

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LXIX.

Copyright, 1900, by the AMERICAN ARCHITECT AND BUILDING NEWS COMPANY, Boston, Mass.

No. 1288.

Entered at the Post-Office at Boston as second-class matter.

SEPTEMBER 1, 1900.



SUMMARY:—

The Competitors for the Indianapolis Building.—Death of Carl Rohl Smith, Sculptor.—The Dewey Arch in New York.—Instruction in Sculpture by the Art Students' League.—Dogs' Burying-grounds.—Discovery of an Antique Marble Statue of Apollo.—Professor Hilprecht's Discoveries at Nippur.—The Labor Unions and Service in the Militia.	65
RAPHAEL, MICHAEL ANGELO AND LEONARDO.—II.	67
COOLING WITH EXHAUST-STEAM.	69
THE CONSTRUCTION OF EARTHQUAKE-PROOF WOODEN BUILDINGS.	70

ILLUSTRATIONS:—

A Competitive Design for the Club-house of the Union Club, New York, N. Y.—Plans and Section of the Same.—The Lovejoy School, Washington, D. C.—The Felham, Essex St., Boston, Mass.	
The Electricity Building: Pan-American Exposition, Buffalo, N. Y.—The German Building: Paris Exposition of 1900.	
Additional: The Presbyterian Church, Pittsburgh, Pa.—House of Mrs. Young, No. 19 East 54th St., New York, N. Y.—House of W. E. D. Stokes, Esq., Nos. 2 and 4 East 54th St., New York, N. Y.—First Premiated Design for the Liverpool Dock Offices.—Second Premiated Design for the Liverpool Dock Offices.	71
NOTES AND CLIPPINGS.	72

FOLLOWING out what seems to be becoming an established custom, the Secretary of the Treasury has divided his invitations to submit designs for the Government building at Indianapolis equally between the representatives of "local talent" and the profession at large, and probably no method could assure better results from the standpoint of the citizen of Indianapolis, who must always have the concrete results before him after the building is erected. The Indiana architects invited are Messrs. Andrews & Martindale, Vonnegut & Bohn, Oscar Bohlen, L. H. Gibson and Adolph Scherrer, of Indianapolis, and Wing & Mahurin, of Fort Wayne. Alien talent is recognized by invitations to Messrs. Eames & Young, of St. Louis; Ferry & Clas, of Milwaukee; J. L. Silsbee, of Chicago; Rankin & Kellogg, of Philadelphia; L. J. Thomas, of Canton, O., and Andrews, Jaques & Rantoul, of Boston. Under such a system, all that the Secretary of the Treasury can do when dealing with local talent is to make the best of it and then make sure that a really careful selection shall be made from amongst the outsiders, and in this case the selection of outsiders has been made with great success, for not only have good men been invited, but they are men of very equivalent worth, and if they alone were concerned the resulting designs should be difficult to choose between, as none is so markedly the better of his fellows as to make any hope of a walk-over for him a possibility. Fortunately, too, most of the Indiana men are in the same class with the outsiders.

DEATH has not dealt kindly with the American sculptor of late—American by courtesy, since many who go by that title are foreign-born, and their talents, if not their training, are in some degree hereditaments in which American influences count for little. In most cases these foreign-born artists have died in the country where their working lives were spent and their fame made, but Carl Rohl-Smith had the fortune to die last week in Copenhagen, where, as he was a Dane, he may have been born. What work of merit the sculptor accomplished before he emigrated to this country we do know, but he was an industrious worker and doubtless left his mark on many buildings, as he was particularly skilful in sculpture of colossal scale applied to architecture. His most successful work of importance in this country was the statue of Franklin in Lincoln Park, Chicago, given by the editor of the *Tribune* of that city to the printing trade. Earlier than this he modelled a figure of the "Defender of the Alamo" for the Alamo monument at Austin, Tex., and a statue of Judge Reid, of the Kentucky Superior Court. Most unfortunately for the sculptor's fame, his name is at present best known through being associated with the scandal involved in the award to him of the competition for the equestrian statue of General Sherman to be erected in the city of Washington. As may be remembered, the Society of the Army of the Tennessee, which had undertaken to erect this memorial, held a limited competition and was understood to

place the matter of selection in the hands of a committee of experts, than whom no better could be chosen. This committee selected four sculptors to take part in the final competition, and Rohl-Smith was not one of these four. The military committee, however, chose to substitute the name of Rohl-Smith for that of W. O. Partridge, and later decided the final competition in his favor in spite of the protest of people familiar with the merits of the case and the formulated objections of the National Sculpture Society. The circumstances of the case were particularly disagreeable and, as was natural, things were said officially by the National Sculpture Society which gave offence to the successful competitor, himself a member in good standing of the complaining Society, with the result that he withdrew his consent that his successful model should be, for the enlightenment of the public, exhibited with the models submitted in the final competition by Messrs. Bartlett, Niehaus and Rhind. Because of this fact the public knows little of the real character of this particular work of his, although this is not likely long to be the case, as we believe the sculptor was in Europe this summer to oversee the casting of his group, for which the completed pedestal has for some time been waiting. We hope that when erected the sculptor's last work will be found to have enough merit to add so largely to its author's fame as to dissociate him from a very unpleasant scandal, and at the same time in some degree palliate and justify the very reprehensible method adopted in placing the execution of the work in his hands.

WE wonder if any one believes that had Chicago undertaken to perpetuate in marble such a public monument as the so-called Dewey Arch, in New York, it would not now have been half finished, and all the sculptors who, with such seeming generosity and public spirit, volunteered their services for the temporary structure, be now busily engaged, hopeful of remunerative gain. We fancy they are rather a disappointed lot of men, those sculptors who lavished time, money, health and life itself on the New York arch, and must regret over and over again that the citizens of New York do not have a little of that local pride which makes Chicago ideas take concrete form. It is said that those who undertook to procure funds to provide for the rebuilding of the arch in marble are ready to abandon their undertaking, although the amount of money sought—ridiculously inadequate for the intended purpose—is only half a million dollars. It is fair to assume, however, that if it could be determined where the permanent structure should stand it would not be difficult to secure the balance of the money, some three hundred thousand dollars, which is as yet unpledged. Meanwhile the condition of the temporary structure is growing to be such that in the view of many it is becoming an eyesore, but, oddly enough, that which offends these critics is the staining and discoloration of the white plaster surface. It would probably surprise these critics to take them to some of the dirty and dingy looking bank and insurance buildings about the city and make them understand that these, too, were once fair with the white gleams of freshly-cut marble. Marble fronts and marble statuary are out of place in city streets frequented by pigeons and sparrows, or where soot and dust must be deposited upon their horizontal surfaces or in their carved recesses, and the present condition of the arch in Madison Square is not any worse, so far as stain and discoloration go, than would be the condition of an arch built of marble at about the same time.

SPEAKING of sculpture it is well to record that the Art Students' League of New York, one of the vital organizations for artistic instruction in this country, is moving to make the instruction it gives in sculpture of more immediate and practical value to the student, and to this end is to receive the more active co-operation of the members of the National Sculpture Society. The particular direction in which movement is to be made is in directing the training more toward the field of architectural and industrial modelling, a field which is now mainly tilled by German and Italian artisans. If, as seems likely, we are to have a succession of world's fairs in different parts of the country, each housed in temporary structures covered with stoffe and lavishly decorated with sculpture and plastic architectural decorations, it is very desirable, for the sake of advancing the popular appreciation of the fine-arts, that this

ornamentation, short-lived though it is to be, should be of as high a grade of artistic excellence as possible. In carrying out the work the pupils trained in the classes of the Art Students' League will find not only opportunity for the employment of their skilled hands and cultivated intelligences, but the best of all possible means of acquiring that personal fame that will lead to the placing in their hands of private commissions for individual work of a higher grade. If, however, the movement should result in encouraging the miscellaneous and exuberant application of plastic decoration to street architecture that obtains in Vienna and Berlin, the new movement will be very unfortunate. It is here, however, that should intervene the restraining influence of the instructors, who we hope will impress on their pupils early and late that, in design, a wall surface has other functions to perform than affording a base for plastic decoration.

EVEN when the passion for world's fairs, with their demands for sculptural decorations, has passed away, those sculptors who, like Potter, Proctor and Kemeys, make a specialty of modelling wild or domesticated animals need not feel that their usefulness has passed from them, for they will by that time find they can earn an honest penny by catering to the whims of the former owners of valued horses, pet dogs and cats. There are already not a few very worthy effigies of noted sires and winners in different parts of the world, whether as symbols of affectionate remembrance or exultant pride, and sculptors of the first rank have taken pleasure in executing such commissions. Whether or no the advent of the automobile will increase or diminish the demand for equine sculpture, it is plain that the day of the dog, long prophesied, has come at length, and the *animaliers* of to-day and to-morrow may find employment for their fingers and modelling-tools in preparing portrait and idealized memorials to place above the graves of the lamented canines who are to sleep for the stipulated term in the dogs' burying-ground on the Ile des Ravageurs, in the Seine, near Clichy. This burying-ground, established because of a law of June, 1898, is approached through a rather elaborate, but not particularly symbolic, stone gateway of three openings, and already contains a large number of graves marked by headstones, decorated with portraits of the departed in relief or in the round. Although the latest, this is not the only dogs' cemetery, for, without considering the thousands of private nooks where honored and faithful service is recorded, there is a similar burying-ground in Hyde Park, London, while Queen Victoria has established one at Windsor, and the Queen of the Belgians maintains one in the Laeken Palace grounds near Brussels. Moreover, the more public grounds at Sceaux have long been noted. In this country, too, a movement under the direction of Dr. H. H. Kane, of New York, is on foot to establish a similar depository in connection with a home-farm where aged horses and dogs may pass the last months of life in quiet comfort. It is a worthy undertaking and, as we say, may afford American *animaliers* a means of keeping their kettles aboil.

THE cable brings news from Athens that a "magnificent marble statue of Apollo, life-size," has been discovered in that vicinity, that it is "believed to be the first in existence," and that its workmanship shows it to date from the fifth century B. C. This announcement which reminds one of the manner in which the finding of the Cardiff giant was heralded a score of years ago is very likely the recording of a veritable fact, and archaeologists, if not artists, will take interest in the event, just as physiologists and men of science will take interest in the finding last week in Idaho of a petrified human body—and perhaps one event is of as much value to the world as the other. Beyond the fact that the statue is seemingly an entire one, there is no very good reason to suspect that the find is not a genuine one; but the ingenuity of the purveyor of archaeological material being so great, and there being seemingly no limit to the patient trouble he is willing to take for the sake of disposing of some faked-up *trouvaille*, at a fabulous price, it is well to accept all such reports with a certain reserve. Cypriote and Italian peasants and Egyptian fellaheen have more than once shown themselves to be particularly successful in finding things that they had themselves concealed a few years before, then freshly made. The archaeological world, curators of public museums and the really instructed amongst private collectors are so thoroughly familiar with the wiles of the fabricator of antiquities that, nowadays, nothing is accepted as genuine until after the most patient examination of more than one expert, so

there is little real risk that this new Apollo will find a place in the great museum of Athens if it really ought not to be there.

WHILE the fabricator of antiquities will take infinite pains, there is one kind of swindle he cannot venture on, so when an exploring expedition uncovers the foundations of an ancient city lying beneath the less ancient remains of a younger ancient city it may be safely accepted as a fact that the explorer this time has got ahead of the fakir and that the finds brought to the surface are genuine; and though it is still possible to question the authenticity of the minor articles discovered by Schliemann, there is no gainsaying the archaeological value of his great discoveries in the Troad. In the same way the discoveries made by Professor Hilprecht, director of the excavations now making by the expedition of the University of Pennsylvania, at Nippur, in Babylonia, are beyond suspicion and quite beyond present valuation. Discoveries that carry back the recorded history of civilization thousands of years beyond the limit hitherto assigned, not to the history of man, but to the history of the world itself, as recorded by the Bible historians, are discoveries of the first importance surely. Professor Hilprecht this year has uncovered a part of the library that belonged to the great Temple of Bel, and in it he has found, on clay shelves arranged around the rooms, many clay tablets inscribed in cuneiform characters, over seventeen thousand of which have been taken out in the last three months, while a hundred and fifty thousand more are still believed to be recoverable by later excavations. These tablets are found to be not, as has been the case with earlier tablets found here and elsewhere, merely commercial and municipal records, but treatises dealing with philology, grammar, lexicography, mathematics, and so on, the kind of literary matter, that is, that one would expect to find in the great library of a great and civilized people. Hasty examination shows that none of these records relate to transactions later than the year 2280 B. C., a date which corresponds with the invasion of the Elamites and tends to prove that the library and city were destroyed during that invasion. To what date the historical records will carry the world's history when they come to be discovered and translated, it is not possible to guess, but it is fairly plain that historians and geologists will find themselves more nearly approaching an agreement than ever before. Taking the evidence of the ruins themselves, inscriptions on them show that some of them date from the time of Sargon I, who ruled thirty-eight hundred years before Christ and seventeen hundred years before the days of Abraham, while various indications lead Professor Hilprecht to believe that this Temple of Bel dates earlier than 6000 B. C.

IT is an open question whether next week will find the labor situation in Chicago in a better or worse condition than ever. As Labor Day approaches both the contractors and the unions appear to be preparing for a final effort each to gain their own ends, and thus at length be able to resume continuous operations upon some settled and agreed basis. The union leaders seem inclined to make a final stand and are considering the possibility of ordering a complete strike in all branches of trade, a move of very doubtful efficacy considering the defections from the Building Trades Council that have already been announced, while the contractors declare that after Labor Day they shall consider Chicago an open market for labor, unless the unions will abandon permanently the "sympathetic strike" as one of their weapons of offence. The developments of the labor question are always interesting to watch and study, but nowhere has a more curious and more dangerous phase developed than in Vancouver, B. C., where the local unions have absolutely prohibited their members from joining, or remaining in, the militia. In doing this the unions have taken a step which brings them perilously near to giving notice that they enroll themselves in the ranks of anarchists, pure and simple, enemies of society as established, and as such to be pursued and punished to the bitterest extremity upon the performance of the first overt act against the laws of order. The militia is one of the recognized arms of government and any citizen who evades duty in its ranks is unworthy of the protection which under other circumstances the law would afford him, and for all we can see is subject to attainder for treason the first time he resists the law. Any body of men who give public notice that they feel themselves obliged to obey rules that contravene the laws established, by and under the constitution, by the people, place themselves voluntarily in the position of public enemies and must abide the consequences.

RAPHAEL, MICHAEL ANGELO AND LEONARDO.¹—II.

A Tea-table designed by Henri Sauvage.

Of all the great masters of the Italian Renaissance, Raphael was without contradiction the most apt in expressing, with as much intensity as spontaneity, the religious sentiment, and the most successful in disengaging himself from Classic suggestions. His father, a poet and painter of some worth, owes the mediocrity of his reputation to the brilliancy of his son's glory. The qualities and tendencies which Raphael inherited underwent, furthermore, the soft influences of Umbria, where art used especially to be distinguished for its grace and suavity. His temperament was fed and ripened amid surroundings saturated with mysticism. In the studio of Perugino, who was his first master, he lived amidst angels and madonnas, and his soul was constantly haunted by the attitudes of the Virgins, by the legends of saints, by subjects which hardly departed from the obligatory formulas of devotion. But in order to comprehend how superficial must have been the ascendancy that these purely local accidents exercised over a nature so vivacious and fruitful, borne perforce to enlarge the limits of his activity and his conceptions, one must stop an instant before the artistic life of that time, so as to comprehend the ideas and theories of the resurrection of the humanities and the cultivation of Hellenism which had spread throughout all Italy. Do we not know, for example, that Perugino, who passed his time in encircling the heads of his martyrs with luminous halos, who employed the agility of his brushes entirely in lighting up the countenances of Virgins, who applied himself in his works with marvellous mastery to rendering spiritual conceptions, did not believe in the immortality of the soul? We do not have documents which permit us to weigh the degree of religious fervor with which the soul of Raphael was penetrated, but it is very likely that the conversations, perhaps the jesting chit-chat of his master, must have wrecked the piety and devotion with which his soul was filled on the day when he quitted his father's roof. It is probable that at the time he left Umbria his spirit was, if not sceptical, at least troubled, uncertain, prepared in consequence to face without fright and repugnance the affiliation which must fatally unite the work of the Renaissance with the beauties of paganism, and that his understanding was sufficiently free from all superstition to enter in contact with the nascent spirit of pagan civilization, without fear of committing sacrilege.

So, from the time when he left Umbria, where his genius was nourished like a flower shut up in the greenhouse, and arrived in Tuscany, where he found himself face to face with the exhumed relics of pagan art and with the works which were already animated by the breath of an abounding Hellenism, we see him grow in stature, perfect and transform himself, just as a plant rudely transplanted into the open air; and one can from that time, by following step by step, note the diversity of the impressions which he received and the influences to which he yielded. The works of Fra Bartolomeo unveil to him the variety and abundance of resources of the palette and impress him by amplitude of style and composition; he will borrow from them richness of coloring, but he will not imitate them except in certain easel paintings. The nudes of Masaccio impress him deeply, make him feel the poverty of bodies too straitly draped, reveal to him the symphony of the muscular system, the harmony of flesh animated by the concealed movement of nerves and the circulation of life, the eloquence, imposing and sound, of the human body expanding in the plenitude of its force and action. The study of the cartoons of Michael Angelo and Leonardo da Vinci fills him with astonishment; for the first time he finds himself in the presence of two magistral works, in which two incomparable masters, of opposing temperaments, have given the measure of the prodigies which grand art can accomplish. He is impressed by the range of means which these two powerful rivals have known how to use in demonstrating that art is not necessarily limited to the interpretation of religious ecstasies, that, on the contrary, it can reach the highest summit in translating the meanest action of life. Contact with Pinturicchio, whose works were distinguished particularly by their freshness, their originality and a certain perfume of worldliness, finally wins him from the religiosity which he had contracted during his collaboration with Perugino, and the sight of the "Three Graces" at Sienna cause him

to enter into communion with Pagan sentiment. We have already spoken of the living influence exercised over him by this meeting and of the persistent complaisance with which he returned again and again to this subject, the vision of which never left him. Just in proportion as he hastens over these stages, his genius progresses towards full maturity; he gathers material from stage to stage of his travel for the sake of recreating himself, and it is after having passed through these different transformations that Raphael reaches Rome. We can see that he finished his apprenticeship only on the day when for the first time he entered the eternal city, where he was to raise monuments which have assured to his name and to Italy an imperishable glory.

Raphael's work is wholly at Rome. *En route*, he produced during the pilgrimage which brought him to the Catholic metropolis certain pages of high value, in which we have seen, turn and turn about, born and grow his mastery and his budding genius sending out its rays; but the real monumental pages of his work, those in which he condenses the highest thoughts of an artist, are at Rome, in the Vatican, in Santa Maria della Pace, and in the Farnese palace. Examining his works from near at hand, we perceive, it is true, that Sanzio no more than Michael Angelo escaped from that secret law which sometimes forces an artist, who has not voluntarily indulged in plagiarism, to allow to be perceived in his creations certain reminiscences of the *chefs d'œuvre* of which he has felt the fascination. The "Sibyls" of Santa Maria della Pace, and even the "Isaiah" of S. Agostino, are figures which seem to have issued from the Sistine Chapel and of which Michael Angelo might on more than one ground have claimed the paternity; and even in the "Adam and Eve" of the Loggia there are things which smack strongly of the long halts which the painter of Urbino made in the Masaccio's chapel at Florence. But that which is most interesting to remark is the easy grace with which the master of Urbino mingles the characters of pagan fable with the most august features of biblical lore and Christian legend. One notices sometimes in his interpretation of figures belonging to these two classes an equal disdain for consecrated formula; for example, in the "Apollo Musagetes" of the Camera della Segnatura, who holds a violin in his hand in place of the Classic lyre. Let us also note that he created an ornamental style for himself by taking as models the stuccos and paintings which decorated the Baths of Titus.

Finally, it is well to remark that, at the very time when the genius of the great Italian painters was spreading so bright a glow over the Renaissance, painting was still considered in Italy only an inferior art, a secondary means of embellishment, to such a degree that the *chefs d'œuvre* of the brush were enclosed in caissons, relegated to ceilings, as so many mere motives of decoration on which the inattentive visitor might at times cast a passing glance.

But let us return to the pagan conquest which is insensibly working under the influence of triumphant Hellenism. Let us consider the Farnese. Raphael living in the reign of Augustus could not have painted otherwise and Lucullus would have found himself as much at his ease here as the Epicurean prelates in the time of Leo X, while a fervent and pious monk, an ascetic of the fifteenth century, would feel himself *dépaysé*. Consider the "Triumph of Galatea." What could be more profane and voluptuous than this image of a nymph standing on a sea-shell and drawn by two dolphins? what more sensual than the gambols of the Tritons and nymphs, than this smooth and velvety abundance of flesh, resplendent over the spuming waves, in a magnificence of warm, intoxicating light? It is here, in this splendid palace of the Renaissance, that one can take account of the irresistible ascendancy that the charm of pagan beauty, the mythological symbol, exercised upon the genius of Raphael. One sees the sovereign force of Jupiter blooming side by side with the subtle and shrewd malice of Mercury, the voluptuous grace of Venus side by side with the licentious coquetry of Psyche; we see the seductive group of the "Three Graces" displaying their charms in the midst of innumerable figures of the Hellenic fable: Pluto, Hercules, Pan, Cupids; and this resurrection of Hellenism worked by the brush of a great Christian painter is so catching that before this striking spectacle Taine cries: "Between 'The Descent from the Cross' and the Farnese, the birth of Pagan Renaissance passed over his head and developed his entire genius on the side of joy and vigor." And this return towards paganism is so imperative and violent that it does not affirm itself only in works which, like those in the Farnese, have only a profane destination. It manifests itself everywhere and always, even in the monuments which have a religious character. In the "Stanze," the mystic dispute of "The Holy Sacrament" has for a pendant "The School of Athens," the masters of Greek philosophy, disputing over doctrines which the Catholic faith has repudiated and condemned, are placed in the same plane as the Fathers of the Church disputing over the miracles!

For the rest, it is enough to run over Raphael's *répertoire* to see that pagan inspiration has had the upper hand in his work. At every moment one sees recurring the names and symbols most celebrated in Greek and Latin worlds: here it is a portrait of Virgil, or "Apollo and Marsyas," there are the "Three Graces" or the "Death of Meleager," a little farther on, the "School of Athens" or the "Muse Calliope," or "Melpomene," or the whole "Parnassus"; and then, "Apollo and Marsyas," and then the "Sibyls" of Santa Maria del Popolo, the "Triumph of Galatea" at the Farnese, the "Phrygian Sibyl" at Oxford, the "Jupiter and Cupid" at the Louvre, "Cupids showing Psyche to the Graces," "Venus, Juno and Ceres," "Venus

¹Continued from No. 1287, page 61.

and Jupiter," the "Car of Venus," "Mercury and Psyche ascending to Heaven," "Mercury in search of Psyche," the "Marriage of Psyche and Cupid," "Psyche received into Olympia," "Cupid Victor over Mars," a "Ring of Loves," the "Abduction of Helen," the "Judgment of Paris," the "Marriage of Alexander and Roxana," "Neptune calming the Tempest." This is more than a reminiscence, this is a veritable resurrection that takes place, as we said before, by means of the brush of the greatest painter of Christianity. The symbols of pagan mythology, the gods of Olympia, all the fictions and all the dreams of the pre-Christian world have come to life again and have come to people Catholic temples, to be enthroned in the very monuments erected for the glory of the new faith. The victory is complete, for it is exactly this mixture of grace and beauty, this blossoming of force and healthy gaiety which corrects what there was of soubreness and discouragement in Christian art; the gayeties of Olympus cause us to forget the pains of the Passion.

At the side of the artists of his time, whose genius hovered between the religious feeling of their century and the seductiveness of Hellenism which, down from the ages, had finished by finding in the flowering civilization of the Renaissance surroundings favorable to its re-birth, Leonardo da Vinci worked and thought like an artist belonging to another epoch, to an epoch of which the dawn had hardly yet come. He was neither Christian nor pagan, he was human. Raphael and Michael Angelo were two colossi whose work is, as it were, the prolongment of paganism into Italian civilization: Da Vinci is the precursor of a civilization which is not yet born. Michael Angelo and Raphael have been the last of the Classics; Da Vinci is the first of the modern painters. He knows everything that his contemporaries can know. His spirit soars above the relatively narrow professionalism of his rivals. He is what a thorough artist should be who is wise, philosophical and a thinker. Read his letters to the Duke of Milan, Ludovic Sforza. He knows perfectly well that this head of a state who dreams of deposing his nephew, and who is surrounded with enemies who, in their turn, dream of dethroning him, has nothing to do with a dauber of canvas, a kneader of clay, and so he first offers to build him movable bridges for the passage of his troops, to dry up the moat of a fortress, to provide him with a means of demolishing besieged fortifications, to furnish him with mortars capable of hurling hurricanes of projectiles of which the mere smoke shall cause terror and confusion amongst the enemy, to dig mines and masked vaults, so as to penetrate besieged cities without warning, to construct chariots armed with artillery which, under the shelter of an attack, can in safety be advanced in the midst of an army, protecting the march of the infantry which follows them; in a word, he offers to create engines of the most murderous description, to provide all the resources of mechanics applicable to the necessities of war, and at need to adapt these engines and these resources to naval warfare. And then there is, last, a matter of an accessory employment: he declares that in times of peace he knows how to carry on works of irrigation, how to erect buildings, execute sculpture in marble and bronze, and paint; all these he does, without having the air of boasting about the matter, quite as well as anybody else.

A century before Bacon, who was born only in 1561, he discovers the formula of the doctrine of experiment which has become the very foundation of modern science, and he clearly establishes that this doctrine must be applied to creations of art. "I am going to treat such a subject," he says, "but before all I must make certain experiments, because my design is to, in the first place, cite experience, and next to demonstrate why bodies are compelled to act in such and such a manner: this is the method which one should observe in investigating the phenomena of nature." When he speaks of nature, he does not merely understand nature in its active form, but also, and especially, nature in its thoughtful form, of which the first is only the result and the reflection. In the human machine he does not merely see the play of muscles which agitate and move it, he also divines the interior source, the occult force, which determines it and regulates its movements. Raphael used to say that he had to paint nature not as it was but as it ought to be, but those who have seen "The Conflagration of Borgo," and who have recognized in the "Madonna of the Seggiola" the features of the buxom matron of the Trastevere, knows that he means to speak of plastic nature. Michael Angelo, also, used in the decline of life to study the beauties of nature, whose exuberances and violences he so vigorously interpreted. But Raphael only tasked himself to embellish the graces of form, while Michael Angelo excels in translating and increasing the amplitude and dramatic power of gesture. Da Vinci saw behind the form the spirit which animates it, and behind the gesture he saw the will which directs it. For him, the human body is an urn through which shines the light of the soul. He does not confine himself to tracing profile, to measuring the relations of shadows which heighten the effect of the contours: he looks between and discovers the rays of the heart of life which light it up from within. In a word, he is a painter of the soul.

One can say, even, that at a given moment Raphael was impressed by the painting of Da Vinci, and by the interpretation of the spiritual life which exhaled from it; he felt the impression vividly, and we find traces of it particularly in his portrait of Maddalena Strozzi, which is in the Pitti Palace, in the "Virgin with the Palms" at Bridgewater, and in the portrait of "Agnolo Doni." It would also be easy to prove that the competition for the "Battle of Anghiari" did not leave Michael Angelo indifferent. In revenge, it does not seem that Raphael and Michael Angelo made a sensible impression

on Leonardo, and this can be understood; he had nothing to learn from them, for, if he was superior to them because of searching after and knowing how to seize the secret springs which animate the human figure and make it reflect the sentiments and passions, he possessed quite as much power of technique and did not yield to them in magistral knowledge of the laws and principles of art.

The Florentine episode, the one relating to the decoration of the Sala del Consiglio, was one of the most singular of his life; we are not thoroughly sure that there really was, as is commonly believed, a competition between Leonardo and Michael Angelo. Vasari does not speak of the event in a manner to make us believe that there was a competition. However that may be, Leonardo was the only painter capable at that time of measuring himself against Michael Angelo. We know that the latter's cartoons made a vivid impression on Da Vinci; but it is beyond doubt that the work of Leonardo produced on the imagination of his rival a most profound effect, the evidence of which can be traced in some of his work turned out at a date later than this alleged competition.

Here it is proper to remark that Da Vinci has the incomparable privilege of being a great painter whose master-works have disappeared and whose reputation has survived the masterpieces which were the source of his glory. The famous cartoons which were intended for the decoration of the Sala del Consiglio and which excited so lively an admiration in his contemporaries disappeared almost immediately, and there remains of these precious documents only reproductions whose fidelity to the originals is properly subject to doubt. Nevertheless, these reproductions sufficiently demonstrate that the admiring wonder called out by this great artist was not exaggerated. "The Last Supper" in the Convent of Santa Maria della Grazie, at Milan, which was in reality the *chef d'œuvre* of Da Vinci, has undergone disastrous vicissitudes and ended by disappearing; we know it only by certain copies, more or less reliable, and by descriptions which can give us only an approximate idea of it. The only masterpiece of Da Vinci's which escaped a fatality which seemed to condemn all his creations to effacement is the "Joconda" in the Louvre, but the portrait of Mona Lisa is enough to give us the measure of the irreparable gap which the disappearance of "The Last Supper" and the cartoons have left in the artistic patrimony of humanity. This portrait, on which Leonardo worked for four years, is the work of a forerunner. On reading the description which Vasari gives of it, one divines that the genius of the grand painters of that time was not sufficiently formed, sufficiently enlightened, sufficiently deep, to comprehend and appreciate the essentially human and intellectual character of this work. Vasari undertakes to make plain the merits of the drawing, the technical perfections, the painstaking care with which the details of execution are rendered, the *finesse* with which the growth of the eyelashes is marked, the precision of the tones and the prodigy, thanks to which one almost sees the beatings of the artery in the throat. He has not seen, though, the effort by which the painter succeeded in making visible in this portrait the feelings of the soul and the reflections of the life within, of the spiritual nature; he has not suspected that the portrait of Mona Lisa was the first manifestation of a new art, and that this portrait had no relationship with the productions of contemporary art, purely representative and plastic.

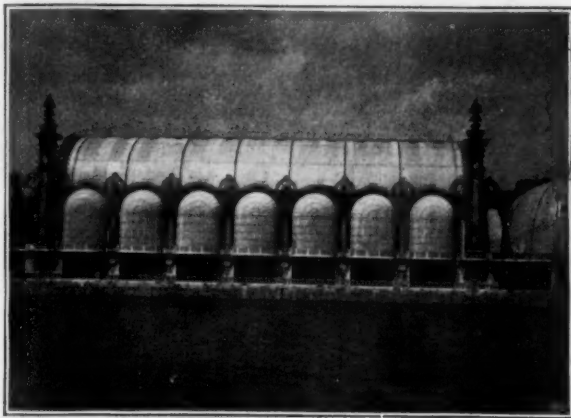
We find, in short, amongst the works of Raphael and Michael Angelo figures which express with intensity, clear and delicate, feelings of force, sweetness, sorrow, ecstasy, faith. But these expressions are generally the fruit of chance. We meet every day in the Roman Campagna, in the Trastevere, there where Michael Angelo and Raphael used to hunt up their models, women of the people whose countenances express these same sentiments. They have the physiognomy of a soul which does not yet exist in them; bodies prepared to experience certain sensations, but in which these same sensations are produced only when their primitive nature shall be perfected and after intellectuality, of which they have the exterior forms, shall have at length animated them. In exactly copying these faces, one can produce the illusion of a sentiment of which only the envelope exists as yet, and the summary indication of it in their faces. But the "Joconda" is a work in which the lights of spiritual life, the radiance of the soul, are the effect of a premeditated effort, a voluntary search; and this work is the first in which this search and this effort have been attempted.

Here is nothing of the glorification of force, of the grace of form, the seductiveness of beauty, which have been the characteristics of pagan art; nothing of that religiosity, sometimes caressing and sometimes terrible; nothing of those transports and terrors which form the essence of Christian art: we are here in the presence of a work really and profoundly human; we see and appreciate the distance which separates Classic art, of which Raphael and Michael Angelo were the last and most eloquent interpreters, and modern art, of which Da Vinci has been the prophet and the precursor.

H. MERKU.

METHOD OF RENEWING AIR. — Two French chemists, MM. Desgrez and Balthazard, according to a Paris dispatch, have made a discovery which enables them to renew air indefinitely. Bioxide of sodium in process of decomposition gives off oxygen, and at the same time absorbs carbonic-acid gas, thus providing pure breathing air and removing the air that is vitiated. The chemists constructed a sort of diver's helmet of aluminium, which, with a lining of bioxide of sodium, permits persons to move and work for hours in otherwise unbreathable surroundings. — *N. Y. Evening Post*.

COOLING WITH EXHAUST-STEAM.



The Horticultural Building: Paris Exposition. M. Gautier, Architect.

OPEN air presents everywhere a level of temperature which can be raised or lowered only by the expenditure of energy. Since both personal comfort and the preservation of food require temperatures materially below those prevailing during a large part of each year, systems of artificial cooling have come into general use. Natural ice, cut and stored during winter months, has long been the most common means for the production of low temperatures on a small, and in many cases, on a large scale. It has been found, however, that where a very large cooling effect is desired at a single point, during long periods, it is much cheaper to maintain the low temperature by the expenditure of energy than to pay the common rates for natural ice. More than this, in places where natural ice can only be obtained from great distances and even in some Northern cities, it has proved economical to manufacture ice on the spot at the time it is wanted for distribution. To change water, at ordinary summer temperatures, into ice requires comparatively large amounts of energy, and the only large and generally available supply of energy is derived from coal. There is thus the seeming paradox that coal burned to generate heat can eventually be made to produce cold. Heat, however, is simply one form of energy, and energy must be employed when any substance is to be changed from the common temperature, no matter in which direction the temperature varies. Most systems for the production of low temperatures, whether for making artificial ice or the direct cooling of apartments, depend on the evaporation or expansion of some vapor, ammonia being the one very generally employed.

Instead of ammonia, water, carbonic-acid and methylic-ether are among the substances that may be used in cooling operations. The ammonia or other cooling agent does not furnish energy, but simply acts as a vehicle to convey heat from the substance to be cooled. To extract the absorbed heat energy from the cooling agent requires the expenditure of other energy, either in the form of heat or of motion, and this consumption of energy constitutes a large part of the cost of artificial cooling. The intent here is not to treat of cooling systems in general, but simply to point out how exhaust-steam may be applied to the purpose. Cooling by those means that require the principal supply of energy to be in the form of mechanical power may therefore be passed as unsuited to the use of exhaust-steam. Where methods are employed that consume mainly heat to accomplish the cooling effect, exhaust-steam is valuable in proportion to the amount of heat it can yield for the purpose. The application of exhaust-steam to cooling operations is particularly desirable because it raises by a very material amount the present low yearly efficiency of steam-power plants. One of the most notable tendencies in the modern development of the industrial arts is that toward economy of motion and energy. Other ages have carried constructive arts to very high degrees of excellence, but seldom or never in the past have the present relations between expended energy and the results attained been reached. Much yet remains to be done, however, before the energy developed in industrial operations will be mostly consumed in useful work. As is well known, the steam-power plant is one of the most wasteful, as well as most common, applications of energy on a large scale to the production of wealth.

Boilers of the best grade are fairly efficient, transferring 75 to 80 per cent of the total energy of fuel into steam. The most improved steam-engines drop far below the ratio established by boilers in the transformation of energy to useful effect, and are able to yield in mechanical work but 10 to 20 per cent of the heat in steam. A result of this condition is that exhaust-steam leaves the engine with more than 80 per cent of the energy it contained on leaving the boiler. Steam-engines seem to be near their point of maximum efficiency and some use must be found for the exhaust if the proportion of wasted energy is to be greatly reduced. The use of condensers has been presumed in the higher figures above given for steam-engine performance, so the actual gain of energy with them is comparatively slight. Moreover, the additional expense and complication of a condensing engine are not acceptable to many users. Another factor that operates

against the use of condensers is the ability to employ exhaust-steam for heating during five or six months of the year. Compared with the small part of the heat in exhaust-steam that can be transformed into mechanical energy by the use of a condenser, heating with the exhaust is a very efficient process. The total heat in one pound of exhaust at open-air pressure is 1,146 units more than the heat in one pound of water at 32 degrees Fahr., and 966 units more than the heat in one pound of water at 212 degrees Fahr. If the exhaust-steam in the heating system is simply reduced to water at 212 degrees, more than 84 per cent of its heat above 32 degrees is utilized. Where the general and desirable practice of heating feed-water with exhaust-steam is followed, much the greater part of the exhaust still remains for general warming purposes. The latent heat in one pound of exhaust-steam, 966 units, is sufficient to raise the temperature of 5.3 pounds of water from 32 to 212 degrees Fahr. So if the weight of exhaust from engines equals the weight of feed-water entering the boilers, only 16 per cent of the exhaust-steam can be condensed to raise the temperature of water entering the boiler from 32 to 212 degrees. As shown above, 84 per cent of the heat in exhaust-steam above 32 degrees Fahr. is extracted by its condensation, and 84 per cent of the exhaust remains for other purposes after feed-water has been heated. The portion of the heat in engine-exhaust available for purposes outside of power-production is therefore 69 per cent. Assuming that as much as 15 per cent of the heat of boiler-steam is absorbed by the engine, there remains for general use, after the feed-water has been heated, 58 per cent of the heat in steam coming from the boiler. An exhaust-steam heating system is thus able to utilize from three to four times as much of the energy of the coal consumed under boilers as are high-grade steam-engines. The combined power and exhaust-steam heating plant may thus have an efficiency of 70 per cent instead of the 10 to 15 per cent possible for the steam-power plant alone. Could this high rate of efficiency for a steam-plant be maintained during the entire year, there would be little room for further improvement. In most latitudes exhaust-steam cannot be used for general heating during more than one-half of the year, while in many places the time during which it is wanted is cut down to two or three months. It is therefore very desirable to find some useful purpose to which the exhaust-steam of large and small power-plants can be put during hot weather. Such a purpose exists in the production of artificial cold, either for the manufacture of ice or the cooling of apartments near the steam-plants. That method of temperature reduction, for which exhaust-steam is well suited, is known as the absorption process.

On this plan, water is charged with some vapor of a low boiling-point, ammonia being much used. This ammonia-charged water is heated in a boiler, called a generator, and the ammonia evaporated. The ammonia vapor passes from the generator to a condenser, where it is reduced to a liquid in pipes that are subject to a flow of cold water over their outsides. A pipe conveys the ammonia-liquid to a refrigerator, a closed vessel where compartments containing the substance to be cooled are surrounded by other compartments that receive the ammonia. Sensible heat is absorbed from the substances to be cooled in the refrigerator, and becomes latent heat in vapor from the liquid ammonia.

Connected with the ammonia compartments of the refrigerator is a space filled with water and known as an absorber. This water rapidly absorbs the ammonia vapor. Two pipes connect the absorber with the generator, and a pump joining one of these pipes maintains a constant circulation between the absorber and generator. The two pipes are so arranged that one conveys a strong solution of ammonia from the bottom of the absorber to the top of the generator, and the other a weak solution from the bottom of the generator to the top of the absorber. The pump moves the ammonia solution from the bottom of the absorber to the top of the generator. Application of heat to the generator supplies energy to vaporise the ammonia held in solution. This energy and more is absorbed by the cooling water of the condenser, where the ammonia becomes a liquid.

In the refrigerator the liquid ammonia absorbs less heat when it becomes a vapor than it gives up in the condenser. To this absorbed heat from the refrigerator an addition is made in the generator and the total sum then rejected at the condenser.

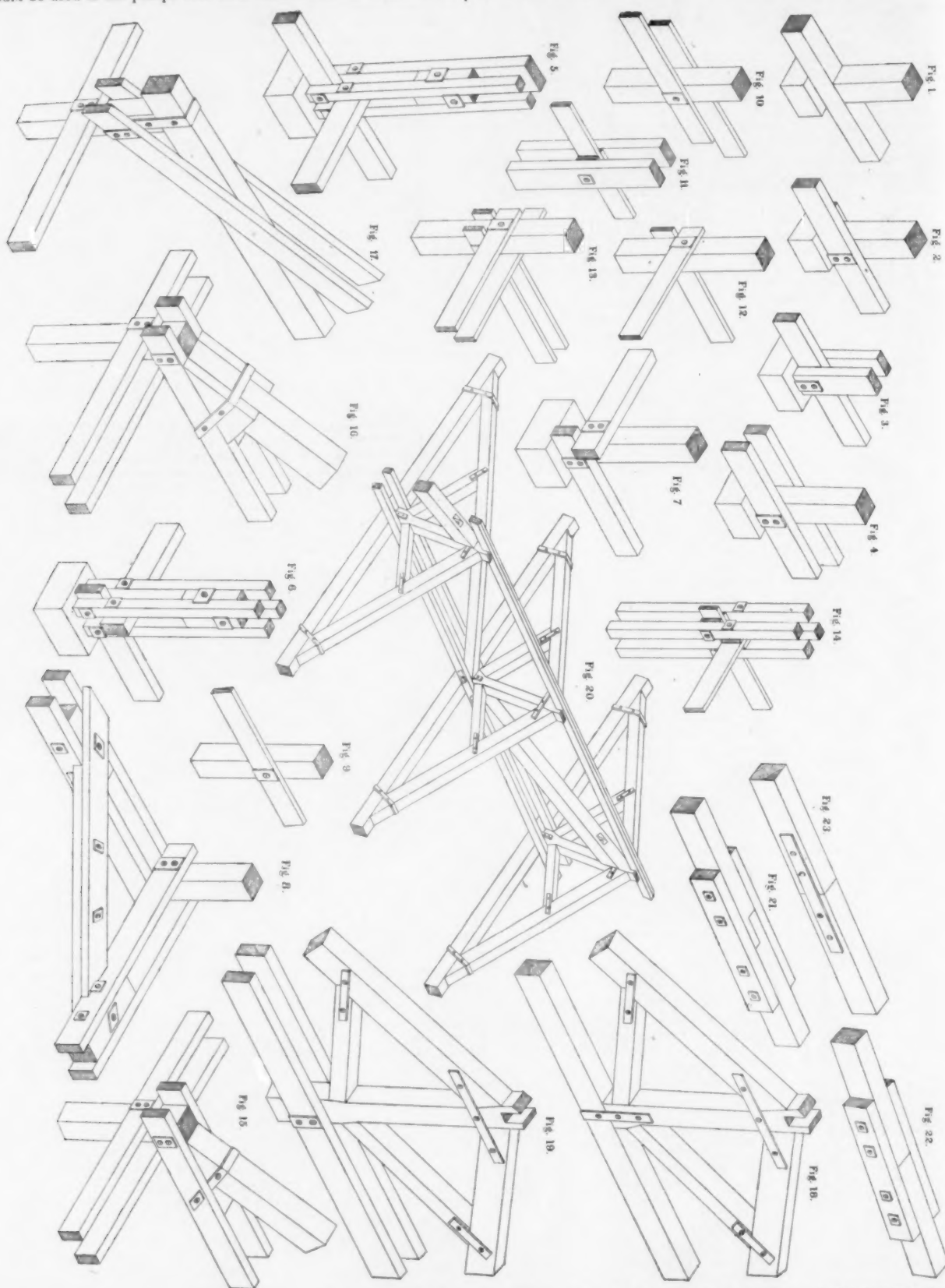
As the process goes on, the ammonia vapor and water that are separated at the generator are united at the absorber, since the weak solution goes from the generator to the absorber, and the strong solution is returned to the generator. The amount of heat required to melt one pound of ice at 32 degrees to water of that temperature is commonly taken to be 142 units. A convenient measure for the cooling effect of refrigerating-machines is found in this absorption of heat per pound or ton of melting ice. Large variations in the cooling effects of refrigerating machinery result from the conditions and adjustments of operation, and depend to a large extent on the skill of the engineer. Under first-class working conditions in absorption-machines an ice-melting effect of about forty pounds per pound of coal burned may be obtained, but in ordinary circumstances results as low as a cooling effect of 20 pounds of ice per pound of coal are not uncommon. The ice-melting effect, being the total heat absorbed, does not represent the amount of ice that may be made by the apparatus. Owing to losses, the ice actually frozen by refrigerating-machines is usually only 6 to 10 pounds per pound of coal burned. The steam to operate pumps that force the ammonia solution from the absorber to the generator is included in the figures just given. A pump consumes one-fourth to one-fifth as much steam

as the generator with which it works. As 58 per cent of the total heat of boiler-steam is available in the engine-exhaust after the feed-water has been heated, more than one-half of the cooling and ice-making results that can be obtained from a given weight of coal are available from the exhaust-steam of a power-plant in which the same weight of coal is burned. In other words, the exhaust-steam for each pound of coal burned in a power-plant can be made to yield a cooling effect equal to that obtained by 20 to 40 pounds of melting ice, or to freeze 3 to 5 pounds of artificial ice. Boiler-steam should be used in the pumps and their exhaust added to that from

exhaust-steam at central electric-stations and many isolated plants.
ALTON D. ADAMS.

THE CONSTRUCTION OF EARTHQUAKE-PROOF WOODEN BUILDINGS.¹

THE construction of earthquake-proof buildings differs in method according to the kind of materials used. But the earthquake-proof buildings which will be built at Sakata, Yamagata Prefecture, where great havoc was wrought by earthquake last October,



the power-plant, the amount of this steam will increase the figures just given for cooling effect. The increasing demand for comfortable temperatures in public buildings during the summer months, and for artificial ice, evidently opens a wide field for the profitable use of

will probably, in view of the conditions of the locality, be constructed of wood. As these structures will comprise public buildings,

¹ Report of Earthquake Investigation Committee, Japan.

shops, and city and country houses, the arrangement of rooms will be necessarily diverse, some being simple and others complicated; the outward appearance of the buildings will also differ, for some of them may be one-storied and others two-storied. The principle of construction, however, cannot but be one and the same, and therefore we give herewith a condensed statement as regards the method of constructing earthquake-proof wooden buildings.

Construction of the Foundation-works.—Materials for the foundation-work may be one of three kinds, viz, (1) Concrete; (2) *wariguri* (broken stone); (3) *rosoku* (stone blocks). The concrete may be made either of cement or of lime, or of both cement and lime mixed; any one of which is better than either the second or the third kinds. Cement concrete is best of all.

In constructing the foundation-work, if the soil should be found too soft or damp, piles must first be driven to afford a firm foundation; but the driving of piles should be dispensed with in places where the soil is dry.

For the foundation or footings to be placed upon the ground-work, flat, broad stones should be selected, and they should be buried in the earth for half of their height.

Construction of the Framework.—In constructing an earthquake-proof building, it is deemed advantageous to use either foundation-sills (*dodai*) or foot-bracers (*ashigatame*), and the method of using them may be seen, (1) In an ordinary foundation sill (as in Fig. 1); (2) in a foot-bracer applied to one side of a pillar (as in Fig. 2); (3) in a foot-bracer stuck between the two pieces of timber forming a double pillar (as in Fig. 3), and (4) in two foot-bracers so fixed as to embrace both sides of a pillar (as in Fig. 4). Should more stability be required in the case of Figure 1, the connection of the pillar and the foundation-sill should be firmly joined by means of iron clamps or straps. In adopting the methods shown in Figures 2 and 4, foot-bracers having a thickness of over one-third of the respective pillars should be used. In case of adopting the method shown in Figure 3, one solid pillar should be used at each corner of a building, notwithstanding the pillar may be weakened by foot-bracer. Still another method is to use pieces of timber as a pillar, as shown in both Figures 5 and 6. In that case, blocks of wood just fitting the space between the pieces of timber should be inserted at every two or three feet, and should be fastened with a metal bond, wire, or bolt, in order to prevent the pillar from bending or twisting.

It is desirable that foundation-sills and foot-bracers should be crossed with a brace at the four corners and fastened with bolts, as in Figures 7 and 8.

One or two through-bracers (*toshinuki*) should be used as in the case of foot-bracers and fastened with bolts, as in Figures 9 to 14; but in the cases of Figures 11 and 14 the blocks of wood should be inserted at both surfaces of the through-bracers.

In the intermediate space between the pillars where no window or door is to be made, or where outward appearance is of no particular consequence, struts should be placed and fastened to the through-bracers and pillars with bolts.

Shikii and *kamoi* (the lower and upper grooved beams, respectively, in which doors or shutters slide) should be fixed to the pillars simply with screws, if possible, in order to avoid cutting into the pillars and weakening them.

Nageshi (a horizontal piece of timber used in the framework of a building) should be attached to the surface of the pillars and fastened with bolts. Moreover, the weak point of the construction at the four outer corners should be strengthened by jointing the *nageshi* with L shaped metal straps. In places, however, where outward appearance is of no consequence, the *nageshi* should be overlapped at the ends and bolted to the pillars.

In regard to the method of combining with the pillars such lateral timbers as *dosashi*, floor-beams and so forth, if possible, only one or two of the timbers should be used in a similar way as in the case of foot-bracers and *dosashi*.

The connection of *keta* (top ties) and pillars should always be made in the same way as that recommended for pillars and their foot-bracers.

The combination of the roof and walling of a building should be effected as in Figures 15, 16 and 17, *e.g.*, either by holding the upper part of a pillar between double tie-beams placed on wall-plates, or by using double rafters and letting the tie-beam fall upon the tenon of a pillar. In both cases, bolts or iron straps should be used in fastening.

Construction of the Roof-framing.—Materials of too great a dimension should be avoided in the construction of the roof, and the construction should be as in Figures 15 to 20, using such scantlings as will be just large enough to bear the weight of the roof itself together with the pressure of the wind and the weight of the snow; and all connections should be effected with thick wire, iron straps or bolts.

Between the principal rafters, struts, or braces, or both, should be used, and the whole frame of the roof should be bound, as in Figure 20, with iron clamps or bolts.

For resisting earthquake-shocks, a light roof is preferable and therefore all roofs should be made as light as is consistent with their function of keeping out the wind and cold. In case of using tiles, it is better to fasten them with nails or wire.

Joints.—Joints in whatever part of a building should be made as simply as possible, for though a complicated joint may seem strong, yet in reality it is weak. It is desirable that a joint should be made

as in Figures 21, 22, and 23, wood or iron fish-plates being fastened with bolts. In making a tenon also, the simpler its form the better.

In case a jointed pillar is to be substituted for an ordinary one in building a two or three storied house, the joint of such post should be made at a point about two or three feet either above or below the upper floor-line of the house.

Foundation-sills (*dodai*) foot-bracers (*ashigatame*), *toshinuki*, *dosashi*, *keta*, floor-beams and tie-beams should all be fixed so as to project somewhat at their outer extremities.

Attachment of a Porch or a Shed with the Main Building.—As regards attaching a porch or a shed to the main building, the old method of tenoning or nailing should be entirely abandoned, as it is dangerously faulty, and the two structures should be joined in the same manner as *keta* and pillars are connected.

Materials.—As the quality as well as the size of iron materials has an important bearing upon the construction of a building, serious attention must, of course, be called to the selection of materials and also to the number and distribution of bolts. Besides, the size of washers should be considered, large ones being preferable to small.

Wooden materials are subject to shrinkage, owing to which the bolts lose their tightness, and therefore well-seasoned timbers should be selected.

Conclusion.—The most essential points in regard to the construction of an earthquake-proof wooden building lie in the method of building the foundation; in the preservation of the entire power and function peculiar to each timber intact as far as possible, and in case some weakening be unavoidable, re-enforcing it by the application of iron that is much stronger than wood; in the use, wherever possible, of triangle frames, in accordance with the principle that a triangle affords an unchanging form of structure; and, finally, in the additional strengthening of the whole framework by the further use of iron materials, thus combining all the parts into a stable and united construction. — *Indian Engineering.*

ILLUSTRATIONS

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

A COMPETITIVE DESIGN FOR THE CLUB-HOUSE OF THE UNION CLUB, NEW YORK, N. Y. MESSRS. RENWICK, ASPINWALL & OWEN, ARCHITECTS, NEW YORK, N. Y.

PLANS AND SECTION OF THE SAME.

THE LOVEJOY SCHOOL, WASHINGTON, D. C. MF. ROBERT STEAD, ARCHITECT, WASHINGTON, D. C.

THE PELHAM, ESSEX STREET, BOSTON, MASS. MR. STEPHEN CODMAN, ARCHITECT, BOSTON, MASS.

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

THE ELECTRICITY BUILDING: PAN-AMERICAN EXPOSITION, BUFFALO, N. Y. MESSRS. GREEN & WICKS, ARCHITECTS, BUFFALO, N. Y.

THE GERMAN BUILDING: PARIS EXPOSITION OF 1900.

This plate is copied from *La Construction Moderne*.

[Additional illustrations in the International Edition.]

THE PRESBYTERIAN CHURCH, PITTSBURGH, PA. THE LATE W. HALSEY WOOD, ARCHITECT.

HOUSE OF MRS. YOUNG, NO. 19 EAST 54TH ST., NEW YORK, N. Y. MR. PHILIP HISS, ARCHITECT, NEW YORK, N. Y.

HOUSE OF W. E. D. STOKES, ESQ., NOS. 2 AND 4 EAST 54TH ST., NEW YORK, N. Y. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

FIRST PREMIATED DESIGN FOR THE LIVERPOOL DOCK OFFICES. MESSRS. BRIGGS & WOLSTENHOLME, F. B. HOBBS AND A. THORNELEY, ARCHITECTS.

SECOND PREMIATED DESIGN FOR THE LIVERPOOL DOCK OFFICES. MESSRS. WOOLFALL & ECCLES, ARCHITECTS.

NOTES AND CLIPPINGS

A REFORM IN FRENCH GRAMMAR.—There should be rejoicing in every school-room not only in France and Navarre, but also wherever French is taught. A beneficent decree emanating from the Council of Public Instruction, the sovereign pedagogic body of the country, ordains that henceforth French syntax and orthography are to be simplified. The grammar is to be purged of certain obnoxious difficulties that have never served any other purpose than to try the memory and patience of successive generations of scholars. This important reform will deprive some of the most distressing chapters in the French grammar of their worst terrors. First and foremost, be it noted, the unsurpassably terrible chapter which deals with the past-participle of verbs conjugated with *avoir* is suppressed altogether. As every student knows to his misery, the agreement of these participles with the object was governed by rules of such hair-splitting nicety that the grammarians themselves were at loggerheads with regard to them. For the future these participles are always to be invariable, and this welcome immutability is to be extended to the past-participle of reflective verbs. Thus, it is now permissible to write: "*Les livres que j'ai lu*" and "*Elles se sont tu*." Another simplification affects those perplexing nouns that have hitherto been of two genders. Henceforth they may be of either gender, according to taste. You may say, "*Les grandes orgues*" or "*un des plus grands orgues*," the adjective coupled with *gens* may be masculine or feminine, as you prefer, and to make *orgues*, *pâques* or *période* feminine is to cease to be a heinous grammatical offence. But in the case of substantives the most gratifying innovation is in connection with the plural of composite nouns. These plurals in the past were a crux of the first magnitude. For instance, you had to write *timbres-poste* and *paquebots-poste*, but for some inscrutable reason the plural of *train-poste* was *trains postes*. For the future, the essential rule is to be that the plural is to be formed in the simplest manner possible by adding an "s" to the end of the last word. Pedantic people are still to be at liberty to stick to the old orthography, but it will be as legitimate to write *coffreforts* as *coffres forts*, or *basseours* as *basses cours*. Again, *chênesvres* is to be tolerated as the plural of *chef d'œuvre*, and *télatètes* as that of *tête à tête*. Besides ordering these changes, and many others there is no room to mention, the Council speaks out boldly in favor of the reign in a general way of simplicity and common-sense in matters grammatical. It indulges, in particular, in a shrewd thrust at examiners, who, in France, as elsewhere, delight in "stumping" their victims by setting them questions dealing with trumpery peculiarities it would be better to neglect. Altogether the Council has deserved well of mankind. It has done something to deliver the French school-boy from the dreaded *colle*, and it has lightened for humanity at large the task of learning French grammar. — *Paris correspondence of the Pall Mall Gazette*.

FELLING OLD CHIMNEYS.—Of the method of felling old chimney-stacks by burning out inserted props devised by James Smith, of Rochdale, Eng., the *Scientific American* says: "In felling a chimney, the stack is first thoroughly examined and careful notes made as to its height, weight and condition. A survey of the surroundings is then made to ascertain which is the best direction in which to overthrow the structure, and so long as the available area which is to receive the mass is a little more than the length and breadth of the stack, it is sufficient. Having determined upon the direction of the fall and the available area to receive the stack, an incision is made in the centre of the chimney at a height of 5 or 6 feet from the ground, facing the direction in which it is to fall, and corresponding cuts are made on each of the sides. As the bricks are removed, an underpinning of 6' x 6" timbers is inserted, the work being carried on until about two-thirds of the base of the stack has been so treated. By this time the stack usually is listing over slightly in the direction in which it is to fall, the list being an indication that the chimney is resting almost entirely upon the underpinning. At the same time on the reverse side of the chimney there will appear a slight crack in the masonry. The underpinning is carried on until this fracture appears, for unless the greater part of the structure rests upon the supporting-posts, the direction of the fall can by no means be predicted with certainty. The gap made in the base of this stack must be of sufficient width to cause the structure to drop and telescope when falling. If only a narrow gap were made, the stack would simply pivot on its base and come down intact, measuring its length on the ground; but as it is desired to concentrate the debris, a sufficient gap is made at the base to ensure that as the stack leans to its fall it will drop a few feet vertically *en masse*, the jar thus given to it causing the mass to crumble upon itself. As soon as the underpinning is complete, a fire of highly inflammable combustibles is built and the props are thoroughly saturated with oil and covered with pitch and tar. On the occasion of the felling of a stack at Preston, which was 250 feet in height and weighed over 3,500 tons, there was consumed in burning out the underpinning 6½ tons of coal, 4 tons of pitch, 40 sacks of shavings, 108 gallons of tar and 126 gallons of paraffine. The burning of the props has to be most carefully watched, since it is necessary that they all collapse at the same time to ensure that the chimney will fall in the desired direction.

CATALPA TREES AT WESTMINSTER.—All who have visited Westminster in this fine weather must have been struck by the magnificence of the row of broad-leaved flowering trees which flank one side of Bridge Street under the Clock Tower. The trees, which were planted about twenty-five years ago, present in most summers no more than an agreeable splash of green in the midst of the glare of the surrounding buildings and the great court-yard leading to the House of Commons. But this year they have burst forth into an unwonted exuberance of large white blossoms, which hang in graceful clusters and contrast

charmingly with the dark-green leaves below and around. The tree is a variety of the catalpa, two species of which are found in the United States and two in Japan. The common catalpa (*Catalpa Bignoides*), known also as the bean tree, catawba, Indian-bean, and cigar-tree, was discovered and named in 1726. It is found chiefly in the Gulf States, but has been acclimatized in Europe, and is used largely for ornament in the South. One or two good specimens are to be found in St. James's Park, and there is a remarkably fine young catalpa in full flower in the Inner Temple Gardens, where it seems to flourish with a vigor and beauty denied to the traditional white and red roses of the Houses of York and Lancaster. — *Westminster Gazette*.

A NEW WATER-POWER ON THE ST. LAWRENCE.—A good instance of the enormous growth and importance of the electro-chemical industry in the United States is afforded by the huge power-plant of the St. Lawrence Power Company at Massena Springs, N. Y. This installation will take advantage of an extremely curious configuration of the country, whereby the St. Lawrence River is nearly 50 feet higher than one of its tributaries, the Grass River, which is only three miles distant. A canal cut across this short stretch of country gives one of the best water-powers in the world and no less than 150,000 horse-power, or three times that generated in the great plant at Niagara, will be produced. All of this gigantic power will be used on the spot in electrolytic processes for the manufacture of calcium-carbide, bleaching-powder, alkali, etc. — *Exchange*.

REPORTERS' COPYRIGHT.—The recent decision of the House of Lords, which was given in favor of the London *Times* and against Mr. John Lane, who had republished a volume of Lord Rosebery's speeches, taken from the stenographic reports in the *Times*, has evidently opened a new field for reporters. Mr. Lane has received the following note: — *Dear Sir*, — Since the reporter has been adjudged the owner of copyright in a speech, may I draw your attention to the fact that there are many speeches made annually by various speakers which would have considerable value as literary productions. As a verbatim author I beg to offer you the next half dozen speeches to be made by the Lord Chief Justice, Mr. Balfour, Lord Rosebery, Mr. Birrell, Mr. Asquith and Mr. John Morley. They could be brought out as a volume of copyright literary essays, and as there appears to be no necessity for stating by whom the speeches were made, I, as the author, would of course stipulate that my name should appear on the title-page. — *N. Y. Times*.

THE TELEPHONE FORESHADOWED IN "PUNCH."—The old saw that many a true word is spoken in jest finds an admirable illustration in a quotation from *Punch*, of December 30, 1848, which is published in the *London Electrical Engineer*. The quotation, which foreshadows the telephone in a remarkable manner, is as follows: "Our attention has been directed to an article made of gutta-percha called the telakouphanon, or speaking trumpet, a contrivance by which it is stated that a clergyman having three livings might preach the same sermon in three different churches at the same time. Thus, also, it would be in the power of Mr. Lumley, during the approaching of the holiday time, to bring home the opera to every lady's drawing-room in London. Let him cause to be constructed at the back of Her Majesty's Theatre an apparatus on the principle of the ear of Dionysius, care having been taken to render it a good ear for music. Next, having obtained an Act of Parliament for the purpose, let him lay down, after the manner of pipes, a number of telakouphanon, connected (the reader will excuse the apparent vulgarity) with this ear, and extended to the dwellings of all such as may be willing to pay for the accommodation. In this way our domestic establishments might be served with the liquid notes of Jenny Lind as easily as they are with soft water, and could be supplied with music as readily as they can with gas."

CANAL LOCKS AND LIFTS.—The means of overcoming the difference of level of the country through which canals pass is in most cases the employment of locks placed either singly or in flights, depending on the height to be overcome. About twenty-five years ago, the locks between the Trent and Mersey Canal and the River Weaver, where there is a difference of 50 feet, were superseded by the hydraulic lift at Anderton. The boats here are floated into iron troughs, which are raised or lowered by hydraulic power, one boat ascending and another descending at the same time. This system was subsequently adopted on other canals in France and Belgium, and, with some modifications, in Germany. What is claimed as an improvement on this system is now being carried out on the Erie Canal in America, at Lockport, by what is termed a "Pneumatic Balance Canal Lock." A description of this lift was given in a paper contributed to the Franklin Institute by Mr. Chauncey N. Dutton. The existing stone locks were erected in 1836, and overcame a lift of 62½ feet by means of five flights. The lock which is being erected to supersede these consists of two steel chambers, one for ascending and the other for descending boats. These chambers are divided into two parts, the upper one containing water to receive the boats, and provided with gates, as in the case of the Anderton lift; and beneath this a second chamber containing compressed air on which the lock-chamber floats. The air-chambers are so proportioned that they automatically differentiate the air-pressure. The water in the lock-chamber which contains the boat at the upper level is so adjusted that its weight, with the boat it contains, is 200 tons greater than that of the lower one. Each of these locks weighs 1,500 tons and contains 4,500 tons of water, the weight in motion, when the boats are ascending and descending, exceeding 12,000 tons. The advantages claimed by the use of compressed air are a saving in cost and in working. — *Indian Engineering*.

WHAT A YEAR'S WORK MEANS.—A well-known economist has figured out that out of ninety-eight chief national industries in a given year only twenty-nine gave men work 300 days in the year. — *N. Y. Evening Post*.

THE AMERICAN ARCHITECT AND BUILDING NEWS

ADVERTISERS' TRADE SUPPLEMENT.

No. 220.

SATURDAY, SEPTEMBER 1, 1900.

VOLUME LXIX.
No. 1288.

BON VOYAGE.

ON Saturday, August 4, Mr. Louis Allen Osborne, Principal of the School of Design, Scranton, Pa., started for Europe, where he will make a study of the systems of instruction in the principal art-schools of England and France. Mr. Osborne has already visited many of the principal schools and colleges teaching ornamental design in the Eastern part of the United States, in order that our Course in that branch of study might embody the best material and be conducted upon the latest and most approved system. In addition to this, his experience gained by a thorough study of the Kensington Art School in London, and the School of Fine Arts in Paris, will enable him to conduct the School of Design upon a system far in advance of what was originally intended for it. By visiting in person the monuments and objects of art that are used to photographically illustrate the Instruction Papers, he will be able to lay before our students a concise and logical explanation of the theory of ornament that can be exceeded in value only by a personal visit to these monuments by the students themselves. He will also visit the leading manufacturing districts of England and France, studying the theory of applied design as put into practical demonstration by the designers employed in large plants, such as those of Manchester, Sheffield, Nottingham, Birmingham, etc., in England, as well as those of Lille, Valenciennes and Rheims in France, and Brussels in Belgium.

INTL. CORRESPONDENCE SCHOOLS,
SCRANTON, PA.

PENCIL VS. PEN AND INK-POT.

ONE day just after the editor of a great daily paper had mislaid his Dixon "American Graphite," and been obliged to use a pen again, he sat down and wrote as follows:

"The form of the stylus or steel-pen changes, and the pigment and its vehicle vary, but this otherwise enlightened and lucky generation is as much the slave and the victim of the ink-pot with its nasty contents as was the mediæval monk, the Roman, or the Greek, or the Egyptian under the first dynasty, or the Chinamen of the time of Lien-Hwang, the Celestial.

"How many million lifetime units of muscular and nervous energy have been expended unnecessarily in the mere act of stretching the hand over to the ink-stand to dip the pen in this black liquid, relic of primeval barbarism? How many precious souls

have been sent to perdition in consequence of the emotional upheaval over the besmeared fingers, the blot on the fair page or parchment, the ink-bottle upset by the office cat! No wonder Martin Luther hurled his ink-pot at the devil; that utensil fairly belongs to sheol.

"Away with pen and ink-pot, and even the fountain pen! My kingdom for a lead pencil!"

MODELLING THE DESIGNS.

PERHAPS you have wondered why Berger's Classic Metal Ceilings are so different in appearance from the ordinary stamped-metal plates of other makers.

The general run of metal-ceiling plates are stamped from die-sunk models; hence, produce more or less of a stiff mechanical effect.

Berger's Designs, on the contrary, are first modelled in clay, by the deft fingers of an expert, who gives them the artistic finish possible in this plastic material.

The model is faithfully reproduced in the die, and our correct method of stamping brings out the detail in bold relief.

Thus we retain the characteristic plastic effect of the original model, and secure an artistic elegance that would otherwise be unattainable.

This is only one of the features that are making Berger's Classic Metal Ceilings famous.

Write for Catalogue No. 5 and full particulars.

THE BERGER MFG. CO.,
CANTON, O.

TWO IMPORTANT CONTRACTS.

MORSE, WILLIAMS & Co., Philadelphia, Pa., one of our largest manufacturers of Elevators report two particularly large contracts for the month of August—one from the Union Passenger Station at Pittsburgh, consisting of five Hydraulic Passenger Elevators; two Hydraulic Passenger and Freight Elevators; six Hydraulic Freight Elevators of the Plunger type, all made with the latest improvements and best approved designs. Another large contract from the Terminal Station, Chesapeake & Ohio Railroad, for two Hydraulic Passenger and two Hydraulic Freight Elevators.

The Morse, Williams Company are among our most progressive manufacturers, and are well equipped for furnishing Elevators suited to every purpose. They are thoroughly informed as to every improvement in their special line of manufacture, and give perfect satisfaction to their many patrons.

VERMONT MARBLE WINS.

A CABLEGRAM just received from Paris announces that the Columbian Marble Quarrying Company, of Rutland, has been awarded the gold medal for the finest exhibit of marbles at the Paris Exposition. This news is a great honor to the Company and the State. Vermonters will join with the Company in welcoming this trophy, and the citizens of Rutland will be especially proud to learn that marble taken out of the local quarries has been given first place in competition with the varieties produced by Italy and other marble-producing countries of the world. The Columbian Company's quarries produce white, blue and fancy marbles, numbering sixteen varieties, which places the Company well up to the head in the matter of the grades of marble put on the market.

The exhibit of the Company was placed in the floor and wainscoting of the United States Exhibit Building at Paris. The floor was laid in large blocks of white marble, with smaller pieces of colored marble forming a border. The wainscoting displayed to advantage the more richly-colored varieties.

This award will bring to public notice the beautiful varieties of marble produced in America and especially in Vermont. The Supervising Architect's Office of the United States Treasury has recognized that this State produces all the colors of marble required in any color-scheme, and that they can produce more beautiful effects from these than from any foreign productions. The marble produced by the Columbian mill is now being used for the embellishment of many post-offices, custom-houses and United States court-houses throughout the United States.

NOTES.

IN one after another of the Besse Syndicate of New England stores the Frink System of show-window and store lighting has been installed. As this work has extended over a period of two years, the proprietors have had ample time to test the efficiency and economy of the system, and it is a noteworthy fact when once a mercantile concern has used this system it never goes back to another, either when building new stores or remodelling old ones. Among other recent important contracts reported by I. P. Frink are thirty of the Woolworth Five and Ten Cent Stores in different parts of the country, in which the window-reflectors are being installed. Rogers, Peet & Company, whose old store at the corner of Warren Street and Broadway was

(Continued on page 3.)

VI

NOW READY

VI

"The Georgian Period"

..PART VI..

PART VI of "The Georgian Period," which is published to-day, we believe will be found the most valuable and interesting portion of this work thus far published.

In the main its contents will be found to relate to

The Colonial Work of Virginia

and though much has escaped notice, of course, it deals efficiently with

"Baltimore House"—The Home of the Calverts

"Woodlawn"—The Home of Nellie Custis

"Mount Vernon"—The Home of George Washington

besides such well-known river mansions as "Carter's Grove," "Shirley," "Lower Brandon" and "Westover," and such less-celebrated places as "Stratford House," "Elsing Green," "Tuckahoe," "Gunston Hall," and the homes of the Washington brothers, "Harewood," "Claymont Court," etc.

It also gives information concerning some of the somewhat inaccessible Colonial Churches of Virginia—"St. Luke's," Smithfield, "Christ Church," on the Rappahannock, "St. Peter's," in New Kent County, etc.

Part VI contains 40 pages of text illustrated by some 50 cuts and 37 full-page plates, of which eight are gelatine or half-tone prints

Price, \$6. [To Subscribers to the AMERICAN ARCHITECT, \$4.]

American Architect and Building News Company

211 TREMONT STREET, BOSTON, MASS.

Part VII, in press, will give some attention to Colonial Work in Maryland and in Massachusetts.

Atlas PORTLAND CEMENT

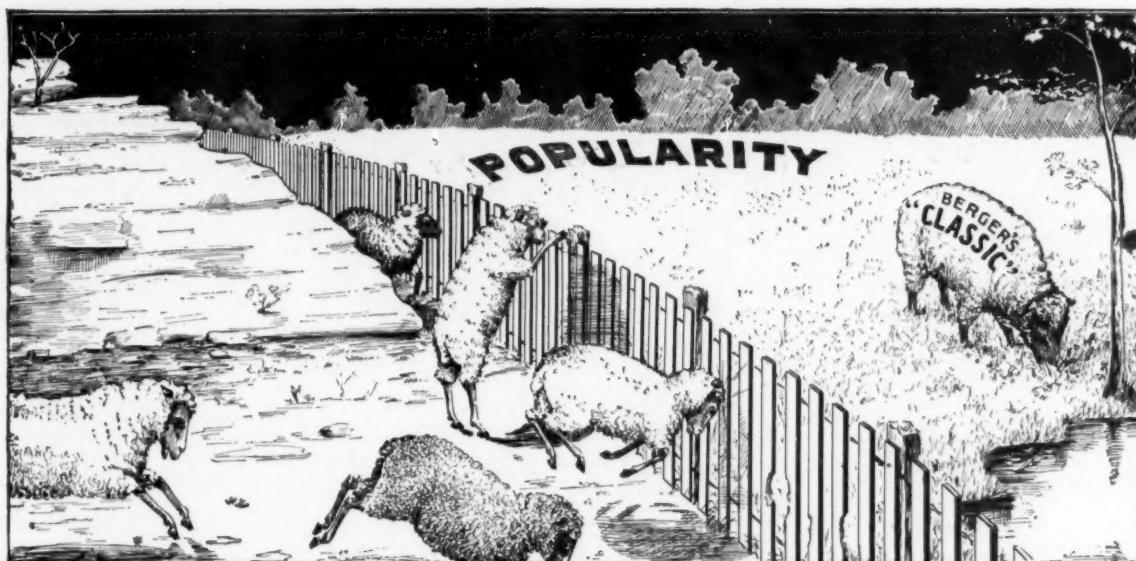
The
Standard
American Brand.

Used Exclusively in the Following New York Buildings:

HAVEMEYER STORES	SINGER BLDG.
ST. PAUL BLDG.	UNIVERSITY CLUB
AMERICAN SURETY BLDG.	N. Y. LIFE INS. BLDG.
BANK OF COMMERCE	STANDARD OIL BLDG.
JOHNSTON and PRESBYTERIAN BLDGS.	
AND MANY OTHERS.	

Atlas Portland Cement Company

143 LIBERTY STREET
NEW YORK



TRYING TO FOLLOW THE LEADER.

It is probably only a matter of time when other Metal Ceiling manufacturers will try to follow in our footsteps. We took an advanced position when we originated and put in practice the idea of producing metal ceilings in complete "Classified" designs of famous artistic styles.

This advance position we have been holding ever since, and in keeping with the character of our goods we have adopted for them the distinctive and appropriate name of "Classic" Metal Ceilings.

As a matter of course, the trade appreciates their value and superiority. Even competing manufacturers recognize the advantages of Berger's "Classic" Ceilings (although, of course, they can't be expected to admit it).

We venture, however, to predict that they will eventually proclaim the fact by themselves bringing out a few more-or-less complete "Classified" designs, perhaps they may even use the distinctive name "Classic" that we have adopted, and advertise their goods as "Classic" Metal Ceilings, who knows?

In any event we will still be found heading the procession. Our line is not only by far the most complete and comprehensive, but we are steadily adding to it, thus further increasing the already safe distance by which we lead.

For up-to-date Ceilings, come to us.

THE BERGER MFG. CO., Canton, Ohio.

EASTERN BRANCH: 210 E. 23d St., New York, N. Y. WESTERN BRANCH: 1428 N. Broadway, St. Louis, Mo.

SPECIALTIES: Ceiling, Roofing, Siding, Eave Trough, Conductor, Hangers, Etc., Etc.

burned last year, have installed the Frink Reflectors in their new store on the same site, after having used and tested them in their store at Thirty-second Street and Broadway. The May stores at Denver, St. Louis ("The Famous") and Cleveland, and particularly the six stories of show-windows of the Cleveland store, brilliantly lighted by the Frink System, we have referred to before in these columns; it is the same story—once tried in one store these reflectors are rapidly put into all the other stores under the same management.

THE Manhattan Brass Company, First Avenue and 27th Street, New York, are not advertisers in this journal and so we have no reason for hoping that this mention of them will increase their business, but they have just issued a catalogue which contains some useful and well-arranged tables, just the things that an architect should have in his classified scrap-book.

E. T. BARNUM,

DETROIT, MICH.

WIRE
IRON
BRASS
WORK

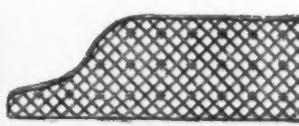


OF ALL KINDS

RAILINGS

VANES

BUILDER'S IRON WORK
A SPECIALTY



ESTIMATES FURNISHED

CRESTING

STABLE FITTINGS

SEND FOR OUR No. 1244
BUILDER'S CATALOGUE

THERE is no illusion about Berry Brothers' Varnishes and Architectural Finishes; they are unchanging realities.

Some people simply think of varnish as

something that dries and shines; thoughtful people ask how long it will last.

Poor or inappropriate varnish has ruined the appearance of many an otherwise fine

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.

ELECTRIC R.R. SUBWAY, BOSTON.
METROPOLITAN SEWERAGE WORKS, BOSTON.
SEA WALL, LAKE FRONT, CHICAGO.
BRIDGES OVER HARLEM RIVER, N.Y.
THE U. S. NAVAL OBSERVATORY, WASHINGTON, D. C.

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

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

USE THE NEW MODEL . . .

FOLSOM'S Patent Snow Guards,

BECAUSE THEY DO NOT INJURE ROOFS.

This is very important. Imitations that strain the slates are frequently substituted.

What do you think of the **Shull's Patent Overhead Sash Pulley**? Our catalogue describes it.

FOLSOM SNOW GUARD COMPANY

178 Devonshire St. - BOSTON.
100 Park Place - NEW YORK.

Cathedral of St. John the Divine.

✠ New York, N. Y. ✠

WE offer the illustrations of the competitive designs for the great Protestant Episcopal Cathedral, now building on Bloomingdale Heights, New York.

In all, fifty-seven plates [loose], 14 x 20 inches, printed on plate-paper.

Price, \$2.50 per set.

American Architect and Building News Co.,

211 Tremont St., Boston, Mass.,
U. S. A.

interior of natural woods, and it seems an odd thing that even among some architects varnish should still be so lightly esteemed when so much depends upon it.

The best interests of a client cannot be served more completely than by specifying Berry Brothers' Architectural Finishes.

For general interior work specify Berry Brothers' (White or Light) Hard Oil Finish.

For window sash and sills, inside blinds and bathrooms specify Berry Brothers' Elastic Interior Finish.

For front doors and all exposed work specify Berry Brothers' Elastic Outside Finish.

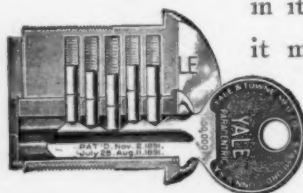
For floors specify Berry Brothers' Liquid Granite.

BERRY BROTHERS, Limited,
DETROIT, MICH.

The Yale & Towne Mfg. Co.

The Yale Lock

in its original form revolutionized the art of lock-making;



Illustrating the Yale Pin-Tumbler Mechanism.

in its latest form, with Paracentric Key,

it marks the highest standard of secu-

rity. It is made in hundreds of

styles and for every possible use.

The Genuine all bear our Trefoil

Trade Mark.*

Builders' Hardware

embraces door and window trim of all kinds; our line

covers every grade and is the largest in the trade. It

includes staple goods of all kinds and numerous mechanical

novelties and specialties.*

The Hardware of Ornament

comprises decorative metal-work for doors, windows and

cabinets; our collection of designs and patterns of this

class is by far the largest in the world, and of the highest

technical excellence*

*Technical literature on this subject furnished to Architects on request.

General Offices:

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

The C. T. NELSON CO.

WHOLESALE MANUFACTURERS OF

VERANDA COLUMNS

(BORED OR BUILT-UP)
ANY SIZE - UP TO 36 INCH DIAMETER
AND 24 FEET LONG

CARVED CAPITALS

... NEWELS - BALUSTERS ...

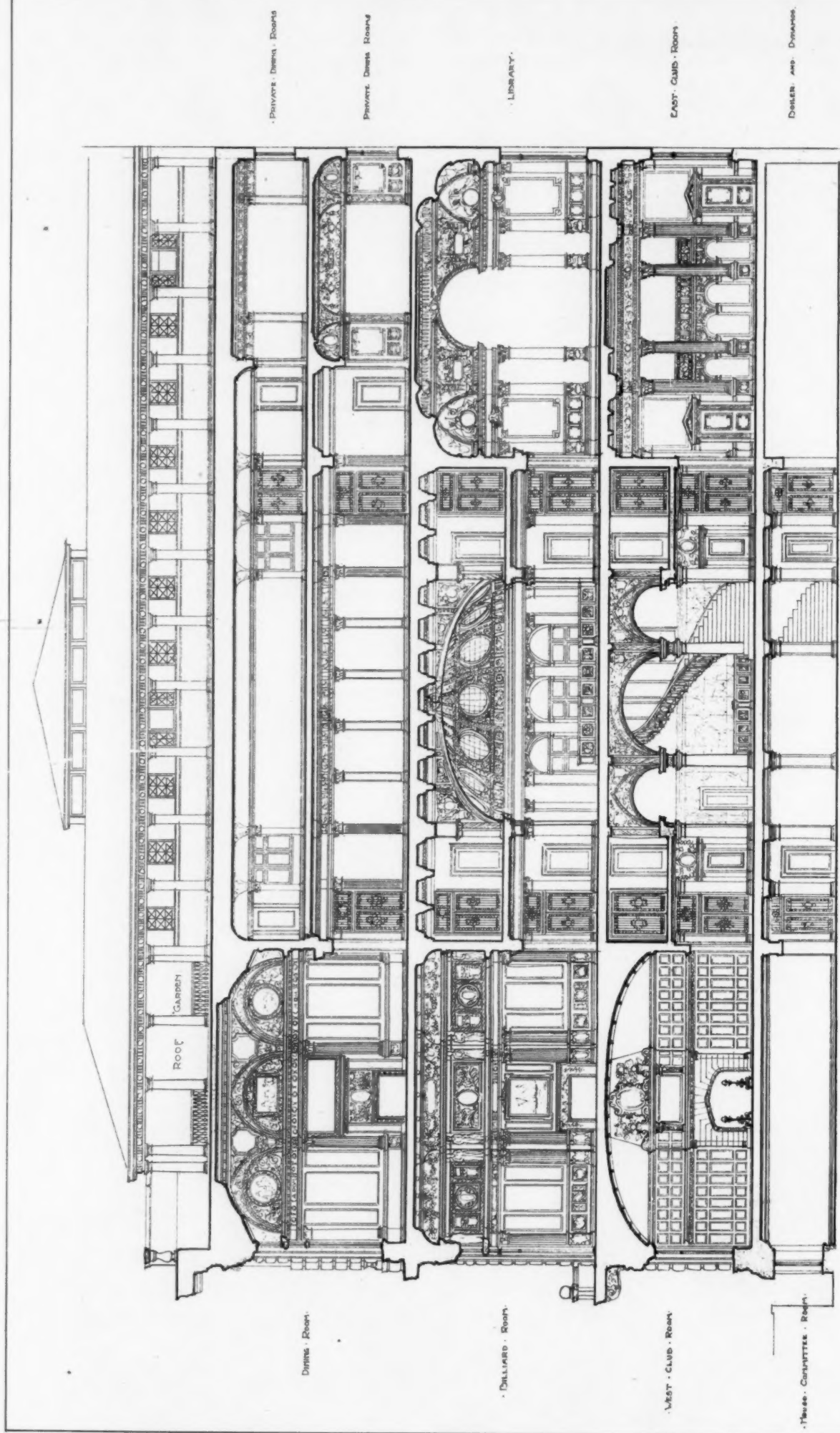
RAIL - ETC.

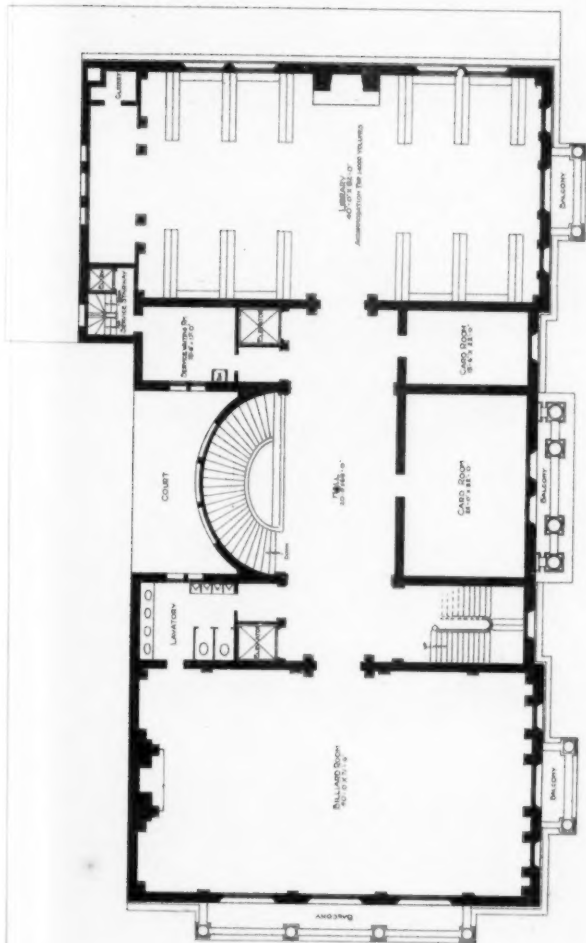
DETAIL WORK

A SPECIALTY

WRITE FOR CATALOGUE AND PRICES

• COLUMBUS • OHIO •

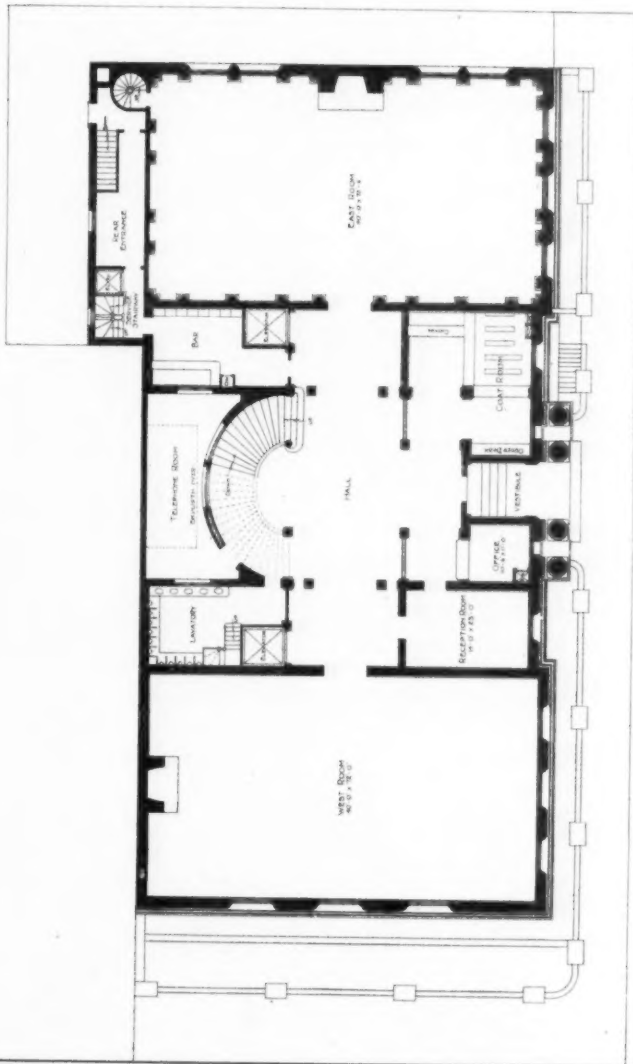




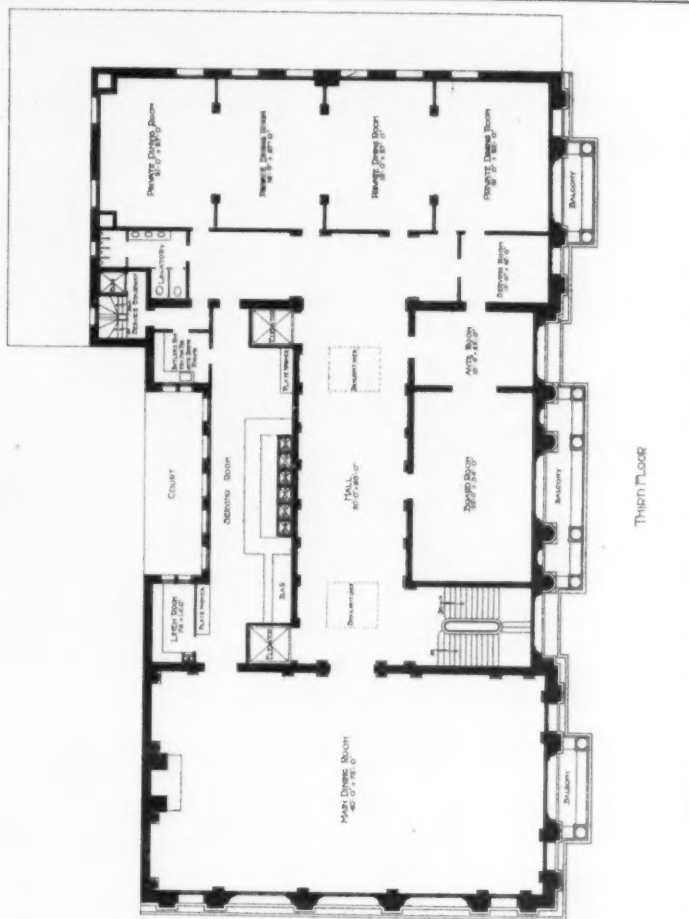
SECOND FLOOR



ATTIC FLOOR



FIRST FLOOR

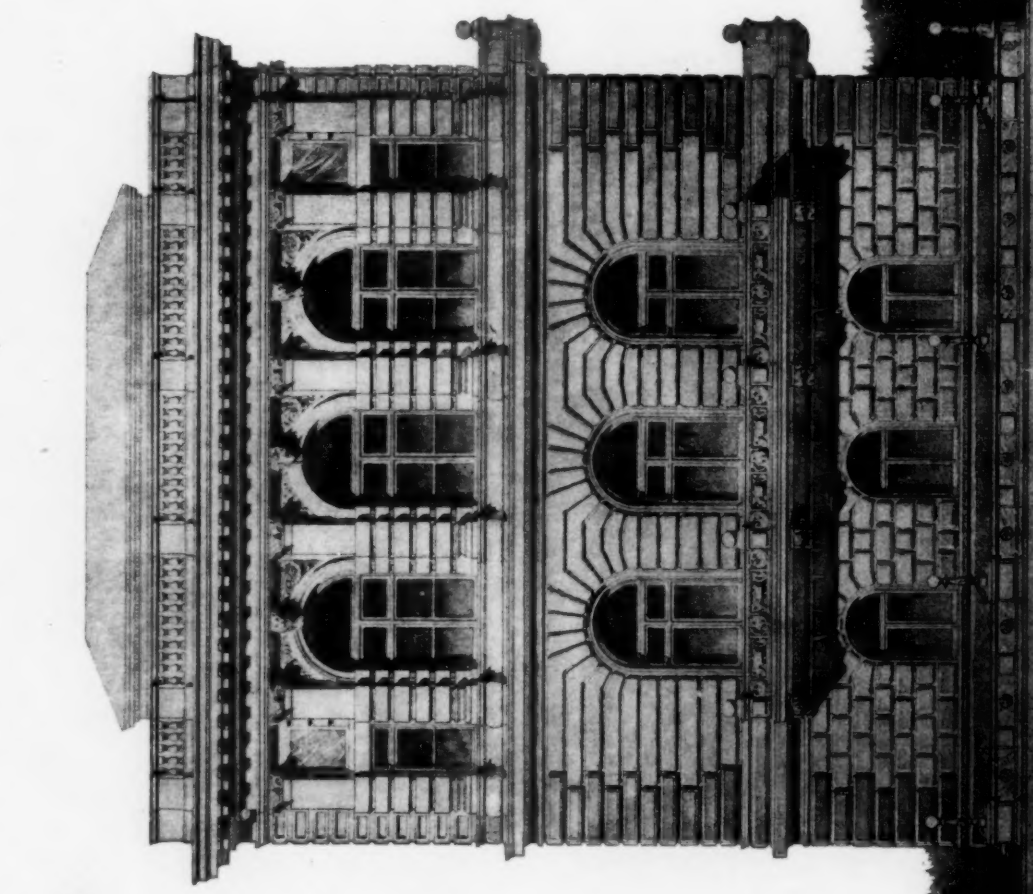


THIRD FLOOR

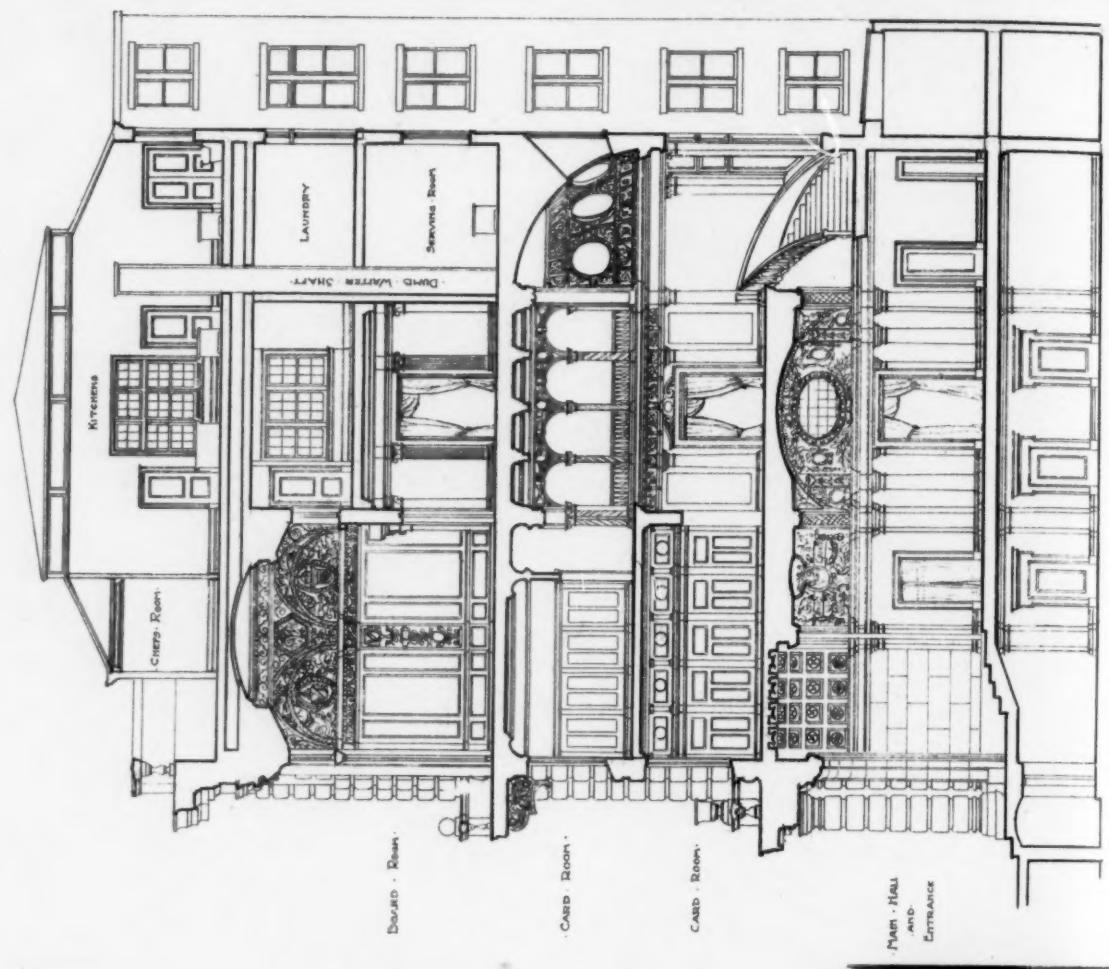
A COMPETITIVE DESIGN FOR THE CLUB HOUSE OF THE UNION CLUB, NEW YORK, N. Y.
 RENWICK, ASPINWALL & OWEN, ARCHITECTS.

RENDERING BY J. C. HARRIS

DESIGNED BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.



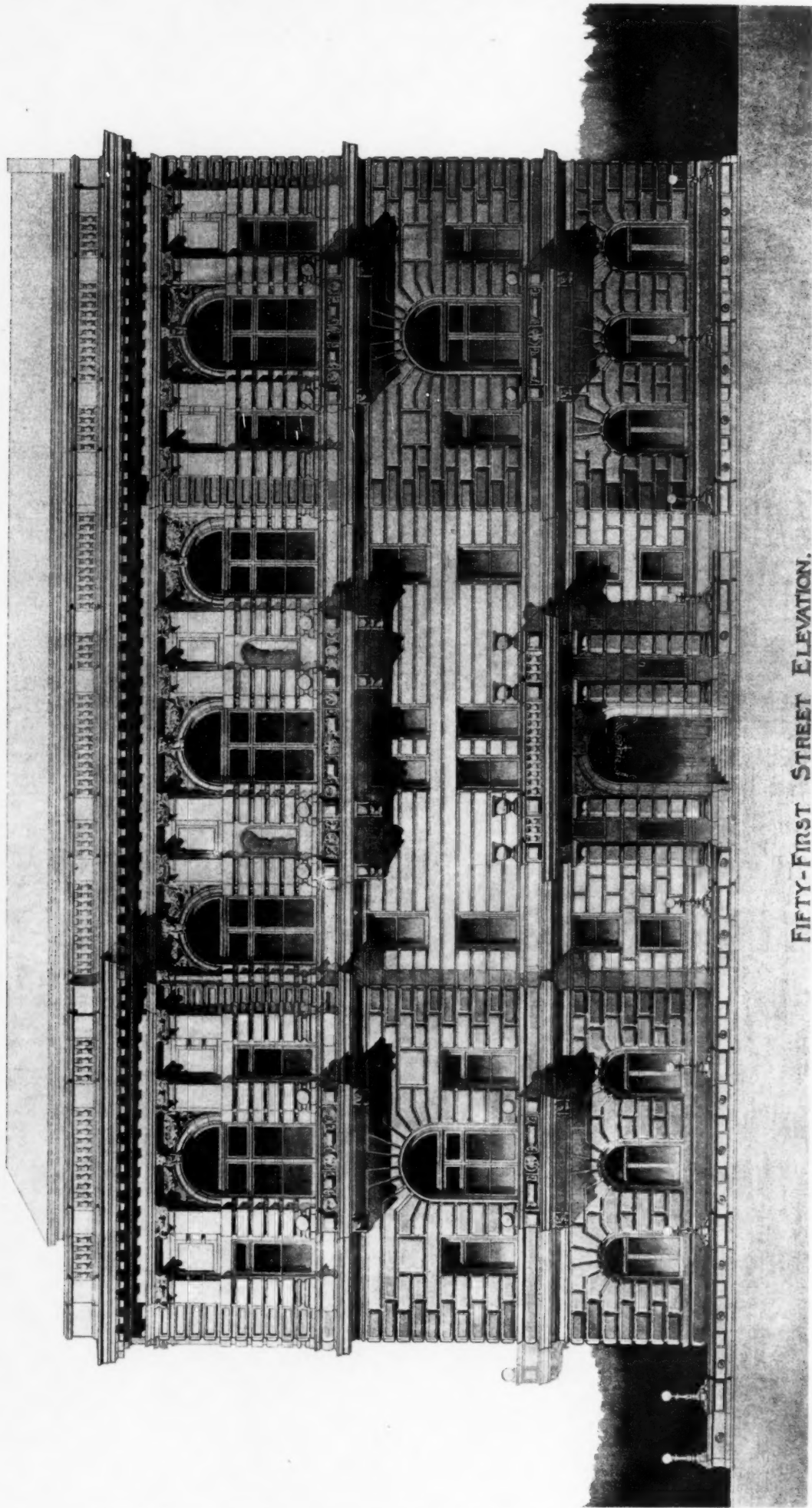
FIFTH AVENUE ELEVATION.



TRANSVERSE SECTION

FIFTH AVENUE ELEVATION.

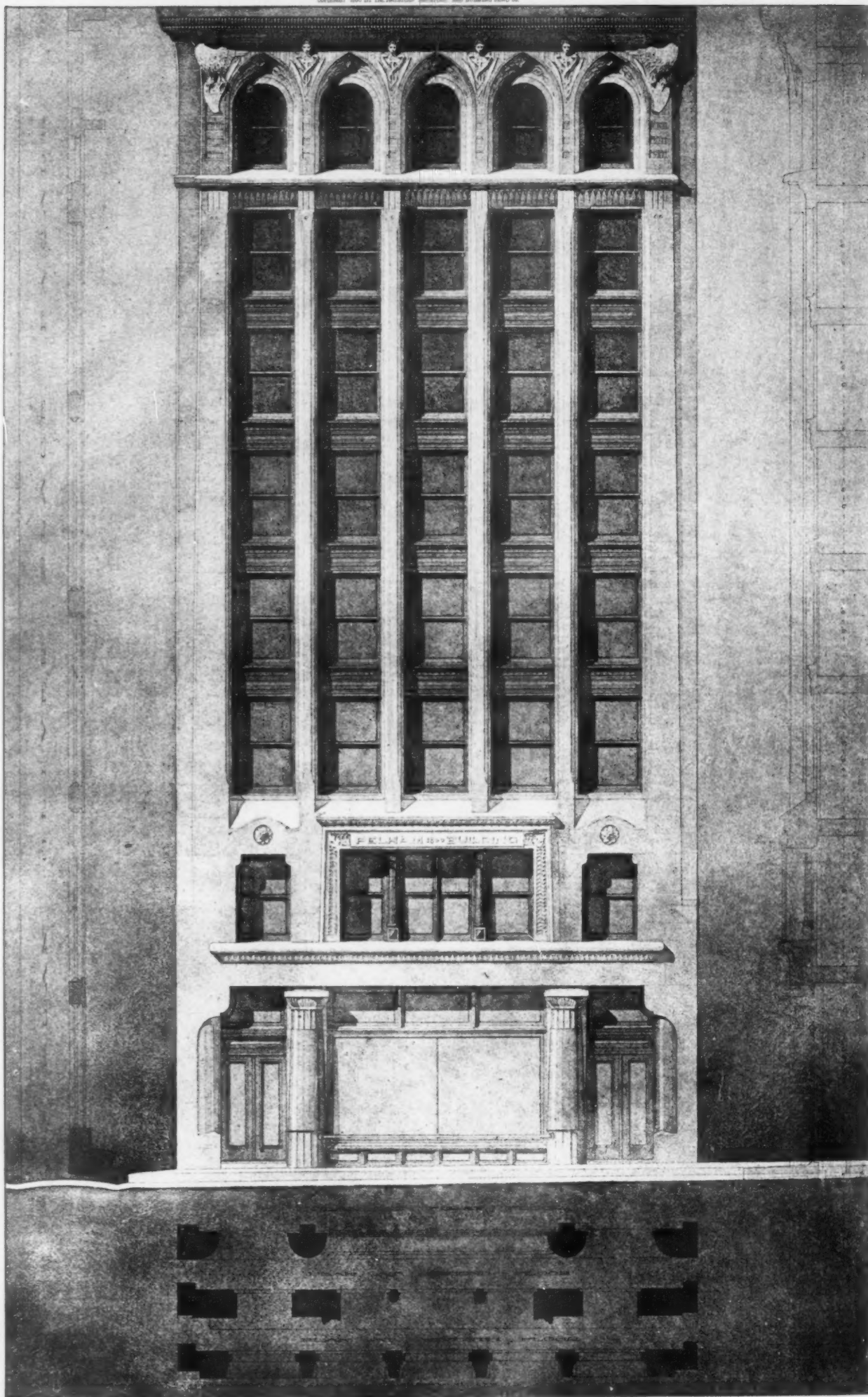
TRANSVERSE SECTION



FIFTY-FIRST STREET ELEVATION.

A COMPETITIVE DESIGN FOR THE CLUB HOUSE OF THE UNION CLUB, NEW YORK, N. Y.
RENWICK, ASPINWALL & OWEN, ARCHITECTS.

COPYRIGHT 1900 BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.



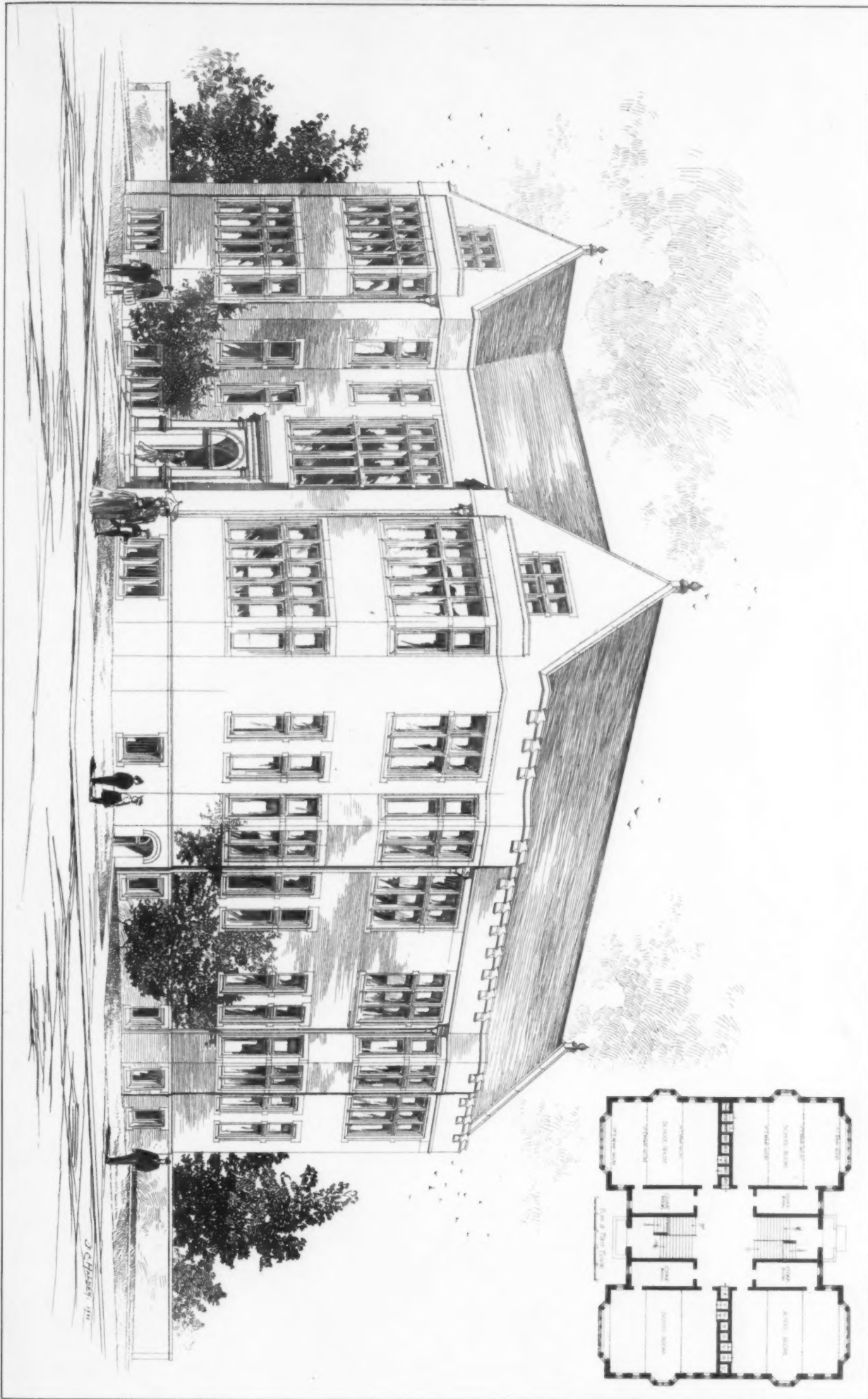
THE PELHAM, ESSEX ST., BOSTON, MASS.
STEPHEN CODMAN, ARCHITECT.

DESIGNED BY THE ARCHITECT

THE LOVEJOY SCHOOL, WASHINGTON, D. C.
ROBERT STEAD, ARCHITECT.

REPRODUCED BY THE ARCHITECT

Copyright 1900 by THE AMERICAN ARCHITECT AND BUILDING NEWS CO.



THE LOVEJOY SCHOOL, WASHINGTON, D. C.

ROBERT STEAD, ARCHITECT.

THE AMERICAN ARCHITECT AND BUILDING NEWS

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

Vol. LXIX. — No. 1288.] SATURDAY, SEPTEMBER 1, 1900. PRICE, {INTERNATIONAL ISSUE, 50 CTS
{REGULAR " 15 "

ARCHITECTURAL INSTRUCTION.

BOSTON, MASS.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

DEPARTMENT OF ARCHITECTURE.

Options in *Architectural Engineering* and *Landscape Architecture*.

College graduates and draughtsmen admitted as special students.

SUMMER COURSES in Elementary Design and Shades and Shadows will begin July 5. Proficiency in these subjects will enable draughtsmen and students from other colleges to enter third year work, and give them an opportunity to complete the professional subjects in two years.

For catalogues and information apply to

H. W. TYLER, Secretary,

Mass. Institute of Technology, Boston, Mass.

CAMBRIDGE, MASS.

HARVARD UNIVERSITY.

LAWRENCE SCIENTIFIC SCHOOL.

Twelve Departments of study leading to the degree of Bachelor of Science, Civil Engineering, Electrical Engineering, Mechanical Engineering, Mining and Metallurgy, Architecture, Landscape Architecture, Chemistry, Geology, Biology, Anatomy and Physiology, for Teachers of Science, and General Science.

For Descriptive Pamphlet apply to

J. L. LOVE, Secretary, Cambridge, Mass.

N. S. SHALER, Dean.

NEW YORK, N. Y.

COLUMBIA UNIVERSITY, IN THE CITY OF NEW YORK.

SCHOOL OF MINES.
SCHOOL OF CHEMISTRY.
SCHOOL OF ENGINEERING.
SCHOOL OF ARCHITECTURE.
SCHOOL OF PURE SCIENCE.

Four years' undergraduate courses and special facilities for graduate work in all departments. Circulars forwarded on application to the Secretary of the University.

SYRACUSE, N. Y.

SYRACUSE UNIVERSITY, Syracuse, N. Y. DEPARTMENT OF ARCHITECTURE.

PROF. EDWIN H. GAGGIN.

DRAWING OFFICE.

DRAWINGS

Rendered in line or color with reasonable despatch.
Address EDITORS AMERICAN ARCHITECT.

WHITTIER MACHINE CO.,

PASSENGER AND FREIGHT ELEVATORS.

53 STATE STREET - - - BOSTON.

THE DAYTON AUTOMATIC ELEVATOR GATE CO.,

32 SEARS STREET, DAYTON, O.

Furnish either full or half Automatic Gates on short notice.

These Gates are attached to the wall of the elevator well, no part being on the elevator except a small spring.

Write us for prices on the best and cheapest Gate made.

LOOMIS FILTERS.

ESTABLISHED 1880.

Improved System. Simple and Effective.

LOOMIS-MANNING FILTER CO.,

Main Office: 402 CHESTNUT ST., PHILADELPHIA.
Boston. New York. Baltimore. Washington.

BOOKS:

"Ile de France, Picardie."

PART I. I.

A portion of the series of "Archives de la Commission des Monuments Historiques."

25 Plates, folio. Price \$6.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"Empire-Ornaments, Furniture, etc."

A reprint of the well-known work of M. Charles Normand.

36 Plates. Price \$6.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"Cathedral of St. John the Divine."

Designs submitted in the First Competition.

57 Plates, folio. Price \$5.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

FLYNT

BUILDING AND CONSTRUCTION CO.

GENERAL OFFICE, PALMER, MASS.

We contract to perform all labor and furnish all material of the different classes required to build complete

CHURCHES, HOTELS, MILLS, PUBLIC BUILDINGS AND RESIDENCES.

Also for the construction of RAILROADS, DAMS AND BRIDGES.

We solicit correspondence with those wishing to place the construction of any proposed new work under ONE CONTRACT, which shall include all branches connected with the work. To such parties we will furnish satisfactory references from those for whom we have performed similar work.

SCAIFE FILTERS.

10 to 10,000 Gallons per Hour.

NO CHEMICALS REQUIRED.

RESULTS GUARANTEED.

WM. B. SCAIFE & SONS,
Pittsburgh, Pa.

BOOKS:

"Norman Monuments of Palermo and Environs."

81 Plates, folio and text. Price \$12.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"The Library of Congress."

20 Plates, folio. Price \$5.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"Croquis d'Architecture."

(Intime Club.)

XXII Year, complete. Price \$6.70.

A hiatus of ten years occurs between the date of the 21st and 22nd volumes.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"Architectural Masterpieces of Belgium and Holland."

96 Plates, quarto. Price \$10.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

ROBERT C. FISHER & CO.

Successors to Fisher & Bird,

MARBLE AND GRANITE WORKS.

97, 99, 101 and 103 EAST HOUSTON STREET,
Established 1830. NEW YORK.

A Perfect Finish

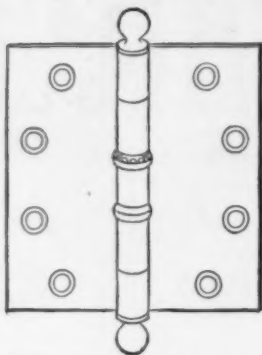


For outside woodwork, specially adapted for front doors, vestibules, window sash, and all other wood or ironwork, excessive changes in weather and temperature may be had by specifying our

... Spar Coating.

EDWARD SMITH & COMPANY,
Varnish Makers and Color Grinders,
45 Broadway, New York.

STANLEY'S **B**ALL-BEARING
TEEL ... BUTTS



are heavily electro-plated and highly polished, and compare favorably in appearance and durability with solid metal butts.

It is impossible to wear them down, and they never creak.

Samples and literature free to architects.

THE STANLEY WORKS, Dept. "C."
NEW BRITAIN, CONN.
79 CHAMBERS ST., N. Y.

FOR INFORMATION ABOUT
U. S. MAIL CHUTES

WHICH ARE

A necessity in Office Buildings and Hotels,
write to the sole makers.

THE CUTLER MFG. CO., ROCHESTER, N. Y.
PATENTED. AUTHORIZED.

CLINTON WIRE-CLOTH CO.

Sole Proprietors and Manufacturers of

WIRE LATH *DOUBLE TWIST WARP*
STIFFENED (Iron Furred)
CLINTON CORRUGAT'D

Plain, Japanned or Galvanized.

The Most Perfect and Economic System of FIREPROOF Construction.

SEND FOR CIRCULAR.

BOSTON,
199 Washington St.

NEW YORK,
76 Beckman St.

CHICAGO,
137 Lake St.

FACTORY,
CLINTON, MASS.

FITCH



SASH LOCKS
LOCK THE WINDOW.

RATTLE, COLD AND DUST
OUT
SIMPLE, DURABLE, SAFE.
SOLD BY HARDWARE DEALERS EVERYWHERE
TRIAL SAMPLE FREE
THE W. & E. T. FITCH CO. NEW HAVEN, CONN.

"La Construction Moderne,"

A journal of whose merits our readers have had opportunity to judge because of our frequent reference to it and our occasional republication of designs that are published in it, is the most complete and most interesting of the French architectural journals.

The fifteenth annual volume is now in course of publication.

Subscription, including postage, 35 francs.

Each weekly issue contains, besides the illustrations included in the text, two full-page plates, which by themselves are worth double the amount of the annual subscription.

PRICE OF BACK ANNUAL VOLUMES,

:: 40 Francs. ::

Address for subscriptions and catalogues,

LIBRAIRIE DE LA CONSTRUCTION MODERNE,

13 Rue Bonaparte, Paris, France.



ELECTRICITY BUILDING
PAN-AMERICAN EXPOSITION
GRIFFIN AND WICKS ARCHT'LS-BUFFALO, N.Y.

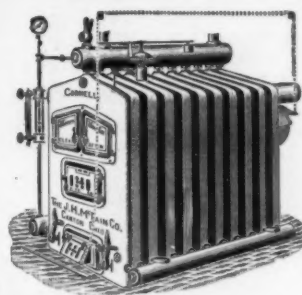
Copyright 1900
By Pan-American Exposition Co.



The Ideal "ARCADIA" Water-Closet Combination

Unquestionably the
Finest Closet that
has ever been pro-
duced. None other
can be compared
with this High-
Grade, Original and
Strictly Sanitary
Closet Combination

THE IDEAL MFG. CO.
DETROIT, U. S. A.



HOT WATER and STEAM HEATERS

for buildings of any size.
Send for Catalogue.

The J. H. McLAIN CO.
CANTON, OHIO
253 Fourth Ave., New York City
707 Ogden Bldg., Chicago, Ill.

Vapor System of Steam Heating.

Adapted to buildings of every kind and size. Superior to hot-water heating.
No pressure on radiators. No air valves. No noise. No machinery. Heat under perfect
control. Easily installed by all steam fitters.
Architects are requested to send blue-prints with data. Drawings and specifications will be
furnished free. Open to all contractors for bids.

VAPOR STEAM HEATING CO. - - - YORK, PA.



BUTCHER'S BOSTON POLISH
Is the best finish for
FLOORS, . . .
Interior Woodwork and Furniture. **BUTCHER POLISH CO.,**
Circulars Sent on Application.
For Sale by Dealers in Painters' Supplies. 356 Atlantic Ave., Boston, Mass.

Drawing-Office.

Drawings rendered in line or
color with reasonable despatch.
ADDRESS
Editors of the American Architect.

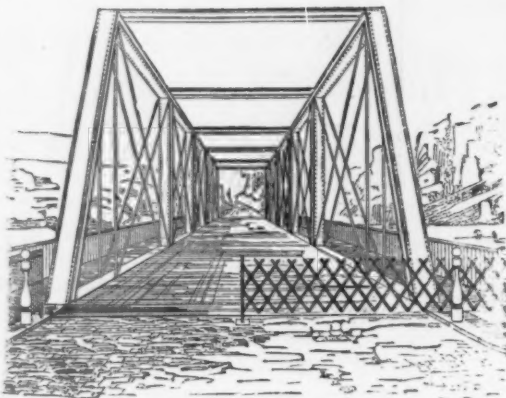
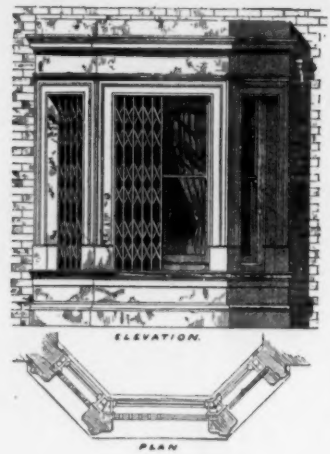
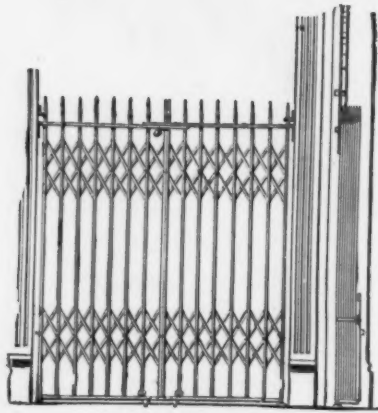
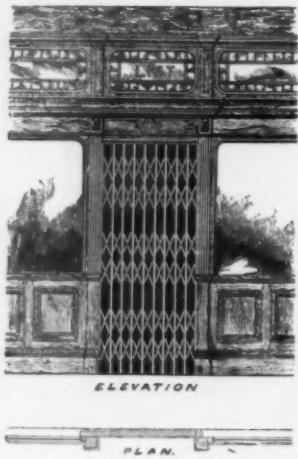


ORIGINAL DESIGN

THE WINSLOW BROS. COMPANY

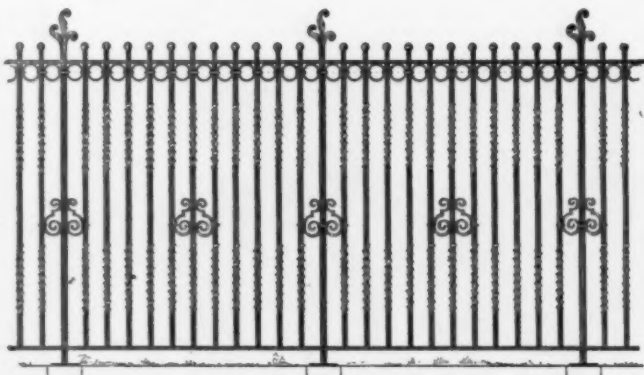
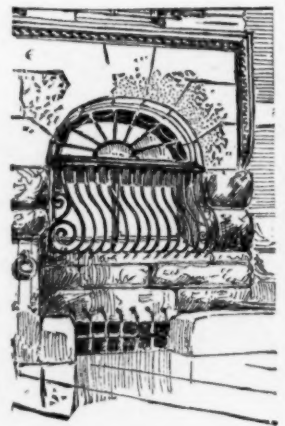
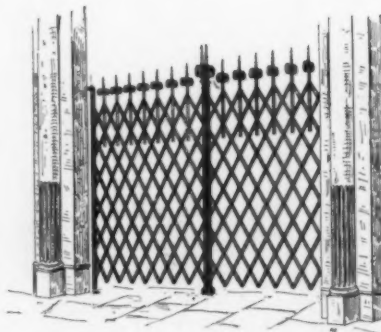
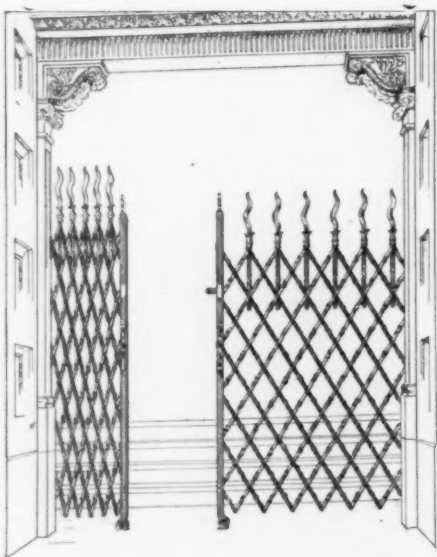
CHICAGO

ORNAMENTAL IRON
AND
BRONZE



THE WM. R. PITT
COMPOSITE IRON WORKS,
111 FIFTH AVENUE,
NEW YORK.

MANUFACTURERS OF THE "PITT," "BOSTWICK," "COMPOSITE"
AND NOVELTY PATENT FOLDING GATES AND GUARDS FOR STORE
FRONTS, ELEVATOR OPENINGS AND CARS, VESTIBULES, BANK
VAULTS, WINDOWS, BRIDGES, ETC. ALSO RAILINGS, DRIVE-
WAYS AND ENTRANCE GATES, WINDOW GUARDS, MARQUEES,
GRILLES, STAIRS, LANTERNS AND SPECIAL HARDWARE.





F. E. Zerrahn, Architect, Boston.

IT is quite as important to know the character of the Stains that you specify as of the varnish or paint; and to see that no substitute or adulterant is used. A "mixed-on-the-job" stain, or thinned paint, can never be equal, either in coloring effect or wearing qualities, to a thoroughly made article like

Cabot's Shingle Stain

in which every ingredient has a beneficial effect upon the wood.

Samples and full information sent on request.

SAMUEL CABOT, Sole Manufacturer, BOSTON, MASS.

28 Dearborn Avenue, Chicago, Illinois.

AGENTS: V. H. Schneider, 8 Wooster St., New York; Samuel H. French & Co., Philadelphia, Pa.; Waterhouse & Price, San Francisco, Cal.; P. H. Mathews, Los Angeles, Cal.; Whitelaw Brothers, St. Louis, Mo.; George H. Lawes & Co., St. Paul and Minneapolis, Minn.; John H. Corning, Washington, D.C.; Brady & Co., Detroit, Mich.; The National Building Supply Co., Baltimore, Md.; E. D. Timms & Co., Portland, Ore.; Cleveland Builders' Supply Co., Cleveland, O.; Seymour & Co., Montreal, and at all other central points.



From *La Construction Moderne*.

GERMAN BUILDING: PARIS EXPOSITION OF 1900.

STANDARD FOR RUBBER INSULATION.



TRADE MARK.

WILLARD L. CANDEE, Mgr. GEO. T. MANSON, Gen'l Supt.
H. DURANT CHERVER, Mgr. W. H. HODGINS, Sec'y.

OKONITE INSULATED ELECTRIC LIGHT WIRES

Are pronounced by leading Architects to be **SAFE, DURABLE** and **EASILY ADJUSTED** for the inside wiring of **PUBLIC and PRIVATE BUILDINGS.**

CANDEE WEATHERPROOF WIRES, OKONITE WATERPROOF TAPE, MANSON PROTECTING TAPE.

—SOLE MANUFACTURERS—

THE OKONITE CO., LTD., 253 BROADWAY, NEW YORK.

DIXON'S SILICA GRAPHITE PAINT

FOR TIN OR SHINGLE ROOFS AND IRON WORK. Tin roofs well painted have not required repainting for 10 to 15 years.
IT IS ABSOLUTELY WITHOUT AN EQUAL.

If you need any paint it will pay you to send for circular.

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

ESTABLISHED 1868

SKYLIGHTS HAYES LATHING & NEW YORK.

71-8TH AVE. (METALLIC) FIRE-PROOF CONSTRUCTION



PNEUMATIC TUBES

For Rapid Transmission of Cash, Orders, Papers, Documents.

USED IN Prominent Department Stores, Dry Goods Houses, Wholesale Establishments, Newspaper Offices, Banks, etc. Write for Estimates.

BOSTEDO PACKAGE AND CASH CARRIER CO.,
CHICAGO, 156 Lake Street. NEW YORK, 156 Fifth Avenue.

"A POUND OF PAINT"

Conveys no hint as to the painting value purchased. Of two paints, each costing the same per pound, that is the cheaper which has the greater bulk.

A POUND OF ZINC WHITE

Covers nearly twice as much surface as a pound of white lead. Combination paints are economical in direct ratio to the ZINC WHITE they contain.

FREE. Our Practical Pamphlets:

"The Paint Question."

"Paints in Architecture."

The New Jersey Zinc Co.

71 Broadway, New York

A chain is no stronger than its weakest link.
Roofing Plate is no stronger than its weakest spot.
Osborn's Guaranteed I C OLD STYLE ROOFING PLATE is manufactured from the best quality American soft steel sheets, is evenly coated with a rich mixture of tin and lead. Absolutely uniform, therefore durable. Carefully assorted. No wasters under this brand.

For further information write to

J. M. & L. A. OSBORN CLEVELAND COLUMBUS

HITCHINGS & CO., Established 50 years

HORTICULTURAL ARCHITECTS AND BUILDERS
and largest Manufacturers of
GREENHOUSE HEATING AND VENTILATING APPARATUS.



The highest awards received at the World's Fair for Horticultural Architecture, Greenhouse Construction and Heating Apparatus. Conservatories, Greenhouses, Palmhouses, etc., erected complete with our Patent Iron Frame Construction.

Send four cents for Illustrated Catalogue.

233 MERCER STREET, N. Y. CITY.

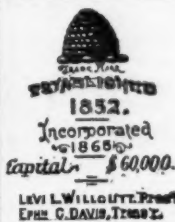


80-Paged Illustrated Catalogue of over 250 Designs of Superior

WEATHER VANES, TOWER ORNAMENTS, CHURCH CROSSES, FINIALS, Etc., Etc.

Mailed to any address for 2-cent stamp—half the postage.

T. W. JONES, Manufacturer,
18 FLETCHER ST., NEW YORK.



NEW ENGLAND FELT ROOFING WORKS,

18 Post Office Sq., BOSTON.

Originators of Felt Roofing in New England.

Inventors and only Manufacturers of the Celebrated

"BEEHIVE BRAND."

The New System OF EDUCATION



Architecture

Architectural Drawing; Steam, Electrical, Mechanical; Civil and Mining Engineering; Drawing; Surveying; Chemistry; Plumbing; Book-keeping; Shorthand; English Branches

TAUGHT BY MAIL

Over 50 Courses

We have helped thousands to better positions and salaries. Send for free circulars, stating the subject in which you are interested.
THE INTERNATIONAL CORRESPONDENCE SCHOOLS,
Box 986, Scranton, Pa.

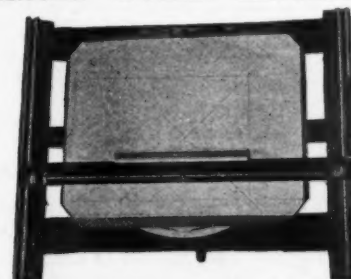
STAINED GLASS

57-63 ILLINOIS ST. CHICAGO ILL.

THE FLANAGAN & BIEDENWEG CO.

LAUGHLIN-HOUGH Patent Drawing Tables

Save Time. Save Labor. Insure Accuracy.



Endorsed by World's Experts. Send for Handsomely Illustrated Catalogue, describing all styles.

Laughlin-Hough Company,

Business Office, 30 Broad St.
Show Rooms, 134 West 14th St.,

New York.

P & B PAPERS

"AFTER 8 YEARS"

burial in a wall, when the wall was torn down, the P & B PAPER was found in as good condition as when first put in." That's what one big concern said. And all users talk similarly. P & B SHEATHING and INSULATING PAPERS last longer than the buildings in which they are used. Try them.

THE STANDARD PAINT COMPANY
77-79 John Street, New York



Jenkins Bros.' Valves

are manufactured of the best steam metal, and are fully guaranteed. Why experiment with cheap valves? If you want the **BEST** ask your dealer for valves manufactured by Jenkins Brothers. Remember all genuine are stamped with Trade Mark like cut.

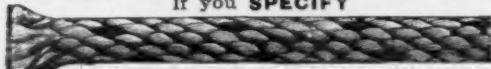
JENKINS BROTHERS, New York, Philadelphia, Chicago, Boston

Kinnear's Automatic

DOORS
STEEL ROLLING SHUTTERS
SIMPLE DURABLE FIRE PROOF PARTITIONS
CLOSE INSTANTLY AT 150 DEGREES HEAT
KINNEAR MFG. CO. COLUMBUS OHIO U.S.A.

Send
for
Samples.

If you SPECIFY



SAMSON SPOT CORD

You can tell at a glance that no other cord is substituted. It is warranted to be of pure Cotton, smooth finish and perfect braid.

Samson Cordage Works, Boston, Mass.

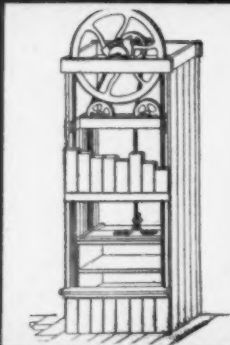


ASPHALT ROOFING AND PAVING MATERIALS.

WARREN'S "ANCHOR BRAND" NATURAL ASPHALT ROOFING. WARREN'S NATURAL ASPHALT READY ROOFING.

Send for circulars, samples and specification forms to

WARREN CHEMICAL & MFG. CO. • • • 81 & 83 Fulton Street, NEW YORK, U.S.A.



SELF-RETAINING DUMB WAITERS

that are self-retaining under certain conditions and at certain points, are numerous.

Those which are self-retaining UNDER ALL CONDITIONS and AT ALL POINTS, are not numerous.

There is but one and we make it. Catalogue.

THE KINKADE & LIGGETT CO.,
COLUMBUS, OHIO.

ASPHALT FLOORS, ROOFS, SIDEWALKS AND CARRIAGE-WAYS

Of Public Buildings, Hospitals, Warehouses, Stables, Cellars, etc.
Laid with VAL de TRAVERS ROCK ASPHALT, DURABLE, FIREPROOF AND IMPERVIOUS.
For estimates and list of works executed, apply to
THE NEUCHATEL ASPHALT CO., Limited,
205 BROADWAY - - - NEW YORK.

Conservatories, Greenhouses, Vineries, Etc.

Designed, erected and heated. Catalogue, also special plans and estimates, on application.

LORD & BURNHAM CO.,
1133 Broadway - - - New York City.

METAL CEILINGS

Suitable for
Residences, Offices, Stores, Schools,
Hospitals & Churches
Can be applied over old plaster
without removing same. Depend on
Give Measurements for estimate
N.Y. METAL CEILING CO.
21 ST. ST. AND 13TH AVE.
NEW YORK, N.Y.

Boston Office: 48 Congress St., Room 23.

HIGH-GRADE WOOD MANTELS ...AND ALDINE GRATES

40-Page Illustrated Catalogue
FREE.

ALDINE MANUFACTURING CO.,
101 Court St., Grand Rapids, Mich.

New York

Wall Ties

SEND FOR
SAMPLES AND QUOTATIONS.

Architects
Builders
Contractors
Engineers

All say:
"The best thing I've seen."
HURD & CO.
570-576 West Broadway, New York

Tool Makers
Model Makers
Designers
Manufacturers

Holophane Glass Co.

No. 1 Broadway, N. Y.

COMPOUND Prism Globes and Shades.

"Maximum Light—Complete Diffusion—Minimum Glare" for all kinds of light.

Send for catalogue and price lists.

Woods' STEEL Corner

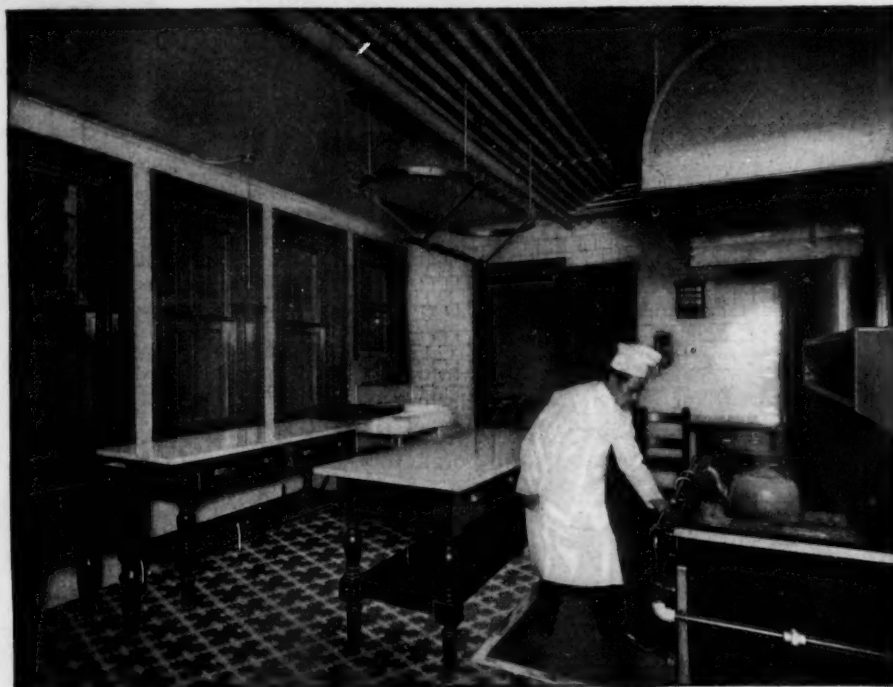
For Plaster Walls
fills a small but important place in a building—and fills it well.
Ask for a sample and booklet—free.

GARA, MCGINLEY & CO., Sole Manufacturers,
PHILADELPHIA, PA.
Agents with stock in most of the large cities.

L. Haberstroh & Son,

9 PARK ST., COR. BEACON, BOSTON,
Interior Decorators and Painters.

* Decorations in Color and Relief.
Wall Hangings of all Descriptions.
Sketches and Estimates Furnished.



INTERLOCKING RUBBER TILING

As laid by us in the kitchen of a Fifth Avenue residence. Noiseless, non-slippery and thoroughly sanitary, soft and comfortable to the feet; laid directly over the old floor, whether wood, cement or hard tile, etc. The finest floor for kitchens, laundries, bath rooms, billiard rooms, piazzas and all parts of business and public buildings.

New York Belting & Packing Co., Ltd.

New York 25 Park Place
Philadelphia 724 Chestnut St.
Chicago 150 Lake St.
St. Louis 411 No. 3d St.
San Francisco 509-511 Market St.
London, W. C. A. L. Gibson, 20 John St., Adelphi
Baltimore Baltimore Rubber Co., 101 Hopkins Place

PERSPECTIVES RENDERED

IN PEN-AND-INK AND WATER-COLOR,
WALTER M. CAMPBELL,
54 Devonshire St., Boston, Mass.

E. ELTON DEANE,

Architectural Colorist and Draughtsman.
63 Seymour Building, Fifth Ave., cor. 42d St.
NEW YORK CITY.

MANHATTAN ELEVATED

Railway Stations (45,000 steps) are now being equipped with MASON SAFETY TREAD, securing safety and durability by the most economical means. Architects write for information to AMERICAN MASON SAFETY TREAD CO., Boston, Mass.

J. W. TAYLOR'S PHOTOGRAPH SERIES

151 MONROE ST., CHICAGO OF AMERICAN ARCHITECTURE
Removed to Owings Building.
Send two 5 cent stamps for Catalogue.

R. P. SOUTHARD,

Gen'l Supt. Building Construction.
At present engaged on work at Montreal, Can.

SPECIFY

CRANE RADIATOR VALVES

WE MAKE, AND CARRY IN STOCK, A VERY LARGE LINE OF RADIATOR VALVES OF ALL SIZES AND DESCRIPTIONS, BOTH FOR STEAM AND FOR HOT WATER, AND OF A VERY HIGH STANDARD.

OUR POCKET CATALOGUE

BESIDES GIVING CLASSIFICATION, CONTAINS DIMENSIONS, ETC., OF VALVES, FITTINGS AND PIPE, WHICH WILL BE FOUND TO BE VERY USEFUL TO ARCHITECTS.

IT IS SENT ON REQUEST

NEW YORK
PHILADELPHIA
CINCINNATI
ST. LOUIS
ST. PAUL
OMAHA

CRANE CO.
CHICAGO
ESTABLISHED 1855

SIoux CITY
KANSAS CITY
LOS ANGELES
SAN FRANCISCO
PORTLAND, ORE.

JOHN WILLIAMS, 544 to 556 West 27th Street, New York.

WROUGHT IRON AND BRASS WORK TO SPECIAL DESIGNS ONLY.

REFERENCES: (Tiffany & Co., N. Y.; Cottler & Co., N. Y.; L. Marcotte & Co., N. Y.; McKim, Mead & White, N. Y.; Babb, Cook & Willard, N. Y.; Bruce Price, N. Y.; R. M. Hunt, N. Y.; Bailey, Banks & Biddle, Phila.; Frank Hill Smith, Boston; A. H. Davenport, Boston.

"Topical Architecture"

A Series of Classified Designs,
Arranged for

DRAUGHTSMEN, DESIGNERS, ARCHITECTS, ETC.

- | | |
|----------------|-----------------------------|
| PARTS 1 and 2. | RENAISSANCE DOORWAYS. |
| PARTS 3 and 4. | RENAISSANCE CAPITALS. |
| PARTS 5 and 6. | IRON GATES AND RAILINGS. |
| PART 7. | RENAISSANCE CHIMNEY-PIECES. |
| PART 8. | TOMBS. |
| PART 9. | ARABESQUES. |
| PART 10. | SGRAFFITO. |

Other Parts in Preparation.

Price: Single Part, 40 cts. Three (different) Parts, \$1.00. Ten (different) Parts, \$3.00.

EACH PART CONTAINS 8 PLATES.

The American Architect and Building News

IS PUBLISHED EVERY SATURDAY BY
The American Architect and Building News Co.,
211 TREMONT ST., BOSTON, MASS.

Advance Subscription Rates:
Regular Edition, \$6.00 per year; six months, \$ 3.50
International Edition, per year in advance, 16.00
quarterly " 18.00
[Foreign Postage, \$2.00 Extra.]

Payment should be made to American Architect and Building News Co. direct, either by draft or post-office order.

Address all business correspondence to the publishers direct.

Advertising Agents:
New York City:—
H. M. Carleton, Temple Court, 5 Beekman St.
Agents at Large:—
P. P. Spokesfield, 211 Tremont St., Boston, Mass.
Burroll & Fowler, 310 New England Bldg.,
Cleveland, O.

Advertising Rates: For "wants" and "proposals," 15 cents per line [8 words to the line], each insertion, 50 cents the least charge. Other rates on application.

See last or next issue for the following advertisements:—

Carter's Inks.
Canton Steel Roofing Co., The
Dwight Lumber Co.
Electric Storage Battery Co. The
Fox Machine Co.
Kearby & Mattison Co.
Morse, Williams & Co.
Selfert, Frank A.
Spaulding Print Paper Co.
Taylor, N. & G. Co.
Thorn Co., J. S.

WANTED.

POSITION.—Wanted, by young woman, position as architect's assistant. Graduate of school of architecture. Experienced in general office-work, including draughting, lettering, specifications, etc. Aides "Assistant," care of *American Architect and Building News*. 1288

WANTED.

POSITION.—A young man, American, desires permanent position of building superintendent or specification writer with first-class architect or builder. Is a graduate civil engineer of ability, tact and experience as architect's superintendent. Can figure strains, design and detail ironwork. Best references. Address "H. H.," care *American Architect*. 1288

TO ARCHITECTS.

COMPETITION designs and perspectives lined and rendered by expert colorist and designer. Temporary assistance, perspectives, sketches, etc., at architects' offices within reasonable distance. Address "Artist," 454 Devon St., Arlington, N. J. 1293

BUILDING PATENTS.

[Printed specifications of any patents here mentioned together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for five cents.]

655,688. ATTACHMENT FOR WATER-CLOSET BOWLS.—John Coleman and Henry Moore, St. Louis, Mo.
655,761. DEVICE FOR UNLATCHING DOORS.—Ell Denne, Winnipeg, Can.
655,776. FIRE EXTINGUISHER AND ALARM.—Samuel Heltene, Greenville, Ky.
655,837. SAFETY AFFLIANCE FOR ELEVATORS.—Albert A. E. Stiering, New York, N. Y.
655,866. SHUTTER BOWEN AND FASTENER.—Harry Hewes, Darby, and Samuel L. Troupe, Philadelphia, Pa.
655,869. DOOR-HANGER.—James M. Hopkins, Chicago, Ill.
655,888. APPARATUS FOR CLEANING AND FLUSHING WASTE-PIPES.—Walter T. O'Neill, Etna Mills, Cal.
655,897. WINDOW.—Ozias A. Essig, Canton, O.
655,914. MACHINE FOR STRETCHING WIRE-CLOTH.—Jonathan H. Soule and Nicholas F. Geck, Owosso, Mich.
655,921. LOCK.—Peter V. Cornils, San Francisco, Cal.
655,965. FIRE-SHUTTER.—Peter Ebner, Columbus, O.
655,978. DOOR-HANGER.—William J. Lane, Poughkeepsie, N. Y.
656,007. SCAFFOLD-HANGER.—John F. Barron, Rumford Falls, Me.
656,011. LOCK.—Henry G. Carleton, New York, N. Y.
656,024. CONSTRUCTION OF CEILINGS AND WALLS FOR BUILDINGS OR OTHER STRUCTURES.—Franz Kemnitz, Berlin, Ger.
656,062. REVOLVING DOOR.—Theophilus Van Kannel, New York, N. Y.
656,130. WINDOW.—Archibald M. Whipple, North Adams, Mass.
656,133. BUILDING-BLOCK.—William A. Johnston, Barberton, O.
656,157. PERMUTATION-LOCK.—Hans A. Alm, Hankinson, N. D.
656,158. CONFINER OF WIRES FOR ELECTRICAL CONNECTIONS.—Charles F. Ash, New York, N. Y.
656,162-163. FLOOR-COVERING.—Emile Berliner, Washington, D. C.



The Improved Shingle Stain and Preservative. Imparts an artistic finish to shingles and prolongs their life by penetrating the pores of the wood and retarding decay.

Shingletint is made in all desirable shades, is easily applied, the colors are permanent, and money is saved by its use.

Full information and finished samples of wood mailed free for the asking.

BERRY BROTHERS, Limited,

Varnish Manufacturers,

DETROIT, MICH.

NEW YORK, 252 Pearl St. CHICAGO, 15 and 17 Lake St.
BOSTON, 620 Atlantic Ave. CINCINNATI, 304 Main St.
BALTIMORE, 22 E. Lombard St. ST. LOUIS, 112 S. Fourth St.
PHILADELPHIA, 26 and 28 N. Fourth St.
SAN FRANCISCO, 117 and 119 Market St.

BUILDING PATENTS.

656,194. DRY-CLOSET.—Robert E. L. Janney, New York, N. Y.
656,243. DRAFT-EQUALIZER.—Thomas I. Brinkley and Daniel Wetrich, Stuart, Ia.
656,247. CAR-VENTILATOR.—Gustaf Gustafson, New Castle, Col.
656,248. FEED-WATER HEATER.—Johann F. Hauser, Nuremberg, Ger.
656,258. CHIMNEY-CROWN.—William D. McLaughlin, Merriam, Kan.
656,274. CLIP FOR STEEL BUILDING CONSTRUCTION, ETC.—Herbert A. Streeter, Chicago, Ill.
656,275. METAL CLIP FOR UNITING AND SPACING BEAMS AND BARS IN STEEL BUILDING CONSTRUCTION, ETC.—Herbert A. Streeter, Chicago, Ill.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

[Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.]

ADVANCE RUMORS.

Atlanta, Ga.—The Grace M. E. congregation, Rev. James E. Dickey, pastor, will erect a \$25,000 church at the corner of Boulevard and Highland Ave.
Atlantic City, N. J.—G. Jason Waters, proprietor of the Hotel Windsor, city, and of the Flanders, Philadelphia, it is reported, will build a six story hotel at the Ocean end of Illinois Ave., to cost \$1,800,000.
Bristol, Tenn.—A school-house for colored children is to be erected here at a cost of \$100,000.
Buffalo, N. Y.—Architect Carl Schmill has drawn plans for a two-story brick school-house to be built by St. Vincent's congregation on Main St., near Jefferson St.; cost, \$14,000.
Columbus, O.—Plans have been completed for the proposed Pickaway County Children's Home, and work on the construction will soon begin; cost, about \$12,000.
Dallas Center, Ia.—Proudford & Bird, architects, Des Moines, are making plans for a building for Grant McLean and the Citizens Bank. It will be brick, with stone trimmings; cost, \$10,000.
Glassport, Pa.—P. S. McMullin has prepared plans for a new hotel to be built at the corner of Monongahela Ave. and 6th St., by John P. Hale, West Newton. It will be a three-story structure, 75' x 110', costing \$20,000.
Greenville, Miss.—Maj. R. H. Hunt, Chattanooga, Tenn., has been selected as architect for the new \$50,000 hotel to be erected here.
Janesville, Wis.—The Wisconsin Carriage Co. will rebuild their plant which was recently destroyed by fire. The new plant will cost about \$25,000.

To Stain White Pine

properly, to make it harmonize with any color scheme and bring out the real beauty of its Grain, THE HARRISON INTERIOR DECORATIVE STAINS should be used. Made in twenty-one handsome Shades.

HARRISON BROS. & CO., Inc.

White Lead, Colors, Paints, Varnishes & Chemicals
35th and Gray's Ferry Road, Philadelphia
27 Lake St., Chicago 117 Fulton St., New York

THE
BROUGHTON

MIXER

For Hard Plaster, Lime, Cement, etc.

Description and Prices on application
W. D. DUNNING
239 W. Water St., Syracuse, N. Y.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Kansas City, Mo.—M. Runley & Co. will erect a five-story brick storage and office building, 115' x 120', to cost \$75,000.
Lexington, Ky.—The City Government is agitating a plan to erect a city-hall, to cost \$200,000.
Milwaukee, Wis.—The committee on county hospital of the county board have recommended that a new hospital, to cost \$60,000, be built here.
Moline, Ill.—Dr. P. L. McKinnie will erect an opera-house with seating capacity of 1,300; cost, \$50,000.
Newport News, Va.—The Second Baptist Society will erect a new brick church to take the place of the edifice recently burned; cost, \$10,000.
New York, N. Y.—A five-story brick club-house for the Boys' Club will be erected at the corner of Avenue A and 10th St.; cost, \$75,000.
Omaha, Neb.—J. H. Evans, president National Bank of Commerce, will build a gray brick residence, to cost \$25,000.
St. Cecilia's Catholic congregation, Rev. Fr. D. P. Harrington, pastor, will build a new \$20,000 stone church at the corner of 40th and Burt Sts.; cost, \$20,000.
Patchogue, L. I., N. Y.—Tammany Hall contemplates taking a site here for a summer home, reports say. It is said that the plan is to erect a palatial club-house. Large stables and cottages for members of Tammany Hall and their families are included in the plan.
Philadelphia, Pa.—Architects Newman, Wood & Harris have completed plans for a two-story brick and iron armory building to be erected at 23d and Chestnut Sts.; cost, \$70,000.
Seattle, Wash.—Max Umbrecht has prepared plans for a building to be erected by William Nottingham, of Syracuse, N. Y., at 1st and Spring Sts. It will be a six-story building, 60' x 111', with construction material of brick; cost, \$60,000.
Sioux City, Ia.—Wilfred W. Beach, architect, is preparing plans for Palmer & Co. for a four-story cold storage and fruit warehouse to be erected at 211-213 Douglas St.; cost, \$26,000.
Springfield, Mass.—The School Board contemplates building a new school-house to take the place of the Emery St. School-building.
ALTERATIONS AND ADDITIONS.
Brooklyn, N. Y.—Montague St., nr. Clinton St., interior alterations, etc.; \$10,000; o. Henry Collins estate; a. W. B. Tubby & Bro., 81 Fulton St., N. Y.; b. T. Dobbins, 162 Ross St.
Philadelphia, Pa.—De Lancey St., No. 2006, one-story interior & exterior alterations; \$7,000; o. Francis J. Gowen; b. J. S. Corneld & Son.
APARTMENT-HOUSES.
Cambridge, Mass.—Washington St., two-story fr. aparts, 43' x 65', stoves; \$5,000; o. Asa C. Lamson; b. William Shea; a. W. E. Clark.
New York, N. Y.—Beekman Ave., cor. 141st St., four-story bk. & st. flats, 27' x 95' & 27' x 80'; \$80,000; o. Henry F. A. Wolf, 374 Alexander Ave.; a. Edw. Wenz, 149th St. & 3d Ave.
One Hundred and Ninth St., nr. 3d Ave., seven-story bk. & st. flats, 27' x 95' & 27' x 80'; \$80,000; o. Geo. & Emanuel Dector, 410 E. 66th St.; a. John Hanser, 1961 Seventh Ave.
Riverside Drive, cor. 94th St., seven-story bk. & st. flat, 95' x 101' 11"; \$300,000; o. B. S. Levy, 121 W. 78th St.; a. Stein, Cohen & Roth, 41 Union Sq.
E. Thirty-ninth St., Nos. 223-225, six-story bk. flat, 37' 10" x 81' 9"; \$30,000; o. William Lane, 243 E. 38th St.; a. H. T. Howell, Brook Ave., n. cor. 138th St.

(Continued on page xii.)

"The Georgian Period"

THIS publication, which now consists of six Parts, contains about one hundred pages of text, illustrated by some two hundred text-cuts, and two hundred and sixteen full-page plates, of which forty-three are gelatine or half-tone prints. It is in truth a work of superior excellence and great usefulness.

The matter already illustrated may in small part be classified thus:

PUBLIC BUILDINGS

City Hall, New York, N. Y.	Date 1803-12
Old State House, Boston, Mass.	" 1748
Pennsylvania Hospital, Philadelphia, Pa.	" 1755
Carpenters' Hall, Philadelphia, Pa.	" 1770
Independence Hall, Philadelphia, Pa.	" 1729
Faneuil Hall, Boston, Mass.	" 1741

and others.

CHURCHES

King's Chapel, Boston, Mass.	Date 1749
Seventh-day Baptist Church, Newport, R. I.	" 1729
Christ Church, Alexandria, Va.	" 1767
Christ Church, Philadelphia, Pa.	" 1727
St. Paul's Chapel, New York, N. Y.	" 1764
Old South Church, Boston, Mass.	" 1729
First Church, Hingham, Mass.	" 1681
St. John's Chapel, New York, N. Y.	" 1803
First Congregational Church, Canandaigua, N. Y.	" 1812
St. Peter's P. E. Church, Philadelphia, Pa.	" 1758
Gloria Dei Church, Philadelphia, Pa.	" 1700

and others.

IMPORTANT HOUSES

Fairbanks House, Dedham, Mass.	Date 1636
Royall Mansion, Dedham, Mass.	" 1737
Philipse Manor House, Yonkers, N. Y.	" 1745
Tudor Place, Georgetown, D. C.	" 179-
Mappa House, Trenton, N. Y.	" 1809
Woodlawn, Va.	" 1799
Mount Vernon, Va.	" 1743

and others.

Incidentally there are shown special measured drawings or large views of the following features and details:

Porches and Doorways	36	Subjects
Staircases	13	"
Mantelpieces	68	"
Pulpits	6	"
Fanlights	60	"

In addition to the subjects enumerated above there is a large quantity of measured and detailed drawings of Cornices, Ironwork, Gateposts, Windows, Interior Finish, Ceiling Decoration, Capitals, etc., together with elevational and sectional views of entire buildings.

AMERICAN BRIDGE CO.

GENERAL OFFICES :

100 Broadway, New York, N. Y.

*Designers and Builders of all Classes of
Metallic Structures*

We have decided to carry at all our plants a large stock of Raw Material, from which we can furnish with great promptness any ordinary order for Steel Bridges, Roofs, Buildings, Columns, Girders, Beams, Channels, Angles, Plates, etc., etc.

Branch Offices and Works:

BOSTON, MASS.
ALBANY, N. Y.
BUFFALO, N. Y.
ELMIRA, N. Y.
GROTON, N. Y.
HORSEHEADS, N. Y.

ROCHESTER, N. Y.
EAST BERLIN, CONN.
ATHENS, PA.
PENCOYD, PA.
PHILADELPHIA, PA.
PITTSBURG, PA.

TRENTON, N. J.
WILMINGTON, DEL.
BALTIMORE, MD.
COLUMBUS, O.
CANTON, O.
YOUNGSTOWN, O.

LAFAYETTE, IND.
CHICAGO, ILL.
MILWAUKEE, WIS.
MINNEAPOLIS, MINN.
NEW ORLEANS, LA.

PASSAIC ROLLING MILL CO., PATerson, N. J.

Steel Beams

4 inches
to
20 inches
deep.

ALL STRUCTURAL SHAPES.
NEW YORK OFFICE . . . 45 BROADWAY.
Boston Office, No. 31 State Street.

Patent Automatic Scuttle Opener

This Opener can be easily opened from the floor below, and will remain open. It is operated with one rope, which both opens and closes the scuttle. When closed, it is self-locking, having two (2) bolts, making it impossible to open from the roof. In case of fire, there is no climbing of ladder to unlock scuttle. One pull of the rope opens bolts and scuttle, which remains open, allowing people to escape by way of the roof. It is made of wrought and malleable iron, and will not break or get out of order. Simple in construction.

G. BICKELHOUP SKYLIGHT
WORKS,
242 & 245 West 47th St., New York.
Telephone 675, 38th St.

JACKSON ARCHITECTURAL IRON WORKS, ESTABLISHED 1840.

IRON

Fronts for Buildings, Cornices, Lintels and Sills, Doors and Shutters, Girders and Beams, Fire-escape Balconies and Ladders, Columns and Roofs, Sky and Floor Lights, Stable Fittings and Fixtures, Sidewalk Lights. Artistic work in Wrought and Cast Iron, Brass and Bronze.
Designs and Estimates of Cost Furnished for Work in any Department.

Foundry and Shops, East 28th and East 29th Sts. Office, 315 East 28th St., New York.

BUILDING INTELLIGENCE.

(Apartment-Houses Continued.)

E. One Hundred and Twenty-third St., No. 228, five-st'y bk. flat, 25' x 85' 11"; \$25,000; o., Katherine Weidhoff, 918 Jefferson St.; a., Edward Wenz, 1491 Third Ave.

E. One Hundred and Thirtieth St., Nos. 316-322, 4 five-st'y bk. flats, 31' 3" x 87'; \$100,000; o., Samuel Green, 306 Broadway; a., C. B. Meyers, 1 W. Union Sq.

Ninety-ninth St., nr. West End Ave., seven-st'y & base, bk. & st. flat, 60' x 87' 8" & 90'; \$100,000; o., The Teichman & Potter Co., 115 Broadway; a., Geo. F. Pelham, 503 Fifth Ave.

W. One Hundred and Forty-sixth St., No. 407, five-st'y bk. flat, 25' x 60'; \$18,000; o. & a., John P. Leo, 143 W. 125th St.

Third Ave., nr. 173d St., 2 five-st'y bk. flats, 25' x 74' & 75' 6"; \$40,000; o., M. L. and C. Ernst, 56 Liberty St.; a., Rudolph Werner, 1973 Webster Ave.

One Hundred and Forty-first St., cor. Beekman Ave., 4 five-st'y bk. & st. stores & flats, 27' x 80' & 95'; \$80,000; o., Henry T. A. Wolf, 509 E. 143d St.; a., Edw. Wenz, 1491 Third Ave.

Yonkers, N. Y.—Woodworth Ave., three-st'y fr. flat, 28' x 50'; \$6,500; o., C. W. Newman; a., A. J. Van Suetendale.

EDUCATIONAL.

New York, N. Y.—Avenue C, s. bet. 8th & 9th Sts., Unionport, four-st'y bk. & st. school, 66' 2" x 141'; \$110,000; o., City of New York; a., C. B. J. Snyder, Park Ave. & 59th St.

BUILDING INTELLIGENCE.

HOUSES.

Boston, Mass.—Cooper St., No. 29, three-st'y bk. dwell. & store, 18' x 51', flat roof, stoves; \$8,000; o. & b., J. Goldinger et al.; a., C. A. Halstrom.

Bay State Road, nr. Deerfield St., three-st'y bk. dwell., 25' x 69', flat roof, furnace; \$30,000; o., Ellen G. Sturgis; b., A. Hathaway & Sons; a., John Lavallo.

Porter St., three-st'y fr. dwell., 22' x 53', flat roof, stoves; \$7,000; o., L. J. Wyzanski; b., D. D. Fish; a., H. Copeland.

Meridian St., No. 447, three-st'y fr. dwell., 23' x 60', flat roof, hot water; \$6,000; o., Horace B. Butler; b., D. Porter; a., J. S. Eastman.

Chambers St., No. 103, three-st'y bk. dwell., 35' x 37' x 38', flat roof, stoves; \$9,000; o., Mass. Gen. Hospital; a., F. A. Norcross; not let.

Angell St., nr. Blue Hill Ave., 24-st'y fr. dwell., 28' x 37', pitch roof, furnace; \$5,500; o. & b., W. H. Britton; a., G. H. Smith.

Brooklyn, N. Y.—Surf Ave., nr. Poplar Ave., two-st'y & attic fr. dwell., 30' x 46', shingle roof; \$5,000; o., John L. Ely, 45 W. 72d St., N. Y.; a., F. T. Cornell, 281 Fourth Ave., N. Y.; b., Ferguson & Brown, 1327 Rogers Ave.

St. Francis Pl., cor. Degraw St., 5 two-st'y & base. bk. dwell., 19' 6" x 46'; \$20,000; o., Mrs. Bessie F. Nelly, 390 Decatur St.; a., E. D. Earle, 601 Evergreen Ave.

Thaiford Ave., nr. Glenmore Ave., 4 three-st'y fr. dwell., 25' x 60'; \$16,000; o., N. Freedman, 67 Suffolk St., N. Y.; a., L. Danacher, 425 Rockaway Ave.

BUILDING INTELLIGENCE.

(Houses Continued.)

Fifty-seventh St., nr. 5th Ave., 15 three-st'y bk. dwells., 20' x 45'; \$67,500; o. & b., C. Hamilton, 271 Fifty-second St.; a., T. Bennett, 198 Fifty-third St.

Jersey City, N. J.—Gifford Ave., 24-st'y fr. dwell.; \$8,500; a., John T. Rowland, Jr., 76 Montgomery St.

Arlington Ave., two 24-st'y fr. dwells., 25' x 55'; \$11,000; o., Mrs. McWilliams and Clyde Richard; a., H. C. Rossell, 793 Ocean Ave.

New York, N. Y.—One Hundred and Eightieth St., nr. Mapes Ave., 3 two-st'y bk. & fr. dwells., 21' x 48'; \$12,000; o., Chas. Bjorkgren, 2148 Mapes Ave.; a., J. W. Limer, 2557 Third Ave.

Ninety-second St., nr. West End Ave., four-st'y bk. dwell., 30' x 52' 6"; \$10,000; o., A. L. Brockway, Aurelius, Cayuga Co.; a., Benson & Brockway, 55 Broadway.

E. Sixty-fifth St., Nos. 6-8, 2 five & six-st'y st. dwells., 25' x 53' & 43' x 48'; \$250,000; o., Mrs. W. H. Bliss; a., Hies & Weekes, 111 Fifth Ave.

Somerville, Mass.—Belmont St., nr. Summer St., 24-st'y fr. dwell., 20' x 48', pitch roof, furnace; \$5,000; o. & b., J. R. McLellan.

Yonkers, N. Y.—Valley Ave., bet. Nepperhan Ave. & Broadway, 24-st'y dwell., 22' x 38'; \$5,000; o., John Warnock; a., A. J. Van Suetendale.

STORES.

Bloomington, Ill.—N. Main St., four-st'y & base. bk. department-store, 50' x 115', flat roof, steam; \$40,000; o., Cole Bros.; a., Arthur L. Pillsbury.

Boston, Mass.—Huntington Ave. and Falmouth St., bk. hall, studio & stores, 100' x 225', flat & pitch roof, steam; \$100,000; o., William Hill estate; a., Peabody & Sterns; not let.

E St., cor. W. 8th St., three-st'y store, 33' x 63', flat roof, stoves; \$8,000; o., W. H. Quirk; a., C. Brown; not let.

Brooklyn, N. Y.—Flatbush Ave., nr. Livingston St., five-st'y bk. store, 30' 2" x 60' 11", gravel roof, steam heat; \$11,000; o., Mrs. Lucy A. B. Sterling, 227 Schermerhorn St.; a., M. J. Morrill, 350 Fulton St.

Sixth Ave., cor. 17th St., three-st'y bk. store & dwell., 20' x 54', gravel roof; \$6,700; o., Henry Immig, on premises; a., Albert Ullrich, 371 Fulton St.

New York, N. Y.—W. Forty-second St., Nos. 314-318, two-st'y & base. bk. lofts & stores, 57' x 75', felt & tar roof; \$15,000; o., Geo. Peabody Wetmore, Newport, R. I.; a., Henry Palmer, 1 W. Union Sq.

Westchester Ave., cor. 3d Ave., one & two-st'y bk. stores & lofts, 50' x 60' x 80'; \$15,000; o., Richard Seligman, 45 W. 42d St.; a., A. Arotander, 362 Alexander Ave.

Philadelphia, Pa.—Filbert St., Nos. 1235-1237, six-st'y bk., st. & iron store building, 32' x 63'; \$15,000; o., Morris Dannenbaum; a., Chas. Balderson.

Indiana Ave., Tenth St. and Germantown Ave., three-st'y bk. store & dwell. on triangular lot, 10' x 78' x 80'; \$10,000; o. & b., John Loughran.

Somerville, Mass.—Highland Ave., three-st'y store & dwell., 34' x 45', flat, tar & gravel roof, hot water; \$5,000; o. & b., Edward B. McElair.

SOME Portland Cements may show a high tensile strength at a short period and yet be so defective that the work done with them will disintegrate with age. This is due to imperfect composition. The Dyckerhoff brand is invariably of correct chemical composition and the work done with it is invariably strong and absolutely durable.

"IMITATION THE SINCEREST FORM OF FLATTERY."

The success of our "Monarch" Automatic Instantaneous, Gas Water Heater has led others to make poor imitations. To protect the public, and our own interests, we give

NOTICE! We believe all forms of water heaters now manufactured, in which the flow of gas to the burner is controlled by variations of water pressure in the heater, are infringements on one or more of the following patents, which are owned by this company:

No. 564,326, Jun. 15, 1897
No. 563,275, May 25, 1897
No. 563,276, May 25, 1897
No. 591,583, Oct. 12, 1897

No. 620,383, Mar. 14, 1899
No. 611,426, Mar. 22, 1898
No. 608,540, Aug. 2, 1898
No. 608,972, Aug. 9, 1898

All manufacturers, sellers or users of such heaters are doing so contrary to law, and it is our intention to protect our rights under the patents by all legal means.

MONARCH WATER HEATER CO.

MANUFACTURERS OF THE

"Monarch" Automatic, Instantaneous Water Heater,

306 WOOD ST., PITTSBURGH, PA.



Domestic Water Supply.

There are TWO and ONLY TWO absolutely safe machines that will pump water every day in the year.

They are—

The Improved Rider Hot Air Engine . . .

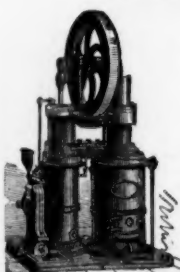
The Improved Ericsson Hot Air Engine.

Catalogue "B" on application. Address the nearest office,

RIDER-ERICSSON ENGINE CO.,

Succeeding { DELAMATER IRON WORKS,
RIDER ENGINE CO.

23 Cortlandt St., NEW YORK. 239 Franklin St., BOSTON.



56 Lake St., CHICAGO.
40 N. 7th St., PHILADELPHIA.

Teniente Rey, 71,
HAVANA, CUBA.

692 Craig St., MONTREAL, P. Q.
22A Pitt St., SYDNEY, N. S. W.

LUDLOW SAYLOR WIRE CO. N. E. Cor. Fourth & Elm Sts., ST. LOUIS, MO.



Elevator Enclosures and Cabs,
Metal Work in Brass,
Wire and Wrought-Iron,
Office and Bank Railings,
Wire and Iron Fences, etc.

BUILDING INTELLIGENCE.

(Stores Continued.)

Willow Springs, Ill. — Two-st'y & base. bk. & st. trimmings stores & flats, 60' x 60', gravel roof, stoves; \$8,000; o., H. B. Koller and Mrs. Banks; a., Joseph Frank.

TENEMENT-HOUSES.

Boston, Mass. — N. Brimmer Pl., 2 three-st'y bk. tenements, 32' x 42' x 60', flat roofs, stoves; \$12,000; o., Henry Rosenbaum et als.; a., F. A. Norcross; not let.

Brooklyn, N. Y. — Warren St., nr. 4th Ave., 4 four-st'y bk. tenements, 26' 6" x 70'; \$21,000; o., Mrs. Della McGarry, 176 Nevins St.; a., R. Dixon, 213 Montague St.

Pittkin Ave., cor. Sackman St., four-st'y bk. store & tenement, 25' x 90'; \$10,000; o., C. Dunieff, 1832 Pittkin Ave.; a., C. Infanger, 90 Glen St.

New York, N. Y. — One Hundred and Thirty-sixth St., nr. Lincoln Ave., 4 five-st'y bk. tenements, 25' x 80' 9"; \$80,000; o., Wm. P. Carroll, Borough Brooklyn; a., J. M. Nevin, 1554 Forty-ninth St., Borough Brooklyn.

Tenth Ave., No. 657, six-st'y bk. tenement & store, 25' 11" x 85' 6"; \$28,000; o., C. Engelhardt, 830 Girard Ave.; a., R. Graff, 830 Girard Ave.

Oliver St., No. 88, five-st'y & base. bk. tenement, 29' x 80' 8" & 40' 2"; \$20,000; o., Catherine Jackson, 175 W. 94th St.; a., M. Bernstein, 245 Broadway.

Third Ave., nr. 174th St., 2 five-st'y bk. tenements with stores, 25' x 102' 2"; \$18,000; o. & a., J. J. Steinmann, 109 E. 136th St.

WAREHOUSES.

New York, N. Y. — Broadway, nr. 100th St., two-st'y bk. storage house, 25' x 87'; \$10,000; o., Herbert Dongan, 2643 Broadway; a., T. R. Cutler, 18 W. 43d St.

Morton St., cor. West St., two-st'y bk. loft building, 50' x 160' 5"; \$20,000; o., List & Lennon, 147 Columbus Ave.; a., A. V. Porter, 621 Broadway.

MISCELLANEOUS.

Brooklyn, N. Y. — Himrod St., nr. Bushwick Ave., bk. greenhouse, 43' 3" x 39' 4", steam heat; \$6,500; o., Geo. Pope; a., Lord & Burnham, 1133 Broadway, N. Y.; b., W. Seaman, 10 Fort Greene Pl.

COMPETITIONS.

THE ATELIER FITZWILLIAM, AUDITORIUM BUILDING, CHICAGO.

Personally conducted by F. J. Fitzwilliam, a pupil of D'Espouy, who won the Grand Prix de Rome in the year 1884.

SPECIAL SKETCH COMPETITION.

During the past year many draughtsmen have asked if there was not some way by which they could work at their homes and send or bring their studies to the atelier for criticism, so in accordance with this demand we shall, beginning with the month of September, 1900, inaugurate a special nine months series of sketch problems which are intended to be worked up spontaneously without criticism. One of these problems will be issued each month from September to June each year. Every effort will be made to maintain these programmes of as lively an interest as can be, and the best solutions each month will be awarded prizes as stated below. Send your design and \$1 for entrance into September competition, or send \$8 and become entered for all nine of the competitions from September, 1900, to June, 1901. On October 1st we will mail it to you postage prepaid, with a full and complete critical analysis of its faults and merits, and whatever prize (if any) it has been judged worthy to receive. The names and addresses of prize-winners will be announced each month. For the month of September, 1900, there will be 25 cash prizes aggregating \$145 divided as follows:— One first prize of \$30. Two prizes of \$15 each. Three prizes of \$10 each. Four prizes of \$5 each. Five prizes of \$3 each. Ten prizes of \$2 each.

PROGRAMME FOR SEPTEMBER.

A FOUNTAIN NICHE.

Preamble.—In a suburban district of a city of 250,000 people it is proposed to cut a roadway around the base of a hill which extends in a rapid slope upward from the sea. A wall low enough not to obstruct the view shall separate the driveway from the sea, and the hillside of driveway shall be closed by a perpendicular wall of masonry. This wall is to be capped by a balustrade for the protection of a pedestrian's walk located on the hillside at that height. The total height of this wall including the balustrade

THE J. L. MOTT IRON WORKS,

88 Beekman Street,
NEW YORK, N. Y.

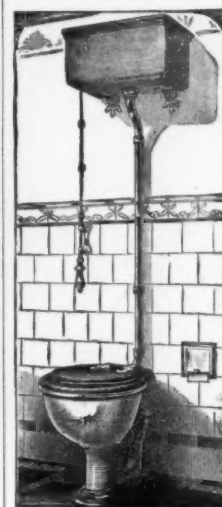
The Primo Improved Vitro-Adamant.

PLATE 495 R.

No. 33 Design L Cistern with Nickel-plated Brass Brackets, Nickel-plated Brass Flush Pipe, Nickel-plated Chain, Hardwood Pull and Brass Floor Flange.

Copyrighted, 1897.

Copy of circular furnished on application.



COMPETITIONS.

shall not exceed 26 feet. Thus a broad roadway for vehicles at the lower level nearest the sea, and a narrower way for pedestrians on a higher plane, will run parallel each to each and to the coast-line.

Requirements.—The object of this problem is to design the hillside wall, and particularly a drinking-fountain for horses, in connection with this wall. In addition to the fulfilment of practical requirements this fountain should be architecturally adorned, and since it is imperative that it shall occupy as little of the roadway as possible, the fountain shall be in the form of a grand niche intersecting the hillside wall and extending beneath the pedestrian's walk. The horse trough, however, shall occupy space on the driveway. The water will be supplied by artificial means and the fountain shall be entirely of masonry.

Drawings.—A plan, a section and an elevation showing a portion of the wall on either side, are required, all at the scale of 3-16 inch equals one foot. The rendering will be left to the discretion of the designer, but the paper must be cut to the uniform size of 10" x 18". Send drawings unmounted to the Atelier Fitzwilliam on, or before, September 30th, 1900.

Any deviation from the programme of requirements will debar the candidate from the competition. No further instructions are needed or will be given.

1288

ASYLUM.

[At Waupaca, Wis.]

Plans and specifications are wanted by the committee on insane for Waupaca County until September 4th for an asylum building. E. H. PALMER, sec.

1288

AUDITORIUM.

[At Jackson, Ga.]

Plans and specifications are wanted for an auditorium. MAYOR C. O. BEAUCHAMP, chmn. com.

1289

OPERA-HOUSE.

[At Jackson, Miss.]

Plans will be received until September 10th for the opera-house and office-building of the Jackson Opera-house Co. ROBERT B. MIMMS, chmn. bldg. com.

1289

PROPOSALS.

FURNITURE.

[At San Juan, P. R.]

Sealed proposals, in duplicate, will be received at this office until September 20, 1900, for supplying furniture, etc., for use by the Legislature of Porto Rico. WM. H. HUNT, secretary.

1290

TRAINING-SCHOOL.

[At Washington, D. C.]

Sealed proposals will be received until September 22d for constructing a manual training-school. H. B. F. McFARLAND, et al., commr.

1290

COURT-HOUSE.

[At Wytheville, Va.]

The Supervisors of Wythe County will receive sealed proposals until September 28th for the erection of a county court-house. WM. B. FOSTER, clk.

1289

Treasury Department, Office Supervising Architect, Washington, D. C., August 23d, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 17th day of September, 1900, and then opened, for the new money vaults and toilet-room, etc., and work incidental thereto in the U. S. Sub-treasury Building, New York, N. Y., in accordance with drawings and specification, copies of which may be had at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

1289

UP-TO-DATE STORES ARE KNOWN BY THEIR SHOW WINDOWS

These are artistically "dressed" with the most attractive and seasonable goods. Every merchant knows their value as trade producers. Where stores are on principal streets, or have an evening trade, the correct lighting of these window displays, while costing no more than incorrect lighting, brings increased trade.

They Should be as Effective in the Evening as During the Day



Patented April 20, 1897, Feb. 21, 1899.

Frink's Special... Patent Window Reflector

Is **THE** correct light for this purpose. It is the result of years of experience in lighting the rarest and costliest works of Art in America. Essentially the same principles, the same powerful reflecting surfaces are used as in the **FRINK SYSTEM** adopted by the Metropolitan Museum of Art in New York, and in many other noted public and private art galleries throughout the U. S. It has been adopted by leading stores throughout the country.

Write for Full Particulars . . . Estimates Free

Geo. Frink Spencer,
Manager
Tel. 860 Franklin.

I. P. FRINK, 551 Pearl Street, NEW YORK

Licensed to Manufacture
Electric and
Combination Fixtures.



CARVED WOOD MOULDINGS...

For Interior Finish

AS CORNICES,
CHAIR AND
PICTURE RAILS,
CEILINGS, ETC.

..... New Catalogue just out.

GRAND RAPIDS CARVED MOULDING CO.

9 and 11 Myrtle Street,

GRAND RAPIDS, MICH.

PROPOSALS.

LIBRARY.

[At Cheyenne, Wyo.]
Bids will be received until September 12 for the construction of a stone and terra-cotta library building. ROBERT P. MORRIS, sec. 1289

NAVY BUILDING.

[At Boston, Mass.]
Sealed bids will be received until September 15 for a stone and brick building, covering about 2,900 square feet at the navy yard. MORDECAI T. ENDICOTT, ch. bureau yards and docks, navy dept., Washington. 1289

CHURCH.

[At Fort Recovery, O.]
Bids will be received until September 3d for the erection of a brick and stone Catholic church. DE CURTIN BROS., architects, Lima, O. 1288

SCHOOL-HOUSE.

[At Natchez, Miss.]
Sealed bids will be received until September 6th for a school-building. THOMAS R. QUATERMAN. 1288

SCHOOL-HOUSES.

[At Altoona, Pa.]
Sealed proposals will be received by the Board of Education until September 2d for the erection of two school-buildings. CLK. BD. EDUCATION. 1288

COURT-HOUSE ADDITION.

[At Cleveland, O.]
Sealed proposals will be received by the county commissioners of Cuyahoga County until Sep-

PROPOSALS.

tember 5th for constructing addition to courthouse. JULIUS C. DORN, clerk. 1288

JAIL.

[At Hamilton, Mont.]
Sealed proposals will be received until September 3d for the erection of the Ravalli County Jail. HOWARD D. SMART. 1288

OPERA-HOUSE.

[At Jackson, Miss.]
Sealed bids will be received by the Jackson Opera-house Co. until September 10th for building an opera-house. ROBERT B. MIMMS, chmn. bldg. com. 1288

SCHOOL-HOUSE.

[At Guttenberg, N. J.]
Sealed bids will be received by the Board of Education until September 4th for erecting a brick school-house. HENRY LINHART, clk. bd. educ. 1288

JAIL.

[At Walker, Minn.]
Sealed bids will be received until September 4th for the erection of a county jail. G. E. GRIFFITH, county auditor. 1288

HEATING SYSTEM.

[At Randall's Island, N. Y.]
Sealed proposals will be received until September 8th for furnishing the materials and performing the labor necessary to remodel the heating and plumbing systems and for furnishing and installing a switch-board panel, engine and dynamo, at the House of Refuge for Juvenile Delinquents, Randall's Island, N. Y. A. E. ORR, president, board of managers. 1288



THE MACKAY

is the ideal Hot Water Radiator Valve.

It is strong and well made in every particular.

It is the only valve known which will not stick under any circumstances.

Send for Catalogue.

The Ohio Brass and Iron Mfg. Co.

Cleveland, Ohio.

PROPOSALS.

SCHOOL-HOUSE.

[At Seattle, Wash.]
Sealed proposals will be received until September 7th by the Directors of District No. 1 for the erection of a school-building. LYMAN BANKS, sec. 1288

COLLEGE BUILDING.

[At St. Paul, Neb.]
Bids will be received until 6 P. M. September 1 for the erection of a brick building. HOWARD COLLEGE ASSOCIATION. 1288

DAM.

[At Clinton, Mass.]
Sealed proposals will be received at the office of the Metropolitan Water Board, 3 Mt. Vernon St., Boston, Mass., until September 25th for building the Wachusett Dam. Bids must be accompanied by check for \$15,000. HENRY H. SPRAGUE, chmn. bd. 1289

HIGH SCHOOL.

[At Akron, O.]
Sealed proposals will be received until September 8th for the construction of a high-school building. F. W. SHIRER, clk. bd. ed. 1288

Treasury Department, Office Supervising Architect, Washington, D. C., August 18th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M., on the 10th day of September, 1900, and then opened, for the reconstruction and repairs of plumbing and sanitary system in the U. S. Post-office and Sub-treasury building at Boston, Massachusetts, in accordance with drawings and specification, copies of which may be obtained at this office or the office of the Custodian, Boston, Mass., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1288

fire-proof Building.

TRADE
RARITAN

**FRONT BRICK.
HEARTH TILE.
FIREPROOFING.**

MARK. MANUFACTURED BY
RARITAN HOLLOW AND POROUS BRICK CO.
Henry M. Keasbey, Vice-Prest. Office, 874 Broadway, New York. Rowland P. Keasbey, Sec. and Treas.

PIONEER FIREPROOF CONSTRUCTION CO.,
1515 Marquette Building, Chicago.

Manufacturers and Contractors for every description of



Tile for Fireproofing
ALL KINDS OF BUILDINGS.

Our Goods embody all the latest Scientific Ideas for rendering buildings Thoroughly Fireproof.
CONTRACTS TAKEN IN ALL PARTS OF THE UNITED STATES. Send for Illustrated Catalogue and Price List.

MINERAL WOOL

FIRE, SOUND and VERMIN PROOF INSULATOR.

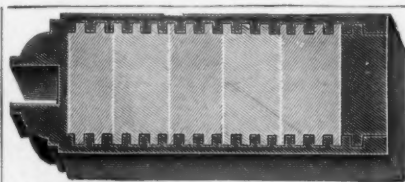
Samples and Circulars Free.

U. S. Mineral Wool Co., 143 Liberty Street,
NEW YORK.

DRAWING-OFFICE.

Drawings rendered in line or color with reasonable despatch.

ADDRESS THE EDITORS OF THE AMERICAN ARCHITECT.



THE COMPOUND DOOR CO.,
Veneered Hardwood Doors,
Fine Interior Finish.

ST. JOSEPH - - - MICH.

Represented by

M. J. CANAVAN, 282 Washington St., Boston.

**Art Metal
Construction
Co.**

In Steel:

LIBRARY EQUIPMENT and STACKS,

Counting Room and Vault Fittings,

LIFE AND FIRE INSURANCE RECORD DEPOSITS,

Real Estate and Law Office Furniture.

GOVERNMENT, STATE, COUNTY and MUNICIPAL BUILDINGS

Furnished Throughout.

GENERAL OFFICES AND WORKS, JAMESTOWN, N. Y.

**406
Tremont
Bldg.,
BOSTON,
MASS.**

**NEW ENGLAND
MATERIAL-MEN & CONTRACTORS.**

BLUE PRINTING.

CHAS. E. MOSS,
Rapid Printing Papers.
14 Broad St., Boston.
Telephone: Boston, 2731-2.

CONTRACTOR & BUILDERS.

WILLIAM L. RUTAN,
1016 Tremont Bldg., Boston.

DECORATORS.

W. J. DOLAN,
181 Tremont St., Boston.

PERSPECTIVE DRAWINGS.

AMERICAN ARCHITECT AND
BUILDING NEWS CO.
211 Tremont St.,
Boston, Mass.

ROOFING DUCK.

C. H. BATCHELDER & CO.,
135 State St.,
Cor. India St., Boston, Mass.

SASH CORD.

SILVER LAKE CO.,
78 Chauncy St., Boston.

SEAM-FACE GRANITE.

GILBRETH SEAM-FACE GRANITE
CO.,
Park Row Building, New York.
85 Water St., Boston.

TOWER CLOCKS.

GEORGE M. STEVENS,
15 Chardon St., Boston.

WATERPROOF CELLARS.

FRANK B. GILBRETH,
Park Row Bldg., New York.
85 Water St., Boston.

**Professional
Ethics.**

The following . . .

. . . CODE OF ETHICS . . .

Prepared in Conformity with the
Best Standards of Practice, and
Recommended to its Members by
the Boston Society of Architects,
was

ADOPTED BY THE SOCIETY, FEBRUARY 1,
. . . 1895. . .

SECTION 1. No Member should enter into partnership, in any form or degree, with any 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 drawings 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 alterations of a building designed by another architect, 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, without 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 designs 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 drawings except as an original contributor in any duly instituted competition, or attempt to secure any work for which such a competition remains undecided.

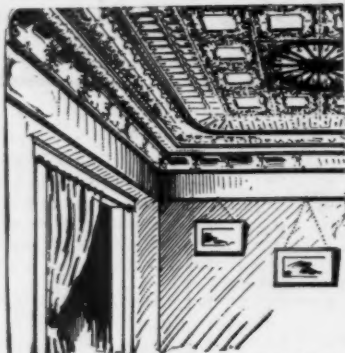
SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot 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 architect who has been dishonorably expelled from the "Institute" or "Society."

SECTION 15. The assumption of the title of "Architect" should be held to mean that the bearer has the professional knowledge and natural ability needed for the proper invention, illustration and supervision of all building operations which he may undertake.

SECTION 16. A Member should so conduct his practice as to forward the cause of professional education and render all possible help to juniors, draughtsmen and students.



Eastern Dept., W. L. WEDGER & CO., 10 India St., Boston.

Steel Ceilings

DEEP EMBOSSED AND SHALLOW
EMBOSSED PLATES

Cornices, Borders and Moulds
to Harmonize.

Write for Catalogue No. 14 of latest designs.

We make a complete line of Panelled
Fire Doors and Shutters for Interior and
Exterior use.

THE KINNEAR & GAGER CO.
COLUMBUS, OHIO.

SEYSSSEL ROCK ASPHALT

and Bitumen Damp Course,

NEW YORK MASTIC WORKS,

11 Broadway, New York.

THE

Northwestern Terra-Cotta Co.
Manufacturers of

Architectural Terra-Cotta.

WORKS & MAIN OFFICE:
Cor. Clybourn & Wright-
wood Avenues.

CITY OFFICES:
Room 1118 Rookery Bldg.
cor. La Salle & Adams St.

CHICAGO.

Estimates given on application. Send for
Catalogue and Samples.

PERTH AMBOY

TERRA-COTTA COMPANY,

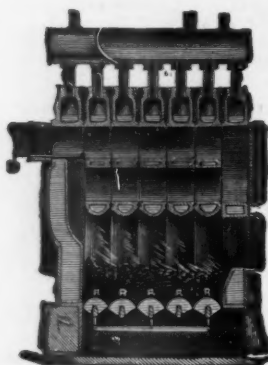
— OF —

PERTH AMBOY, NEW JERSEY.

OFFICE, 160 Fifth Ave., NEW YORK.

BOSTON AGENTS:

WALDO BROS., 102 MILK STREET.



Mercer Boiler.

THE H. B. SMITH CO.

133-135 ...
Centre Street,
New York.

MANUFACTURERS.

Steam and Water

Heating Apparatus,

Factory: Westfield, Mass.

ESTABLISHED 1853.

Send for Catalogue.

NEW YORK, PROVIDENCE,
PHILADELPHIA.



We Adjust All Stops And Tighten Your Windows.

Bradshaw

Automatic
Window
Opener.

Opens into
room like a door.

Safe Keep your
Practical Windows
Simple Clean.

Cheap G. L. SCHICKER,
Builders' Exchange,
Cleveland, O.

Public Buildings, Office Bldgs.,
FOR.. Hotels, Asylums, Hospitals, Schools, A. A. HAYDEN,
Flats, Residences, etc., etc. Scranton, Pa.

Can be put on any window, OLD or NEW.
Does Not Alter Your Window.

Address Headquarters, BUFFALO, N. Y.

**Polygon
Conductor
Pipes
Won't Burst.**

The twist in the corru-
gation checks the sudden
fall of ice and water, thus
protecting the joints. It
stands hard knocks because
it is corrugated. Again, it
is much handsomer than
plain pipe. Made in cop-
per and galvanized iron.

Catalogue and information free.

Address Dept. A,

The American Steel Roofing Co.,
Cincinnati, O.

[See Alphabetical Index on Cover 2 for Pagination.]

CLASSIFIED ADVERTISEMENTS.

[Advertisers can be indexed only under a single head free of charge.]

ARCHITECTURAL ORNAMENTA- TION.

Lombard & Co., A. P., Boston

ART METAL WORK.

Barnum, E. T., Detroit, Mich.

Ludlow Saylor Wire Co., St. Louis,
Mo. (mon)

ASBESTOS COVERING.

H. W. Johns Mfg. Co., New York.

ASPHALT.

Neuchatel Asphalte Co., New York.

New York Mastic Works, New York.

ASPHALT ROOFING.

Warren Chemical & Mfg. Co., N. Y.

BANK AND VAULT FITTINGS.

Art Metal Construction Co., James-
town, N. Y.

BLUE PRINTS

Moss, Chas. E., Boston.

Spaulding Print Paper Co., Boston
..... (eow)

BOILERS (Side-Feed).

Gorton & Lidgerwood Co., New York.

BUILDING FELT (Fire and Water Proof).

H. W. Johns Mfg. Co., New York.

CAPITALS.

Seifert, Frank A., St. Louis, Mo.

CAPITALS (Carved).

O. T. Nelson Co., The, Columbus, Ohio

CASH-CARRIER.

Bostede Package & Cash-Carrier Co.,
New York

CEMENT.

Alsen's Cement Works, N. Y. (eow)

Atlas Cement Co., New York.

E. Thiele, New York.

CHLORIDE ACCUMULATOR.

Electric Storage Battery Co., Phila-
delphia, Pa.

COMPOSITION ORNAMENT.

Seifert, Frank A., St. Louis, Mo.

CONSERVATORIES.

Lord & Burnham Co., Irvington-on-
Hudson, N. Y.

CONTRACTING.

Flynt Building & Construction Co.,
Palmer, Mass.

CORDAGE.

Samson Cordage Works, Boston. (eow)

COURT-HOUSE EQUIPMENT.

Art Metal Construction Co., James-
town, N. Y.

CREOSOTE STAINS.

S. Cabot, Boston

CUTLER PAT. MAILING SYSTEM.

Cutler Mfg. Co., Rochester, N. Y.

DEAFENING QUILT.

Samuel Cabot, Boston, Mass.

DECORATORS.

L. Haberstroh & Son, Boston.

DOOR AND WINDOW SCREENS.

Hartman Sliding Blind Co., Crestlin,
Ohio.

DOORS (Interior Finish).

Compound Door Co., The.

DRAINAGE FITTINGS.

Crane Co., Chicago, Ill.

DRAWING-TABLES.

Alexander Mfg. Co., Grand Rapids,
Mich.

Laughlin-Hough Co., New York.

DRAUGHTSMAN.

E. Eldon Deane, New York.

DRAWING MATERIALS.

Keuffel & Esser, New York.

DUMB WAITERS.

Kinkade & Liggett Co., Columbus, O

ELEVATORS, ETC.

Dayton Automatic Elevator Co., The,
Dayton, Ohio.

Morse, Williams & Co., Philadelphia.

Whittier Machine Co., Boston.

ENGINES (Hot-Air).

Rider-Eriksen Engine Co., New York.

FILING DEVICES.

Art Metal Construction Co., James-
town, N. Y.

FILTER.

Loomis-Manning Filter Co., Phila., Pa.

Seafie & Sons, Wm. B., Pittsb'g., Pa.

FIREPROOF BUILDING.

Pioneer Fireproof Construction Co.,
Chicago, Ill.

Baritan Hollow and Porous Brick
Co., New York.

FIREPROOF LATHING.

Hayes, Geo., New York.

FLOOR POLISH.

Butcher Polish Co., Boston.

FOLDING BLINDS.

Hartman Sliding Blind Co., Crestlin,
Ohio.

GALVANIZED IRON.

American Sheet Steel Co., New York.

GATES.

Wm. R. Pitt, New York. (mon)

GLASS (Stained and Ornamental).

Flanagan & Biedenweg Co., The
Chicago, Ill.

GRATES, ETC.

Wm. H. Jackson & Co., New York