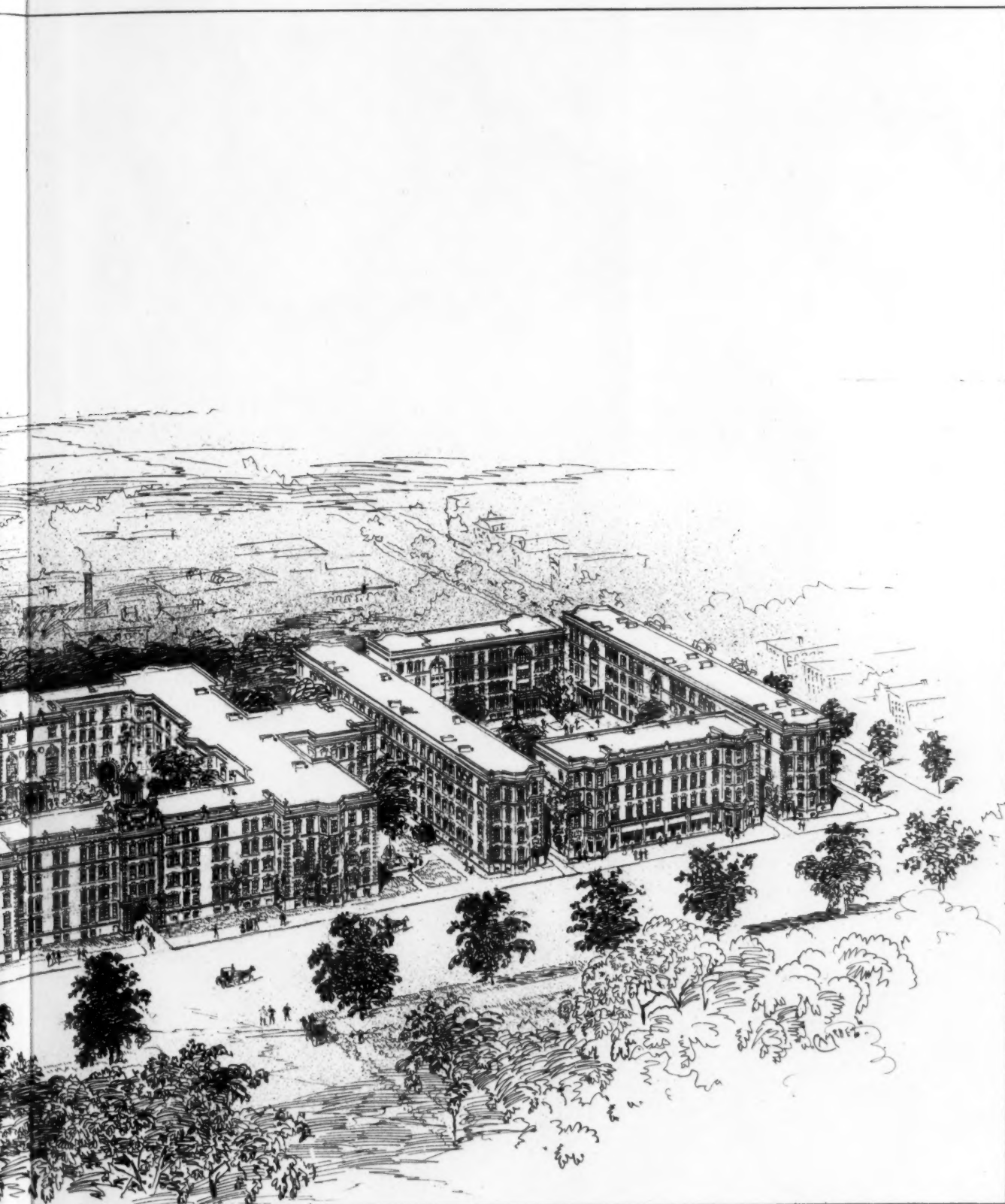
REDUCED FROM ORIGINAL



SKETCH BY HENRY H. BURTON

SHATTUCK PRIZE FOR COMPETITIVE DESIGNS FOR A

PEABODY & STEARN, ARCHT



DESIGNS FOR ARTISANS' HOMES (LIMITED COMPETITION.)

TEARNS, ARCHITECTS, BOSTON.



THE BALL-ROOM: "SHERRY'S,"

McKIM, MEAD & WHITE,



HELIOTYPE PRINTING OF BARTON

"SHERRY'S," NEW YORK, N. Y.

& WHITE, ARCHITECTS.