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AN extraordinary subway scheme has been proposed in Boston, at the suggestion, it is said, of the Mayor. There is no doubt that the present subway is most uncomfortably crowded. In the evening, the process of making one's way into one of the stations, and getting on board a car, has been graphically compared to participation in a foot-ball game; and the inconveniences attendant upon it have unquestionably driven away traffic to other routes. The natural remedy for this state of things would be to run surface cars in the general direction of the subway, to take the slow, local business, leaving the underground cars to the passengers who wished to go quickly, and without stopping, through the business part of the city; but the mere suggestion of such a thing excited so much opposition that the idea has been abandoned for the present. As it is obvious that the subway must be relieved somehow, the "Mayor's plan" strikes courageously at the root of the matter, by taking out of the present subway about one-half of the cars which now run through it, and turning them through a new subway, nearly parallel to the old one, and touching it at Scollay Square. The proposed route of the new tunnel is from Hereford Street, near Massachusetts Avenue, behind the Beacon Street houses to Otter Street; thence northward to what was known to our youth as "Horse-Chestnut Street," that is, the lower end of the once aristocratic Chestnut Street, which was then, as it is now, mainly occupied by stables. In "Horse-Chestnut Street" the line turns again eastward, crossing Charles Street, and passing under Chestnut, Walnut and Joy Streets, and through Mount Vernon Place, to the State-House grounds, under which it will pass to the corner of Beacon and Joy Streets, and thence to Scollay Square, where it is to form a loop, the cars returning by the same route. It is proposed to send through this tunnel all the cars which pass through the present subway from Cambridge, Brighton and the Reservoir region, leaving the present route for the Dorchester, Milton, Jamaica Plain and a few other lines.

THE most obvious objection to this scheme is that it takes the people who are to be sent through the new tunnel where they do not want to go, and does not carry them anywhere near the place where most of them wish to go. It is inconceivable that any inhabitant of Cambridge, Brighton, Newton, Brookline or the Reservoir region, except an enthusiastic lover of antiquities, with a great deal of leisure, should wish to be taken, either above or below ground, from the termination of Harvard Bridge through such a route as the one specified. Of the local traffic on Beacon, Otter, "Horse-Chestnut," Walnut and Joy Streets, Mount Vernon Place, Hancock Avenue and Pemberton Square, one could not speak without a smile; yet the unfortunate suburbans, condemned to this route, will be obliged to leave their car either far out on the Back Bay, in a respectable, but, to say the least, not an animated,

neighborhood; or at the corner of Charles and Chestnut Streets, in close proximity to that store of which Dr. Holmes wrote, observing that a certain specimen of its attractive goods had hung in its show-window, to his knowledge, for thirty or forty years; or at the corner of Beacon and Park Streets; or, finally, at Scollay Square. Both of these places are certainly more frequented than Otter or "Horse-Chestnut" Streets; but some years ago, when we had the honor of submitting to the Rapid Transit Commissioners of the period a subway scheme including a line directly from West Street to Causeway Street, with a station at the corner of Park and Beacon Streets, we were told that "nobody wanted to go there," and we doubt if any material change has since taken place in the public mind on this point; while, as for Scollay Square, although a great many people pass through it, impelled by a justifiable desire to get somewhere else as soon as possible, a less suitable place for a terminal station hardly exists in Boston; and the unfortunate circumnavigator of the "loop" would find himself cast ashore, or, rather, raised to the surface, just at an uncomfortable walking distance from everything that he would be likely to wish to reach.

THE fact is that, since the completion of the present subway, the purpose for which such routes are mainly useful seems to have been entirely forgotten. In general, the passengers in the cars on city street-railway lines are divided into two classes,—those who wish to get over a long distance quickly, and those who are not in a hurry, but wish to be drawn slowly through the business quarter, and to alight wherever they like; and the great object of a rapid-transit scheme is, or should be, to separate these two classes, so that the man who wishes to get quickly from the North Union Station to Dorchester may not have to drag interminably through the dry-goods region, while the woman who wishes to go slowly through the dry-goods region and admire the new styles in the shop-windows, and get out wherever she may see an attractive model, may not have to stand because the seats are all occupied by through passengers. This could have been accomplished, it would seem, by the present subway without the slightest difficulty, but, for some mysterious reason, the evil is, in some respects, aggravated; for, as there are now no local cars from the dry-goods region to Brighton or Cambridge, for instance, except those running in the subway, the Park Street entrance is, necessarily, crowded to suffocation in the busy hours of the day by local and through passengers together, the former, who, under the old system, could take the cars at any point on Tremont Street, being now obliged to concentrate at a single spot; while the latter, on many of the lines, are carried no farther than Park Street, and have to make their way thence to Adams Square, or the North Station, both of which are included in the subway system, but from which they are cut off by some "loop" contrivance, as best they can. It is not, of course, necessary that all subway cars should begin their journey at either of the great railway stations, although the passengers on more than a thousand trains a day must furnish an important portion of the street-car through traffic, but it is certainly desirable that passengers who wish to do so should be able to take cars at either station for any point of Charlestown, Somerville, Cambridge, Brighton, Roxbury, Dorchester, Milton, Newton or Brookline, and to be taken to their destination through the subway, stopping only at Park and Boylston Streets, or, still better, only at West Street, leaving those who prefer slow and short local trips to make them in surface cars.

THE New York Soldiers' and Sailors' Monument is said to be again the subject of uncertainty. At a recent meeting of the Monument Commission, a committee was appointed to consider the advisability of throwing the whole matter again open to competition, and was authorized, if it should think such action advisable, to prepare a scheme for a new competition. Fortunately, the attempts which have been persistently made, ever since the original competition, to have the award set aside, and the matter reopened, have met with little success so far, and the whole profession will unite in hoping that the last one may suffer the same fate as the others, and that, for once, artists may be encouraged to believe that it is possible for the representatives of the City of New York to carry out a

contract with them faithfully and honorably. It was reported at the same meeting of the Commission that a bill was pending at Albany, introduced, as was supposed, "in the interest of some private parties," to compel the Commission to abandon the site now chosen for the monument, on "Mount Tom," a little eminence near the upper end of Riverside Drive, and erect the monument in the Fifty-ninth Street Plaza; but Recorder Goff said that naval and military men were satisfied with the site now proposed; and the Commission decided to oppose the measure before the Legislature, in behalf of the city.

SOME years ago, strikes among the Quincy granite-cutters were of frequent occurrence, but times of business depression are unfavorable to experiments in the way of giving up one's living at the command of a walking-delegate, and the granite industry has for a considerable time been peaceful. Now, with renewed activity in building, the thoughts of "labor champions" turn to war, and, as it happens, the Quincy shops have been made the scene of the first skirmish. Several years ago, the piece-work system, which had long flourished in Quincy, was abandoned, and day-work substituted. Most of the men belong to the Granite-cutters' Union, and, after the commendable fashion prevalent in and about Boston, a schedule of wages is agreed upon every year, and adhered to, by both masters and men, through the year. The schedule expires March 1, and on that date a new schedule was presented by the union representatives, according to which the minimum wages per hour should be thirty cents. The employers objected to this, on the ground that many of the men were not worth so much, and offered to make this an average, with the understanding that the men whose work was worth less should be paid what they could earn. This is said to be the system pursued at Barre, another large granite-manufacturing place; but the Quincy men would not harken to the arrangement, and all union members were ordered to strike. About fifteen hundred men are said to be idle; and the inevitable consequence will be that a different stone, or granite from some other locality, will be substituted for Quincy granite in the large buildings now just started in Boston.

THE City Government of Boston is considering the question of establishing a public crematory, very much after the model of the one in Père Lachaise, in Paris, where the bodies of persons who die in public institutions, leaving no friends or relatives, shall, as a rule, be incinerated, and where cremation can also be performed for other persons whose families desire it. This is just the course pursued at the Paris crematory, and it has nearly everything to recommend it. The objection which would most naturally occur, that violence might be done to the feelings of surviving relatives by enforced cremation of the bodies of paupers, is met by the assurance of the Cemetery Commission that the wishes of dying persons, or of their friends, in the matter will always be respected, and it is difficult to think of any other objection; while the establishment and maintenance of the crematory by the Cemetery Commission will do away with the possibility of having discredited cast upon cremation through its appropriation by a blasphemous clique, and its association with profane and shocking ceremonies, as has been the case elsewhere. It would be of no small advantage to forestall in this way the enemies of religion in the adoption of a perfectly reasonable and orderly mode of disposing of the bodies of the dead; and it must not be forgotten that such a crematory has other uses. In Paris, amputated limbs, of which many accumulate in the hospitals, are so disposed of, much to the public advantage.

WE have much pleasure in acknowledging the receipt of the first number of a beautifully printed and handsomely illustrated journal from Mexico, *El Arte y La Ciencia*, a monthly review, as the title-page informs us, of fine-art and engineering, conducted by Señor Nicolas Mariscal. For those of us who had supposed Mexico to be inhabited mainly by Aztecs, Incas, Toltecs, Navajos and other tribes of savages, who divided their time between sucking pulque out of the stems of century-plants, and dancing around sacrificial stones, the idea of a journal representing the fine-arts of that country has something startling; but that the fine-arts are there, this number of the journal gives proof in a half-tone reproduction of a singularly beautiful group by Don Enrique Alciati, Professor of Sculpture in the Mexican School of Fine-Arts. This group, which has been executed in bronze for the Gamio Chapel, in the Pan-

téon Español in the City of Mexico, represents the Angel of Death raising from the sepulchre a woman "who died believing," as the description says, "to lead her to the celestial worlds"; and the simplicity of faith which is said to be characteristic of the Mexicans and Central Americans is reflected in the sculpture, with, in addition, tenderness and purity of sentiment, which are rare qualities in modern works of the sort. We confess to having long interested ourselves in angels in art, from those of the Pre-Raphaelites — the real Pre-Raphaelites, not the sham article — to those of the Overbeck-Hoffmann School, and we had come to the conclusion that the Russians, alone among the moderns, were capable of representing supernatural loveliness; but a place beside them must certainly be made for the Mexicans.

IN addition to Professor Alciati's beautiful work, *El Arte y La Ciencia* reproduces a charming picture of Don Leandro Izaguirre, presented in a class *concours* in the National School of Fine-Arts, and representing the foundation of the City of Mexico. What the color may be, the half-tone print does not inform us, but the composition presents a variety, a cleverness in arrangement, and a skill in drawing, which deserve the highest praise. If the Mexican National School of Fine-Arts teaches its pupils to do such work as is shown in these pages, it is, or should be, on the road to great fame among the artistic academies of the world. Naturally, a periodical which endeavors to cover the whole field of art and science in every number cannot spare many pages to painting and sculpture, and the division reserved for the "Bellas Artes" must also make room for "Arquitectura," which is represented by drawings of the "Biblioteca Publica de Nueva York," contributed by the Señores Arquitectos Juan Carrère and Tomás Hastings. After the "Bellas Artes" comes the Engineering section, in which we find some interesting essays on tropical agriculture, mining, engineering and public works in Mexico; and this is followed by a review of current technical literature. The advertisements, which are always an interesting portion of a new periodical, relate almost entirely to engineering appliances, as is natural enough in a country where improvements are being carried on so rapidly as in Mexico, and one, which represents a workman propelling by ingenious machinery a complicated-looking hand-car over a portable railway track, suggests the reflection that the knowledge of engineering appliances has probably increased in Mexico since the building of the Mexican Central Railway, when the laborers, seeing for the first time the wheelbarrows which the "Americanos" had sent to be used on the work, imagined that they were a novel form of basket, and, after they had filled them with excavated earth, put them on their heads, and carried them in that manner to the place of discharge.

AN interesting decision in regard to the liability of builders was rendered in England a few days ago. A man contracted with a builder to build for him a house, furnishing the materials, including the mortar. When the house was up, the official inspectors discovered that it had been built with bad mortar, and ordered the owner to pull it down. He complied with the order, and then had the house rebuilt with proper materials, and sued the original builder to recover the cost of pulling down and rebuilding, with damages for loss of ground-rent while these operations were going on. It does not appear that the contract specified that the mortar should be of any particular quality, but the Metropolitan Building Act gives clear directions as to the composition of mortar, and it was acknowledged that the mortar used did not fulfil the requirements of the Act. The defence was that the damages claimed were too remote, and that the builder could not be held for all the items mentioned; and it was further agreed that the owner had an opportunity to see the mortar before it was used, and ought to have objected at the time; and that the parties could not have contemplated, when they made their contract, that if the builder supplied bad mortar he must pay for pulling down and rebuilding the house, and rent besides. The plaintiff offered evidence showing that the mortar was brought to the building wet, and that he could not detect its bad quality in that condition; and the Court of Queen's Bench decided that as the plaintiff could not, with reasonable diligence, have discovered the defects in the wet mortar, he was entitled to recover the damage that he had suffered from its use; and judgment was given him for the whole expense of pulling down and rebuilding, and the loss of ground-rent, with the costs of the suit.

A HALF-CENTURY OF SANITATION.¹—III.

story detached wards, sometimes connected by covered corridors, and thus secure plenty of light, air, avoidance of dirt and maintenance of fastidious cleanliness. In New York and a few other American cities of metropolitan character the high price of land in all sections of the city compels adherence to the old system, and there is, perhaps, still a tendency to give too much attention to purely ornamental features.

The State care of the insane offers another example of the improvement in sanitary administration for mentally sick patients which is a result of the last ten years of the nineteenth century.

A vast improvement is also noticeable in the construction and equipment of public school-houses, it being recognized that healthy minds can only be formed in healthy bodies. Much attention has accordingly been given to the problems of heating and ventilating the class-rooms, of providing decent and inoffensive sanitary conveniences, and of encouraging personal cleanliness of the pupils by establishing free school baths, but I can only make a passing reference to this branch of municipal improvement.

Our prisons and jails have also been vastly improved and prison sanitation has been the outcome of modern sanitary science. Formerly, dark and unventilated cellars of court-houses, towers in castles, and underground cells in convents and monasteries, were used for the confinement of prisoners, and epidemics of typhus fever or other contagious and infectious diseases were common, and often threatened even the health of judges, jurors and court-officers. In the improved modern structures the influence of imprisonment on the health and the nervous system of the convicts has been reduced to a minimum.

The States of Europe, which compel their citizens to perform military duty, have become conscious of the moral obligation resting on them of providing healthful military habitations, and the modern military barracks differ as much from the older barracks erected in fortified towns centuries ago as do the private dwelling-houses of our period from those of the citizens during the Middle Ages.

The erection within the past twenty or thirty years of an annually increasing number of public bath-houses in cities and towns, both in Europe and recently in the United States, forms another illustration of the fact that all large sanitary municipal improvements date from the year 1850. Before this date the practice of bathing was not a general one, and was entirely confined to river and sea baths available only during a few months in the year. England set in 1842 the example for municipalities in providing public baths for the people, and since 1850 the principal cities of the Continent, particularly in Germany, have imitated it. In the United States much interest has been awakened in this subject, and the State of New York was the first to pass an act (in 1893) making the erection of free public baths, open the year round, mandatory upon all cities of 50,000 or more inhabitants. Without going into details, I will mention that for the attainment of bodily cleanliness the rain or spray bath is much superior to the swimming-bath, though I do not wish to be understood as underestimating the improvement of the general bodily health due to athletic exercise in the swimming-bath.

In my judgment, it is just as necessary that a municipality should provide public baths as it is that they provide public schools, well-paved and clean streets, sewers, and fire and police protection. A valuable and highly interesting report on public baths was rendered in January, 1897, by the Mayor's Committee of New York. Several smaller people's rain-baths are already in use in New York and larger bathing establishments are soon to be erected. Buffalo, Boston, Chicago, Philadelphia, Pittsburgh, and other cities have within the past ten years erected such baths; even the smaller cities make progress in this direction, and I cannot help remarking that, notwithstanding

the mandatory character of the Public Bath Act, passed by the New York Legislature, our own city of Brooklyn has made no attempt whatever to further bodily cleanliness by providing cheap or free baths for the people.

Much work of a sanitary character has been accomplished in the past years in rendering malarial districts healthful. As an instance I will mention the Roman Campagna, which, according to the investigations of Prof. Tommasi-Crudelli, became malarious, because the old Roman drainage-works became stopped up. A part of this beautiful tract of land has again been made healthful by re-establishing the former efficient drainage of the subsoil, which renders its pores free from excess of water, and thereby permits air to enter them to oxidize the impurities. In our own country there are vast tracts of land which now form swamps and which could be reclaimed by a similar process.

In the past twenty-five years many other important questions have come up which I have only time to scan very briefly. Among these I mention the question of smoke-prevention in cities. Smoke and city fog are in many ways injurious to health; the atmosphere of cities is defiled by the carbonic oxide and the sulphuric acid; the smoke becomes hurtful to persons with delicate lungs; it likewise interferes with the free ventilation of the dwelling-houses, and it causes buildings and sculptural monuments to be disfigured.

The difficulties involved in the question of smoke abatement were recognized even in the last century, and Benjamin Franklin, James Watt, and Count Rumford studied the problem. Some of the remedies thus far suggested are the use of hard coal, the application of smoke-consuming appliances in the boilers, the use of gaseous fuel for cooking, heating and for small motors, the better firing of boilers, and, lastly, the removal, as far as possible, of large manufacturing industries to the suburbs, or at least away from the crowded city districts.

General town sanitation includes also, according to Olmsted, the provision for, and the laying-out of, public parks, boulevards, open squares and playgrounds for the population. It is now well recognized that one acre of trees and grass and shrubbery in the heart of a city is of far more sanitary advantage to the town-dweller than hundreds of acres outside of the city limits, which are not easy of reach. Within the city blocks much improvement may be effected by changing the rear of building-lots into gardens having low dividing fences or, better still, no fences at all. A recent sanitary improvement of the cities of New York and Brooklyn, which is worthy of mention, is the establishment of recreation-piers at the river-fronts. It is to be hoped that this will be followed by efforts to improve the water-fronts and the condition of public water-courses.

The sanitation of public wash-houses and steam-laundries, the establishment of disinfecting stations, and the sanitary questions involved in the disposal of the dead in large cities, are other sanitary problems attracting attention at present, but they belong more to preventive medicine than to engineering.

The work done in the last thirty years by State Boards of Health has been important and far-reaching. In the year 1849 the Massachusetts Legislature passed an act appointing three commissioners to prepare for a sanitary survey of the State. Their report, largely gotten up by Mr. Lemuel Shattuck, a public-spirited citizen of Massachusetts, called attention to the awakening of sanitation in England, but was received with general apathy. Twenty years later, in 1869, the first State Board of Health was established in Massachusetts, and Dr. H. I. Bowditch was made its first president. The first report of this Board was issued in 1870, and ever since its annual publications have been eagerly sought by sanitarians and sanitary engineers. In Michigan a State Board of Health was created in 1873, in New York State in May, 1880. At this time but very few of the States of the Union are without such a useful institution. Much matter of permanent value to sanitary engineers is found in the annual reports of these Boards of Health. I have already mentioned the valuable results achieved by the Lawrence Experimental Station, established in Massachusetts, and in October, 1886, a State Laboratory of Hygiene was established by the Michigan State Board of Health.

In 1866 a city Board of Health was created in New York City, and to-day nearly every city or town has its Board of Health, whose labors are devoted to the cause of town sanitation. A valuable feature of these labors consists in the preparation and publication of vital statistics and of sanitary maps, profiles and diagrams exhibiting the relation between the location of old water-courses and the mortality in various city districts, of the relation which sewerage, density of population, meteorological conditions, etc., bear upon mortality, of the influence which the height of the ground-water has upon mortality, etc.

Valuable results have also been accomplished by Sanitary Commissions, such as the one appointed in England in 1855, during the war in the Crimea, and, in our own country, the United States Sanitary Commission of 1861.

In many cities of England, and in a few of those in the United States, sanitary protective inspection or assurance associations were formed for the annual inspection of dwelling-houses, and much good has come from their labors.

The recent introduction of sanitary science at the universities, and of special courses in sanitary engineering at the technical colleges, both in Germany and in the United States, is another step in the direction of sanitation. A great deal of good has likewise

¹ A paper by Wm. Paul Gerhard, Consulting Engineer for Sanitary Works, read at the meeting of the Brooklyn Engineers' Club, held on February 9, 1899. Continued from No. 1210, page 69.

been accomplished by the scientific and literary press, which is laboring indefatigably to establish and spread the knowledge of sanitary principles among both professional and lay men.

Our cities and towns are framing building-laws and sanitary ordinances regulating not only safe construction and protection from fire, but also healthful building-construction and healthful modes of living. The width of the streets, the height of the houses, the size and height of rooms, the position and number of windows, the details of heating and ventilation, of plumbing and sewerage, of prevention of dampness, surface-drainage, avoidance of defective gas-piping and others are now regulated by law.

In all engineering works the results attained by the expenditure of large sums are of immediate interest to the public. Statistics gathered in different countries give proof of the marked beneficial effects upon the public health of municipal sanitary measures, such as sewerage, water-supply, drainage, street-cleaning, etc. Some epidemics, which in former times appeared periodically, are now practically extinguished in certain sections of the country, and banished entirely from many cities. The decreased death-rates of cities, as shown by annual statistics, form the best evidence of the good influence of sanitary works.

Take, for example, the case of London: at different periods of history the death-rates were as follows: from 1660-79 the annual death-rate was 80 per 1,000; 1681-90, 43; 1746-55, 35.5; 1846-55, 24.9 and in 1871 the rate had come down to 22.6 per 1,000.

In Croydon, near London, the rate was as follows: 1848-55, 24.03 per 1,000; 1855-75, 19.56; 1876-80, 17.07.

In Brussels the death-rate in 1876 was 25 per 1,000 and in 1894, 18.1.

In Vienna the death-rate was: 1848-57, 42 per 1,000; 1878-88, 28.6; 1893, 24.3; 1894, 22.8.

In Buda-Pesth the figures were as follows: 1876, 41 per 1,000; 1892, 27.9; 1895, 24.4.

In Milan, Italy, the rate was 30 per 1,000 before 1880 and was reduced to 21 in 1894.

In Copenhagen the rate was in 1884, 24 per 1,000 and in 1894, 18.7.

In Stockholm, Sweden, the figures were: 1877, 28.7 per 1,000; 1884, 24.6; 1894, 18.3.

German cities present even more striking examples of the benefits derived from sanitation.

In Hamburg, for instance, in the period from 1838-44, before the sewerage system was introduced, the rate was 48.5 per 1,000. In the period from 1845-53, during the construction of the sewer system, the rate of mortality was 39.5; 1854-61 (the first eight years after the sewer system had been put in operation), 29.9; 1862-69, 22; 1871-80, 13.3.

In Dantzic the rate was as follows: 1863-68 (before sewerage), 38.4 per 1,000; 1869-71 (during construction), 34.6; 1872-80 (when sewer system was completed), the rate fell to 28.8.

Regarding deaths from typhoid fever, the following figures are instructive: The mortality in Munich from typhoid fever was, prior to 1859, 24.2 per 10,000 deaths; 1860-1865, when there was no sewerage, 16.8; 1866-73, when there was partial sewerage, 13.3; 1875-80, after sewerage system was completed, 8.7.

In Frankfort-on-Main the typhoid mortality was 8.7 from 1854-59, when there was no sewerage, and in the period from 1875-87, after sewerage was completed, the rate of mortality fell to 2.4 per 10,000.

To mention just a few examples from our own country: In St. Louis the annual death-rate in 1860 per 1,000 was 32, and in 1865-70 it became reduced to 20.

The City of Memphis had formerly a death-rate reaching as high as 109 per 1,000, and in the year 1897 its rate had been reduced to 23.56.

These examples might be multiplied, but the figures given are sufficient to prove the good results due to sanitation and sanitary measures introduced during the past fifty years.

CONCLUSION.

In conclusion, let me emphasize once more the fact that greater progress in municipal sanitation has been made in the last half-century than in all preceding centuries combined. My incomplete sketch has, I trust, served to indicate that whenever in any period of history civilization advanced some sanitary measures were carried out, and that whenever general culture and refinement declined sanitation became neglected. Civilization and sanitation are so closely allied that one cannot exist without the other. As an evidence of this progress, advanced sanitarians seem now to be agreed that the prevention of disease is the highest aim of modern medical practice.

Concerning the prospects of sanitary reform in this country, an encouraging feature is the ever-increasing interest taken by the press and by the general public in questions which have a bearing upon the welfare and health of communities, and in which engineers are so largely involved. The twentieth century will, doubtless, witness a still further advance in all the branches of work outlined in my paper.

The work of sanitary engineers is to a large extent unostentatious and inconspicuous, much of it being underground and concealed. Their plans, suggestions and ideas are often unpopular and not looked upon with favor, because they burden the community with heavy expenses and necessitate special taxes. But I am convinced

the day will come when sanitary works will be universally appreciated, and when sanitary engineers will be more generally honored and esteemed. I also venture to predict that in the coming century the memory of our school-children will not be taxed with dates of ancient wars and of battles in history so much as with dates from the history of civilization, of discoveries and inventions, and of the progress of civil engineering. And that will also be the day when nations will not seek glory so much in wars as in proudly showing the largest amount of those public engineering works which, by the amelioration of sanitary conditions, reduce preventible sickness and death in communities.

GLASS FOR PAVEMENTS.

JOHN C. COVERT, United States Consul at Lyons, sends to the Bureau of Foreign Commerce a report on new uses of glass. He says:—

"Early in October, 1898, a paving company of this city began laying on the Rue de la République a piece of pavement of ceramocrystal, ceramic stone, or devitrified glass. During the months of November and December of 1898, and thus far in January, 1899, this pavement has been driven over during all hours of the day and night. It has stood as hard usage as any pavement could be subjected to during that time, and is still in an admirable state of preservation.

"The glass, or ceramic stone, pavement is laid in the form of blocks, eight inches square, each block containing sixteen parts, in the form of checkers. These blocks are so closely fitted together that water cannot pass between them, and the whole pavement looks like one large checkerboard. Like all thoroughfares in France, the road-bed slopes gently to the walk on each side. Some of the edges of the checkers have been broken off during their three months' service. I counted twenty of them that have been slightly chipped on the edges. It is contended, and I think with justice, that this does not argue against the value of the material as a pavement, and that any kind of stone would have suffered just as much or more in the same time.

"I visited the Ceramo-Crystal Manufacturing Company's works yesterday, at the suburban village of Demi-Lune, about six miles from Lyons. The factories cover nearly 8,000 square yards of ground. Work is now stopped in them while additions are being made to the buildings in the shape of second stories. In the yards are many tons of broken bottles, which the superintendent told me was their 'raw material.' On the four sides of a large brick smoke-stack are specimens of ceramo-crystal for buildings and interior decoration, some of the pieces as smooth as highly-polished marble, others being rough, like cut-stone, and still others having a surface like common brick.

"The advantages attributed to this ceramo-crystal by the manufacturers are: As a pavement, it has greater resistance than stone; it is a poor conductor of cold, and ice will not form upon it readily, dirt will not accumulate upon it as easily as upon stone, and it will not retain microbes; it is more durable than stone and just as cheap.

"The Central Architectural Society of France made a report recently on this ceramic stone, of which I give a brief synopsis: An officer of the society reported that he had examined a square, suitable as a pavement or floor for a stable, a court-yard or factory; a block imitating polished marble; a block imitating mosaic; and a panel with moulding and ornamentation. He said:—

"From the various forms in which this material is presented, its use can be readily determined for both practical and decorative purposes. On careful examination it is found that the Garchey ceramic stone is nothing but glass brought to a special molecular condition. In a certain sense it constitutes a new substance, which resembles flagstone, granite or marble. The manufacturer assures us that with this material he can copy any model that is presented.

"This new product is obtained from broken glass heated to a temperature of 1,250 degrees and compressed in matrices by hydraulic force. The physical transformation of glass is due to devitrification under the Garchey process. The phenomenon of devitrification produces a sort of dissolution more apparent than real; for, upon chemical analysis, the devitrified glass preserves the identical composition of natural glass.

"It may be said, then, that devitrified glass possesses all the intrinsic qualities (physical and chemical) of glass, except the transparency, while taking on an entirely different aspect. Furthermore, glass treated under this new method is made to resist crushing, frost and heavy shocks, and to stand usage."

"This subject is being discussed in the press and is receiving general consideration. An elaborate and exhaustive article in the *Revue des Deux Mondes* for November treated the question under the heading 'A Glass House,' the writer asserting that a large house constructed entirely of glass would be an attractive feature of the coming World's Exposition in 1900. He said that glass could be used for tubes, pipes, vats, tiles, smoke-stacks for factories, and for buildings. Double glass walls in a house would admit of the circulation between them of cold or warm air, thus regulating the temperature. 'As to the resistance of such a structure, it would certainly be equal to that of the most solid houses of the day, . . . and it is lighter and less expensive than brick.' 'The Garchey glass-stone had hardly come into existence before a method of using it, both simple and inexpensive, was revealed by the device of the American inventor Golding.'

"The glass house, or the luminous palace, which it has been

decided to build on the grounds of the 1900 exposition, parts of which are now being constructed, is thus described by the writer last quoted:—

"The principal façade, in the form of an immense portico, its roof surmounted with spires and with a winged statue representing Light, will be supported by heavy columns. The ground-floor, reached by a double flight of stairs, will be used as a great exposition-room. To the right and left will be large glass basins, overhung by grottoes of glass. In the interior of the hall will be five large openings, in which will be represented the five divisions of the globe."

WINTER EXHIBITION AT THE NEW GALLERY.¹—II.

THE opening exhibition of the Grosvenor Gallery in 1877 was a revelation to the general public of Burne-Jones as an artist of rare originality. While the friends who had watched his career marked with pleasure his mastery over earlier difficulties, others said, with *Punch*, "Here be Lunacies. Burn Jones!" but laughter is a safe refuge for dullness that does not understand; and it never provoked in him any strong feeling of resentment. Among the eight works he then exhibited was "The Days of Creation," a subject originally designed by him for the upper lights of a church tower in Northamptonshire to represent the vision of Paradise seen by the three young Jews in Nebuchadnezzar's furnace. The picture—a water-color—is in six panels, 40" x 14" each. In each panel is an angel, on whose brow the Creative Spirit is symbolized by a small tongue of flame, holding a crystal globe on which is apparently reflected the work of the day. Each angel is accompanied by the preceding one, so that in the last panel the entire six are grouped together. In that of the first day, light and darkness alone are seen, and the angel standing amidst vague surroundings has six wings of a dull gray. The second shows the blue firmament, with land, water and mist; in the third globe, trees and forest glades, with foliage around the angels, at whose feet spring tiny herbs and flowers. The heavenly bodies are depicted in the fourth panel, and the colors of both robes and wings of the angel, which have gradually become more brilliant, are most harmonious. Animal life, created on the fifth day, is expressed by a perfect whirl of birds—large, white-winged sea-fowl, and myriads of tiny birds of the air. On the sixth day Adam and Eve stand side by side, and, behind them, laden with fruit, is

"That forbidden tree, whose mortal taste
Brought death into the world, and all our woe,
With loss of Eden,"

while near the feet of Eve lurks the beguiling serpent. In the foreground, the seventh day—the day of rest—is symbolized by a seated angel, playing on a many-stringed instrument, who is crowned with roses, and rose-bushes are around her. Is the sad solemnity in these angels' faces caused by a forecast of all the tragedies of which the globe was to be the theatre? The idea might well be in the mind of so thoughtful a painter; or was it merely the long-enduring influence of Rossetti and his sad-eyed models?

The picture is lent by Mr. Alexander Henderson, who purchased it at the famous W. Graham sale for £1,372.

The above is only one of several series of paintings chiefly illustrating legendary lore either from Chaucer or Geek mythology, both of which possessed a great charm for Sir Edward.

Mrs. Wm. Graham lends "The Sleeping Beauty," a small series of three, painted in 1871; but decidedly finer is the single picture of the "Sleeping Princess" on a couch, her robe, and covering of thin muslin both embroidered in the Egyptian style. The face and figure are excellent. This charming water-color, 38" x 58", inscribed E. B. J. to M. J. M., 1886-1888, was the artist's gift to his daughter, Mrs. MacKail, by whom it is lent.

The seven large oil paintings, illustrating the story of "St. George and the Dragon," are lent by Mr. Sidney Goldmann—the African Ceresus. In the first of these, "The Petition to the King," one is struck by the resemblance of the chamberlain to Dante, and also by the white cotton caps with strings, precisely like those worn by the Doges of Venice. The entire set possesses great spiritual and pathetic beauty. They were painted as decorations for the country-house of Birket Foster and sold on his death, since which Sir Edward bestowed a few renovating touches. The Right Hon. Arthur J. Balfour is the fortunate owner of the six works representing "The Perseus Myth." It may be here noted that an old friend of Burne-Jones writing in the *Nineteenth Century* says the painter was greatly interested in the above myth. "He pointed out its large preponderance in Greek astronomy. Cassiopeia, Cepheus, Perseus, Andromeda fill up a much larger portion of the heavens than could be accounted for by their prominence in Greek myth."

Of these six pictures, one is erroneously stated to be exhibited for the first time—it was in the *Salon*—and one is unfinished. The former, "Perseus with the Graie," constitutes one of the most important scenes. These three sisters of the Gorgons had only one eye between them. Perseus stole this eye while they were sleeping and refused to return it until they told him where the Gorgons lived. This painting shows the Graie seated on the ground, and Perseus leaning forward holding the eye. In the unfinished canvas, "Perseus and the Sea Nymphs," Perseus is receiving from them the helmet of invisibility, the winged sandals, and the bag to contain the head of Medusa.

The original sketch in oils for "The Graie" is a wonderful monochrome in grays, with no less wonderful drapery. Painted in 1880; it is lent by Mrs. Benson, who also lends the splendid and famous "Depths of the Sea"—the only work Burne-Jones exhibited at the Royal Academy—and "Love among the Ruins," the first rendering of which in water-color was lost in 1894.

The four well-known pictures of "Pygmalion and the Image" received at the Craven sale in 1895 one bid, and one only, of £3,675; they were sold in 1898 for £2,940 to Mr. Middlemore, and are at the New Gallery.

Burne-Jones was just recovering from a severe illness when he began the magnificent work, which is probably his finest, "King Cophetua and the Beggar Maid," the story of which is taken from an Elizabethan ballad:—

"But marke what hapned on a day,
As he out of his window lay,
He saw a beggar all in grey,
The which did cause him paine.

* * * * *

"The beggar bluseth scarlet red
And straight againe as pale as lead,
But not a word at all she said
She was in such amaze.

"At last she spake with trembling voyce,
And said 'O King I doe rejoyce
That you will take me for your choyce,
And my degree 's so base.'"

The elaborately wrought black armor and shield, and the plates of beaten gold on the throne, are fine examples of technical skill; while the figure of the king, in the virility and intense though subdued passion by which it is distinguished, is noteworthy from the comparative rarity of these qualities among this artist's male types. The king has humbly laid his crown at the feet of the maid seated on the purple cushions of the throne. The devotion in his gaze and her modest beauty have a fascination that will cause this picture to linger in the memory. It was the first work of importance which reached Paris from the painter's easel, and was received with enthusiasm at the Universal Exhibition of 1889, where it occupied the post of honor and gained a high-class medal. It is the property of the Earl of Warnecliffe, was painted in 1884, and the size is 53" x 115". A full-size cartoon in colors was made from this picture for Mr. W. Graham, and bought at his sale for 730 guineas.

For "The Wine of Circe" D. G. Rossetti wrote some lines so accurately descriptive as to justify their quotation here:—

"Dusk-haired and gold-robed o'er the golden wine
She stoops, wherein, distilled of death and shame,
Sink the black drops; while, lit with fragrant flame,
Round her spread board the golden sunflowers shine.
Doth Helios here with Hecate combine
(O Circe, thou their votaress? to proclaim
For these thy guests all rapture in Love's name,
Till pitiless Night give Day the countersign?"

"Lords of their hour, they come. And by her knee
Those cowering beasts, their equals heretofore,
Wait; who with them in new equality
To-night shall echo back the sea's dull roar
With a vain wail from passion's tide-strewn shore,
Where the dishevelled seaweed hates the sea."

In this undoubted masterpiece the saffron-clothed figure of Circe admirably expresses the character of the handsome witch, for whom no sad-eyed dreamer posed. With panther-like tread and stealthy grace she leans forward, and, holding at arm's-length the phial, lest its fumes should injure herself, drops the thick poison into the bowl. Every article in the room and every fold of her drapery has a meaning. A critic says of the black panthers: "He could not have got them except by dipping a cat in ink!" This wonderful painting was begun in 1860, when the artist "was still more or less timidly tentative, but was finished as late as 1869-70, when he had attained to a stage of brilliant experimentalism." Sold at the Leyland sale for 1,350 guineas.

Hung as it is between "Fortune's Wheel," a study in brown, gray and flesh, and "Cophetua," a blending of many rich but subdued tones, the vivid coloring of "Laus Veneris," one of Burne-Jones's most brilliant works, cannot fail to be exceedingly attractive. A beautiful queen, pale and melancholy, leans back in her throne, her right arm thrown over her head, while the left hangs at her side; her crown rests on her lap, and she would seem to be saying, "I'm a-weary, a-weary." Four maidens seated before her are singing from an illuminated book "*Laus Veneris*," but do not dissipate her languor. Some knights in shining armor leaving or entering the castle pass the window of the room; one of whom gazes earnestly at the ladies, to whom he raises his helmet. The picture is full of brightness. The fair-haired queen wears a flame-colored robe, those of the ladies are of pure and lovely tints of peacock-blue, red, green and light terra-cotta, while over their fair hair are quaint Italian-looking caps. Behind, and to the right of the queen, stands a decorative screen on which are portrayed in gold and bright colors the birth and triumph of Venus. The setting-out of the subject forcibly

¹ Continued from No. 1210, Page 70.

reminds one of Browning's Statue and the Bust. The original water-color was begun in 1860-61, and, together with this large oil-picture begun in 1873, was finished in 1878. "The scheme of color might be relegated to the early sixties; the tapestry and the whole of the background is doubtless a conception of early date."

The "Chant d'Amour," one of the most popular of Sir Edward's works, was purchased by Mr. T. H. Ismay, at the Ruston sales, three weeks before the lamented death of the artist, for the sum of £3,360. At the William Graham sale in 1886, at Christie's, "it was received with tremendous applause; after a brief fire of bids it rose quickly to £3,000, and finally the hammer fell at the noble price of 3,152 guineas, amid loud applause." At the same sale the first design for this picture went for 500 guineas. As has been justly said, "Burne-Jones has been subjugated in this instance by the penetrating charm, the incisive realization of Florence, but in an equal degree by the glow and splendor of Venice. How well the picture illustrates his strange view of life and love!" A motto was taken from the refrain of an old Breton song:

"Hélas! je sais un chant d'amour,
Triste ou gai, tour à tour."

In the centre of the composition a girl clad in a white dress with purple sleeves is seen kneeling on a cushion in the midst of a flowery lawn, and playing on a regal, or *organ portatif*; Love, in a red dress edged with myrtle, is partly concealed by the instrument, of which he works the bellows; on the sword to the right of the lady, but more in front, reclines her lover, a knight in black armor, listening to the music, and gazing intently into his mistress's face. Wallflowers and tulips form one of those charming foregrounds the artist loved and painted so well. Across the meadow, at the back, rise the walls of a castle. To his wife's love for music, and particularly for the old French songs of the "*Echos du Temps passé*," may be traced the inspiration of this picture. This lady was Miss Georgina Macdonald, and is the sister of Lady Poynter and of Mrs. Kipling, the mother of Rudyard Kipling. The "Mirror of Venus," in oil, 48" x 78", is Venetian in style; but more exquisite harmonies, or finer contrasts of delicate, yet strong and vivid, color were never achieved even by the Venetians. A group of maids have approached a clear pool nearly covered with water-lilies and fringed with forget-me-nots. The beautiful Venus in classic draperies alone stands; her companions are kneeling, and surveying themselves in the water; these reflections give us that multiplication of faces and eyes by which the delicate and mysterious sense of expression is strengthened. More variety in countenance than is usual with Burne-Jones is noticeable in the picture. Behind the group is a charming vista opening out between hills of the richest coloring. The increasing popularity of this painting can be judged by the fact that while in 1892 it sold for £3,885, it realized at the Ruston sale, in May, 1898, £5,722 10s.

The quartet of water-colors, "Spring," "Summer," "Autumn" and "Winter," purchased at the Leyland sale for £1,207 10s. are the earliest examples of the artist's since-frequent practice of painting sequences of subjects, which was common among the greater decorative painters of earlier times. "Spring" shows his sympathetic adaptation of the scheme of color to his subject. She holds a branch of blossoming hawthorn and is dressed in the palest green—to which a yellow curtain forms an appropriate background. "Summer," standing amidst cool shadows, wears an astonishingly painted diaphanous robe of shining white. The harmonies and contrasts suggest the intense heat that *plein air* is capable of. "Autumn" is instinct with beauty and spirit; the single figure, standing in a glowing atmosphere of subdued colors and, clad in russets and red, suits the season perfectly. Flowers of the season form the foregrounds of these three pictures. Winter is distinguished by a chilly brightness. The graceful figure is clad in a black dress and dull-white cloak, the hood of which is over her head. She is reading a book, and warming her left hand at a fire. For each of these paintings Wm. Morris wrote a quatrain, which we append:

"Spring am I, too soft of heart
Much to speak ere I depart.
Ask the summer-tide to prove
The abundance of my love."

"Summer looked for long am I,
Much shall change or ere I die.
Prythee take it not amiss
Though I weary thee with bliss."

"Laden autumn here I stand,
Worn of heart and weak of hand;
Nought but rest seems good to me,
Speak the word that sets me free."

"I am winter, that doth keep
Longing safe amidst of sleep;
Who shall say if I were dead,
What should be remembered."

The imposing oil-painting the "Wheel of Fortune," 78" x 39", is lent by Mr. Arthur J. Balfour. The scheme of color is sombre, in keeping with the subject—steely gray, relieved only by the bronze of the wheel and the flesh tints. The large wheel forming the centre is wonderfully managed; to the left stands the heroic figure of the goddess. She wears an air of almost indifference as she keeps the wheel in slow and regular motion, by the light, yet steady pres-

sure of her left hand, while her right holds a mass of drapery, which, descending from her shoulders, is girt at her waist and flows thence voluminously to her feet. This drapery, for which many studies were made, consists of fold upon fold round arm, limb and shoulder and is, needless to say, excellent. Fortune's face, though inexorable, is not vindictive, her figure is exquisitely modelled and resembles a gigantic statue of gray and golden colored marbles. The solid wheel revolves on an invisible axis and is formed of bronze of one tone; its diameter is so great that it rises above the head of Fortune and descends below her feet. On its edge are extended three nude figures; the slave, who is uppermost, presses with his heel the crown of the king below him, and he in his turn crushes the wreath of bay worn by the poet, who is just going under.

The picture has been described as a superb illustration of Spenser's lines:—

"What man that sees the ever-whirling wheele
Of Change, the which all mortall things doth sway,
But that thereby doth find, and plainly feele
How Mutability in them doth play."

"The Beguiling of Merlin," the first of Burne-Jones's paintings from the Arthurian legends, depicts the white-haired wizard awaking from the sleep into which Vivien, or Nimue, had mesmerized him. He looks up with a helpless, dazed expression on finding himself "in an enchanted castle, a prisoner forever, and henceforth unable to aid Arthur," and in Tennyson's line,

"And lost, to life, and use, and name, and fame."

Vivien, who holds the book she has just stolen, appears astonished at the success of the nine-times-repeated spells. Her figure is the finer of the two. The landscape is filled with hawthorn in bloom.

Two very fine Scriptural subjects are the "Annunciation," lent by the Earl of Carlisle, and "Sponsa de Libano," from the Corporation of Liverpool. The former picture exemplifies the artist's imaginative fervor. In a court of a high-arched building, near a fountain from which she has drawn water, stands the Virgin, listening to the Angel Gabriel. Her charming intellectual face shows a certain amount of awe mixed with cheerful hope. The wonderful angel, with closed wings, floats down from a tree on the left, bending towards her. The picture is noteworthy for its harmoniously severe combination of upright and arching lines, the foliage contiguous to them, and the architecture with its emblematical carving representing the expulsion of Adam and Eve from Eden. This beautiful oil-painting, in which the hands and feet are most carefully drawn, is 98" x 44", and is dated 1879.

The second picture, "Sponsa de Libano," is a lovely water-color 61" x 127", one of the five illustrations of the Song of Solomon: "Awake, O north wind; and come, thou south; blow upon my garden, that the spices thereof may flow out," IV: 16.

The bride, a beautiful and thoughtful woman, is depicted walking in a garden, through which trickles a tiny stream. She is surrounded by tall white lilies, most magnificently painted. The upper portion of the canvas is filled by the whirling draperies of two figures, the north wind and the south, represented with open mouths, as if blowing.

Burne-Jones was a great delineator of Love under various conditions; indeed, his last projected work, 9' x 17', of which the design is exhibited, is entitled "The Triumph of Love." In connection with one of these pictures, "Love among the Ruins," which, with many others, must be passed, M. de la Sizeranne in his "*English Contemporary Art*" says: "At the very moment when Burne-Jones's picture was being admired in London crowds in Paris were pressing round M. James Tissot's picture at the Champ de Mars. His Christ in a cope, hustled between two wretches—exhibited amidst the ruins of a palace burned by the Commune—comforting them by the great sacrifice, the eternal pity; was not this, too, 'Love among the Ruins'?"

Unnoticed also must be the exquisite "Aurora coming dancing from the East," "Vesper," "Luna," reminiscent of Watts's "Hope," and also all the "Psyche" gems.

Marvels of composition are the four full-length symbolical figures of "Fides," "Spes," "Caritas" and "Temperantia." The artist's conception of "Hope" has evidently been derived from Hebrews, VI: 19. The ceiling of the apartment is sky-blue, and through this "veil" Hope stretches her hand, which, through the blue, has a deathly pallor, and may mean that only through the portal of Death can Hope attain fruition. She wears a pale-blue dress and holds a branch of apple-blossom, while about her feet are forget-me-nots; a small chain round her ankle is fixed to the corner of the room. "Temperantia" stamps out flames while pouring upon them water; not, however, from the mouth of the jar containing it, but, temperate in all things, through a small hole in the bottom. For this stately woman Burne-Jones made the first use of those elaborately folded and wrinkled draperies so characteristic of his later work. Apropos of folds, Ruskin in his "*Mornings in Florence*" says, "the multiplication and minute rendering of folds in drapery are always signs of idealism and mysticism." We also feel sure that the influence upon British art exercised by the Elgin marbles must have been immense during the seventy-five years they have been in the British Museum.

A recent writer tells us that "portrait-painting was never a congenial task to Burne-Jones. He grudged the time which might have

been spent upon a new romance, and was always conscious of a tendency to idealize the face before him, and make it approach more nearly to what it ought to be." Of the few charming portraits he painted, six are exhibited, the graceful and delicate full-length of "Lady Windsor" and a half-length of Miss Amy Gaskell (Mrs. Bonham), whose black dress is in sharp contrast to the dull white of the face and hands. When first exhibited, this portrait is said to have elicited exclamations of admiration from the most obstinate opponents. A lovely half-length of his own daughter, now Mrs. MacKail, depicts that young lady seated with her back to a mirror. She has beautiful eyes and a fine, open countenance. Full of fun and mischief is the little sprite of five, Mr. Gladstone's granddaughter, "Miss Dorothy Drew." The lifelike portrait of little "Philip Comyns Carr" is justly described as "the saddest and intensest portrait of a little boy ever painted," as he stands nervously knitting together his long delicate fingers.

Both at the New Gallery and the Burlington Fine-Arts Club are shown several of Sir Edward's countless studies. Those at the former gallery are lent for the most part by the executors, and are principally sketches for well-known paintings or for tapestry. The perfection of drawing attained by him was the result of unceasing and almost painful labor. Among the most characteristic and perfect examples of his work are the three exquisite designs in pencil for the Song of Solomon, admirable, whether as decorative designs or as specimens of the type of beauty which the artist had made his own.

That he did not always dwell on the serious side of art is seen by "Angela's Book," the "School for Dragon Babies," twenty-eight humorous drawings in pencil. Says the friend previously quoted: "It was perhaps the greatest surprise to those who knew him solely by his art to find him so full of humor with regard to the common affairs of life."

To the remark that the comic artist was greater than the serious one, because rarer, he replied, simply: "The man who can do serious work could also do comic if he cared; but he does not care."

Burne-Jones not only painted pictures; for the firm of Morris & Co., of which he was for many years a partner, he made innumerable designs for work in all possible materials.

Besides drawing above 600 cartoons for stained-glass, he made designs for tapestry, needlework, tiles and metal-work. Some of the tapestries exhibited are worked in brighter colors than the artist intended, judging from his designs; but they are intensely interesting, artistically, as well as being illustrations of the Legend of the Holy Grail, so entwined with the history of King Arthur. For all the knights of the Round Table having vowed they would see the Grail, departed in quest of it, despite the entreaties of the King not to leave him in his old age. Only three of these knights returned, and thus the order was decimated and the decline of Arthur's reign began.

We come now to the large work in which Sir Edward has embodied the very essence of Arthurian legend, "Arthur in Avalon," in oil, 11½' x 21'. On this painting he was engaged from 1880, and was working at it a few hours before his sudden death—it is not quite finished. Beneath the title the catalogue has the following motto and quotation:—

"Hic jacet Arthurus, rex quondam, rexque futurus."

"Some men say that King Arthur is not dead, but had by the will of our Lord Jesus Christ into another place; and men say that he will come again."

In the centre of a marble cloister Arthur lies stretched on a couch, under a canopy wrought with gilt plaques having designs from the history of the Holy Grail. At the head and feet of the King sit the three Queens who bore him to this Isle of Avalon (Glastonbury), there to be healed of his wound, and where he sleeps, awaiting the call that shall bring him back to his kingdom. In the front of the couch maidens are seated, with musical instruments; three squires hold the King's armor; other figures wait, silent and expectant. One holds the long ivory horn whose blasts shall break the mysterious spell; others, again, look out into the valley, awaiting the signal.

In the background are seen mountains, and a fringe of beautiful tulips and iris is in the immediate foreground. The artist has portrayed a truly kingly man; a subtle air of mystery pervades the entire composition, which is carried out in dull but not sombre tones, and strongly resembles a piece of tapestry.

On either side of this work is a portrait of Sir Edward; one by G. F. Watts, R. A., painted in 1870. This spiritual and pathetic reflection of his personality is the finest ever done of the deceased master. The present baronet, Sir Philip Burne-Jones, painted the other portrait of his father, at work in his studio, and looking worn and ill; it was painted in the year he died. "Great as he was in his art, he was equally great as a man, and those of us who had the honor and delight of knowing him with some intimacy can never hope again to meet one possessing so full a round of great qualities. Surely since Leonardo the world of art has never possessed a greater man than he." This is the testimony of one who knew Sir Edward Burne-Jones intimately for seventeen years.

ANOTHER ACOUSTIC FAILURE.—Prussia's new Landtag building at Berlin is a failure, the acoustic properties of the representatives' hall being so bad that speakers cannot be heard even in the front seats.—*Exchange.*

ILLUSTRATIONS

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

READING-ROOM: GENESEE VALLEY CLUB-HOUSE, ROCHESTER, N. Y. MESSRS. DU FAIS & CANFIELD, ARCHITECTS, NEW YORK, N. Y.

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

OTHER illustrations of this building were published in our issue for October 1, 1898.

MERCANTILE BUILDING FOR W. E. HUTCHINS, ESQ., BOSTON, MASS. MESSRS. GAY & PROCTOR, ARCHITECTS, BOSTON, MASS.

INTERIOR OF A BANKING-ROOM. MR. F. R. COMSTOCK, ARCHITECT, HARTFORD, CONN.

A COMPETITIVE DESIGN FOR THE "SHATTUCK PRIZE" FOR ARTISANS' HOMES [OPEN COMPETITION.] SUBMITTED BY MR. ROBERT COIT, ARCHITECT, 85 WATER STREET, BOSTON, MASS.

CONSTRUCTION.—The estimate of \$3.20 a square foot is ample for substantial and thorough construction, minimizing so far as possible the necessary allowance for depreciation and repairs.

The cellars would have cement floors and walls of local stone laid in cement-mortar, and would be so divided as to give separate cellar room to each apartment.

The first-story exterior walls would be of common brick 10 inches thick with 2-inch air-space. Each group of apartments would be separated by an 8-inch brick wall carried up to the roof.

The second-story exterior walls would be cement-plaster, the roofs shingled, and the outside finish cypress.

The interior finish would be kept at a minimum for sanitary reasons and would be of North Carolina pine throughout, and the floors rift North Carolina pine, the walls and ceilings plastered with adamant or other hard plaster, with Keene cement baseboards. Fire and vermin stops would be provided in partitions, etc.

The plumbing is planned to be simple, sanitary and open. The bath-rooms are so located that in most cases one main stack of waste-pipe will do for three apartments, and there would be no plumbing in the cellars. There would be eighteen sewer connections in all, and it would be only necessary to carry in from the street two straight 6-inch lines of sewer in the entrance roadways to manholes in front of the two four-apartment houses.

The first-floor apartments would be heated by furnaces in the cellars, the upper apartments by small hot-water heaters in the dining or living rooms. Coal closets are provided on the second floors, and there would be ash-chutes to the cellar.

The houses would be piped for gas.

Grounds.—The main roadways, sidewalks and front paths would be macadamized; the rear driveways and back paths made of gravel on a broken-stone foundation.

The land behind the houses is to be screened from the front by high fences and hedges, and divided into back yards for each apartment. These yards would be separated by wire fences sufficiently high to define accurately each tenant's holding. The expense of a high and tight fence around these yards would hardly be warranted, even if such a fence were likely to be desired by the tenants.

General Arrangement.—The scheme here presented endeavors to give each householder the maximum of privacy and independence consistent with the necessary limitations of cost, and the amount of land allowed.

What may be called the "typical unit" consists of a first-story flat, and over it two apartments with living-rooms in the second, and chambers and bath-room in the third story. This arrangement attains that economy in cost and ground-area that is characteristic of the ordinary three-flat house, while it has the distinct advantage of keeping the living-rooms of each apartment within one story of the ground. This is also a gain in quiet by confining the sleeping-rooms to the first and third floors. The two upper apartments are separated by their halls and stairs.

The main plate is high enough to give the third-story rooms 5 feet of height on the walls that are cut off by the slope of the roof, and there is sufficient loft above to protect them from the summer sun.

These units are combined into ten buildings, as shown on the plan, in an arrangement which gives ample space between the houses and allows each apartment an unobstructed outlook and excellent light and air.

Common Conveniences.—Besides the necessary approaches, the conveniences for common use are intentionally limited to the open court in the centre, and the two retired playgrounds for the children. This is done in the belief that a separate dwelling-place distinct and sufficient in itself would prove more attractive to the average artisan tenant, or to any one else, than one in which he was in any way involved with the life of neighbors not of his own selection, or at all restricted to methods of housekeeping not of his own choice.

The installation of separate plants for certain services, such as

electric light, gas, a water-supply from artesian wells, etc., might be economical and desirable, but the advisability of such an investment would depend so much upon local conditions that it is not included in this solution, except so far as to point out that one of the playgrounds might be utilized for any such purpose. The provision of such services would affect all solutions of the problem in substantially the same way, and so does not seem to be a determining factor in the question of how best to house the fifty families.

ESTIMATE OF COST.

The 50 households are to be accommodated in ten separate buildings, whose total area, exclusive of porches, is 22,460 sq. ft., the cubical contents from basement-floor to attic-ceiling is 797,330 cubic ft.

The cost of the buildings ready for occupancy, and including architect's commission, is estimated to be 9 cents a cubic ft., or \$3.20 a sq. ft.

At this figure the cost of the buildings would be..... \$71,872
The land at 15 cents a sq. ft. would cost..... 26,136
The roadways, paths, fences, sewers, grading, seeding, etc., are figured at..... 6,700

Making the total cost of the property..... \$104,808

To get a gross return of 8½ per cent a total income would be necessary of \$8,908. With this income, we can allow 3½ per cent for taxes, depreciation, repairs, insurance, vacancies, care and collections, and still have a net return of 5 per cent on the capital invested.

ESTIMATE OF RENTALS.

To secure a gross income of \$8,908 from the property the rentals would have to be fixed about as follows:—

\$15 a month for 18 first-floor apartments, each having 5 rooms and a bath.
16 a month for 14 six-room apartments with living-rooms on the second floor and chambers and bath on the third.
13 a month for 14 four-room apartments with rooms situated like the above.
17 a month for 4 seven-room apartments with living-rooms on the second floor, and chambers and bath on the second and third.

The yearly rental would be as follows:—

18 apartments at \$180.....	\$3,240
14 " " 192.....	2,688
14 " " 156.....	2,184
4 " " 204.....	816

Total rental of the 50 apartments.. \$8,928

The average rental would be \$14.88 a month.

PLANS OF THE SAME.

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

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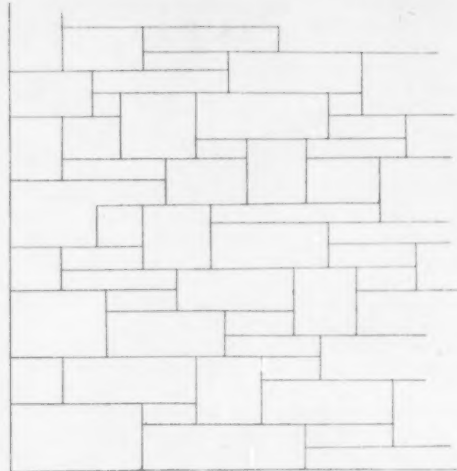
"THE FACE-BONDING OF BROKEN ASHLAR."

MADISON, February 28, 1899.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I read with interest the article on Broken Ashlar in your number of February 11th. As a practical workman, I have made this work a specialty, it may be of interest to you to know. I have studied it first hand, so do not have to depend on hints from others, good or bad. It is a subject seldom referred to. In all my experience with specifications, but once did I see any rules laid down for the guidance of the mason. The others were content with simply stating the fact that Broken Ashlar was the style, while a rough rubble-wall would get a long paragraph.

Shakespeare's suggestion in regard to work worth doing being "done quickly" applies with force to this subject. A proper knowledge of a few simple rules marks the difference of the swift, skilful workman from the slow bungler. The key to this work is the number three: three proportionate heights, three stones abutting each vertical joint, and each of the three sizes filling equal spaces in the



wall. The "riser" or "jumper," like the bass-note in a chord, gives the starting point; when this is secured, the harmony comes freely. The important rule is, distribute the "risers" evenly; if this is done and the rule of "two against one" observed there will be little trouble in the proper disposition of the work. It is important that the vertical joints should be out of line as far as possible, except in cases of jambs and corners. The observance of these simple rules will produce an effect that is pleasing to the eye, the balancing of parts being so harmonious that the mechanical arrangement melts in the background and the endless diversity of shading, made by the "rock face," is as picturesque as the foliage of the forest.

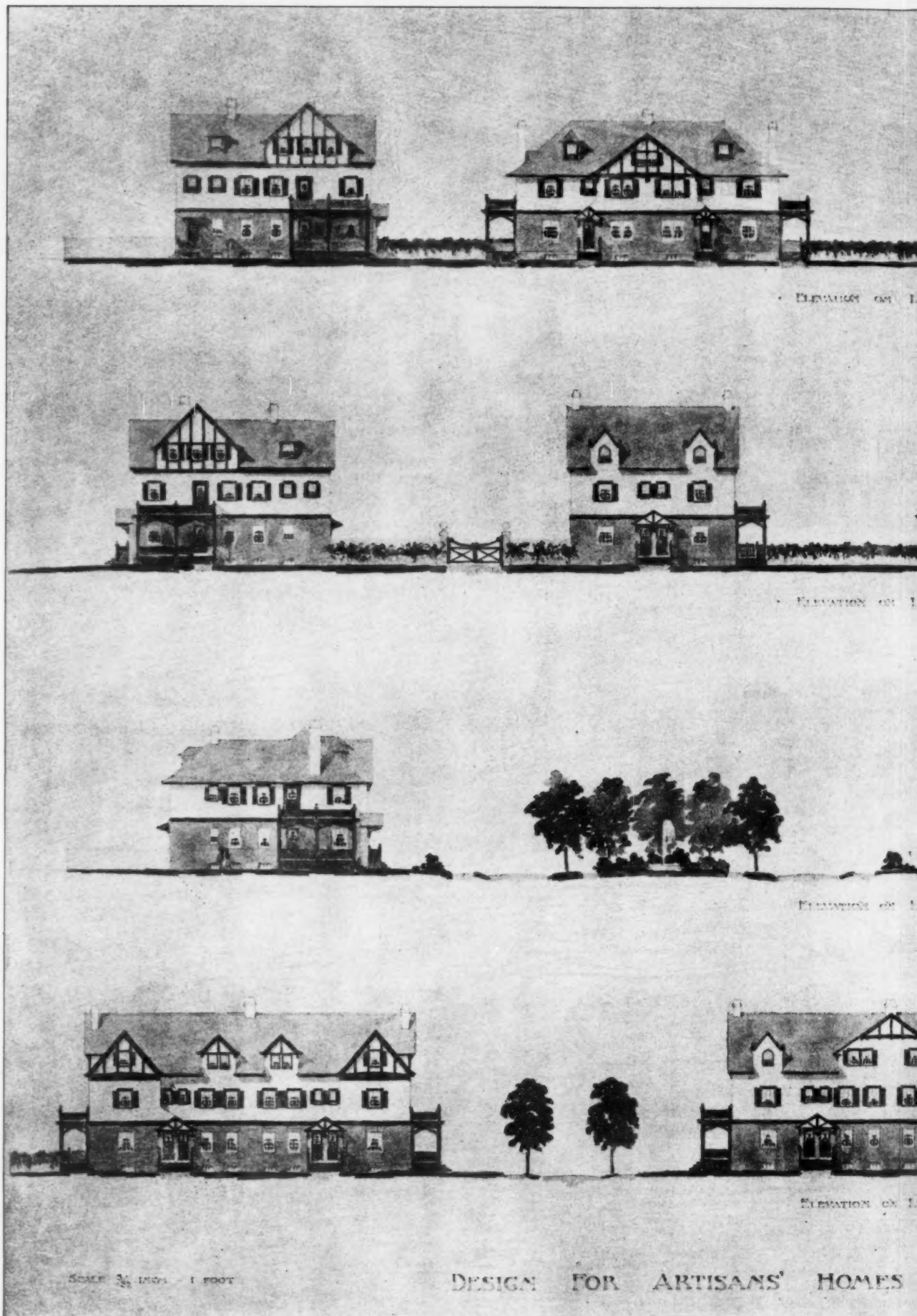
W. D. LEWIS.

NOTES AND CLIPPINGS

VITALIZING RESPIRED AIR.—An important discovery has been announced in the French Academy of Medicine by George Jaubert, who has been experimenting on how to supply air, or renew oxygen in air, for a man in a hermetically inclosed space like a diving-bell. The discoverer's hypothesis was that 79 per cent of the nitrogen contained in respirable air remains intact after 21 per cent of the oxygen has been consumed, and the same nitrogen mixed with a new supply of oxygen becomes respirable air when the carbonic acid and the vapor produced by breathing are removed. He found that his hypothesis was correct, and then discovered a chemical substance, which, by contact with the atmosphere, clears vitiated air of all impure gases produced by respiration and refurnishes automatically the requisite quantity of oxygen. He states that six or eight pounds of this substance will enable a man to live for twenty-four hours in a diving-bell. — N. Y. Evening Post.

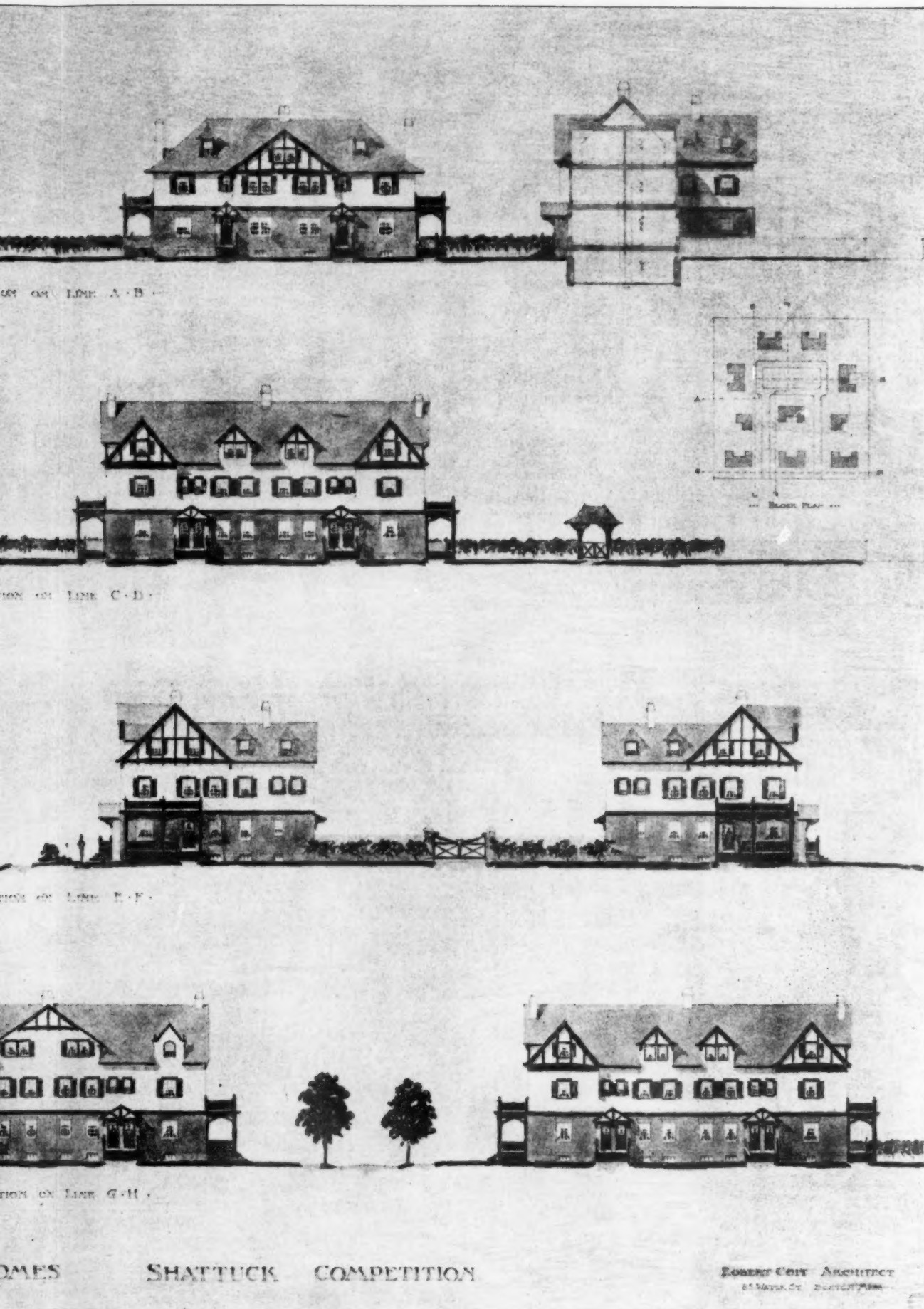
BARON ROTHSCHILD'S ART TREASURES.—In our issue of Friday last we were able to confirm the rumor that the late Baron Ferdinand de Rothschild had bequeathed to the British Museum all his principal works of art of Mediaeval and Renaissance date. We are now further enabled to state that the trustees of the British Museum, at their meeting on Saturday, the first since the Baron's death, accepted the bequest with its attendant condition, viz., that the collection is to be kept in a room by itself, to be called the "Waddesdon Bequest Room." The collection comprised in the bequest includes plate, jewelry, enamels, carvings in boxwood and bone-stone, Italian majolica and glass, a few important pieces of arms and armor, and bronzes. The word "plate" scarcely conveys to the ear the impression made by seeing the fine array of richly chased cups, tazzas, spoons, and other objects with which the princes and wealthy merchants of the sixteenth century used to garnish their tables, and of which there is here a goodly number. — London Times, January 16.

NATURAL-GAS EXPLOSIONS.—The recent fatal natural-gas explosion at Kokomo, Ind., wherein a residence at which a company of ladies was being entertained was blown up, has caused the alarming discovery to be made that hundreds of families are likewise in peril and likely to be blown up at any moment. It was found that people were living over a volcano, unaware of the danger they were in. During the summer gas from leaky mains naturally worked its way up through the soil and passed off harmlessly into the atmosphere, but in winter escaped gas cannot thus diffuse itself, but, by reason of the frozen ground, is confined below the frost, with no escape except into cellars, basements, water-wells, cisterns and caves, making them as dangerous as powder-houses or dynamite magazines. Striking a match or carrying a lamp into the cellar invariably results in an explosion. Warned by the recent appalling explosion, the people are ventilating cellars and basements, opening covered wells and cisterns, and taking every known precaution to prevent further disaster. — Boston Transcript.



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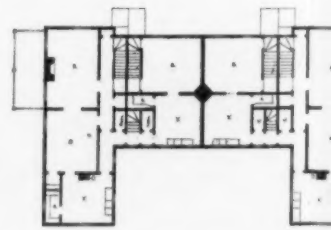
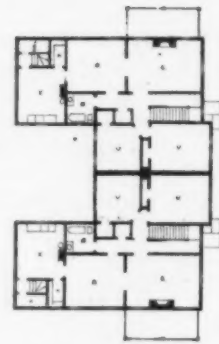
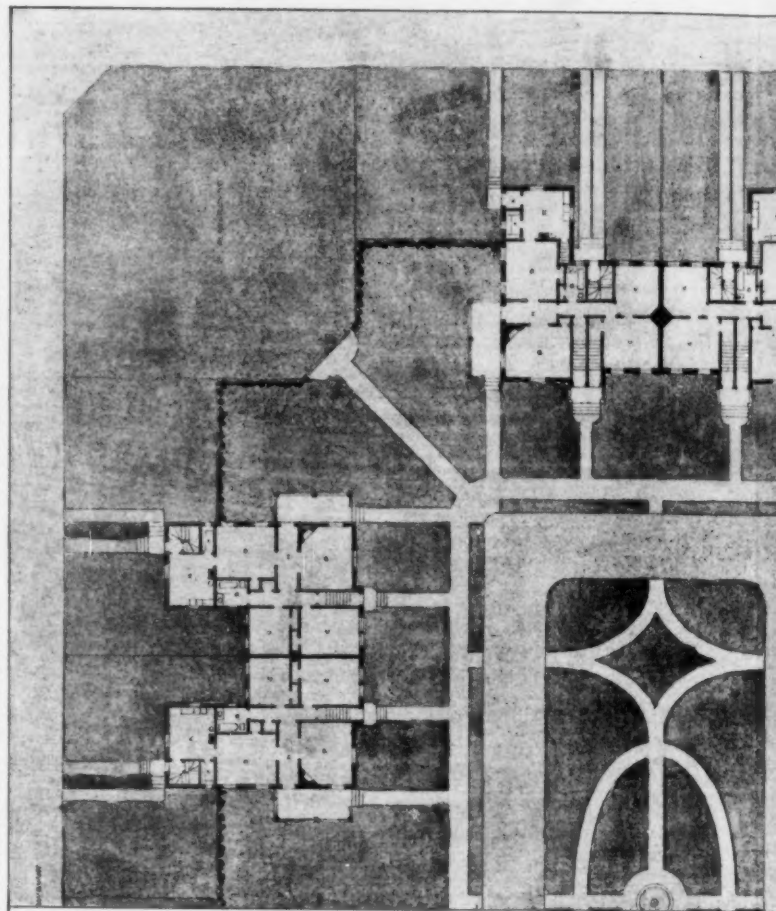
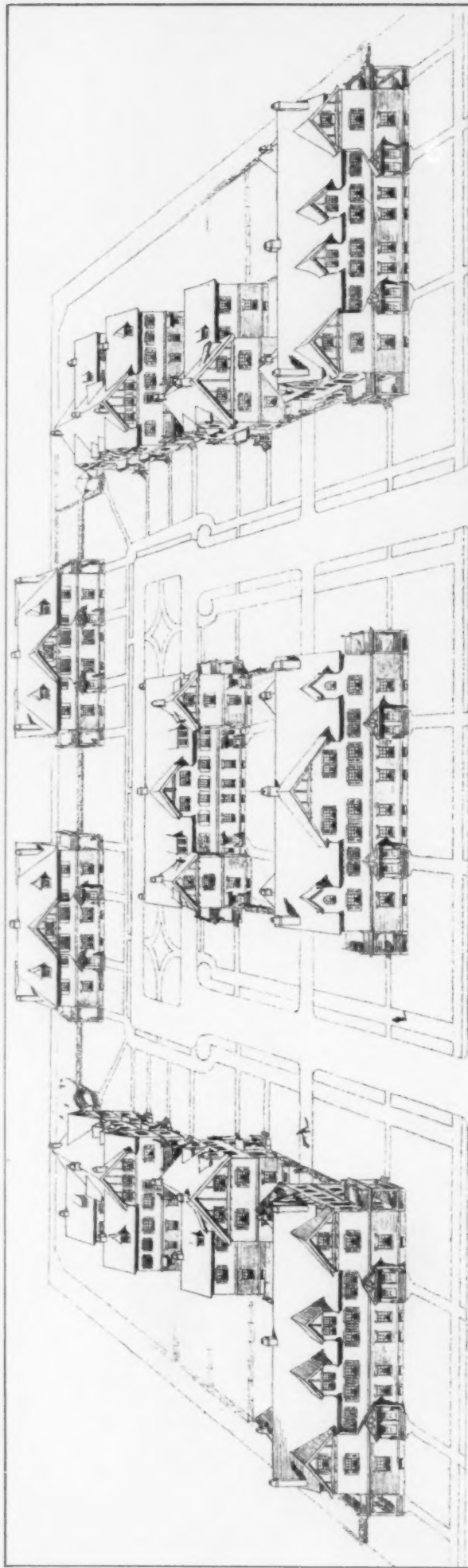


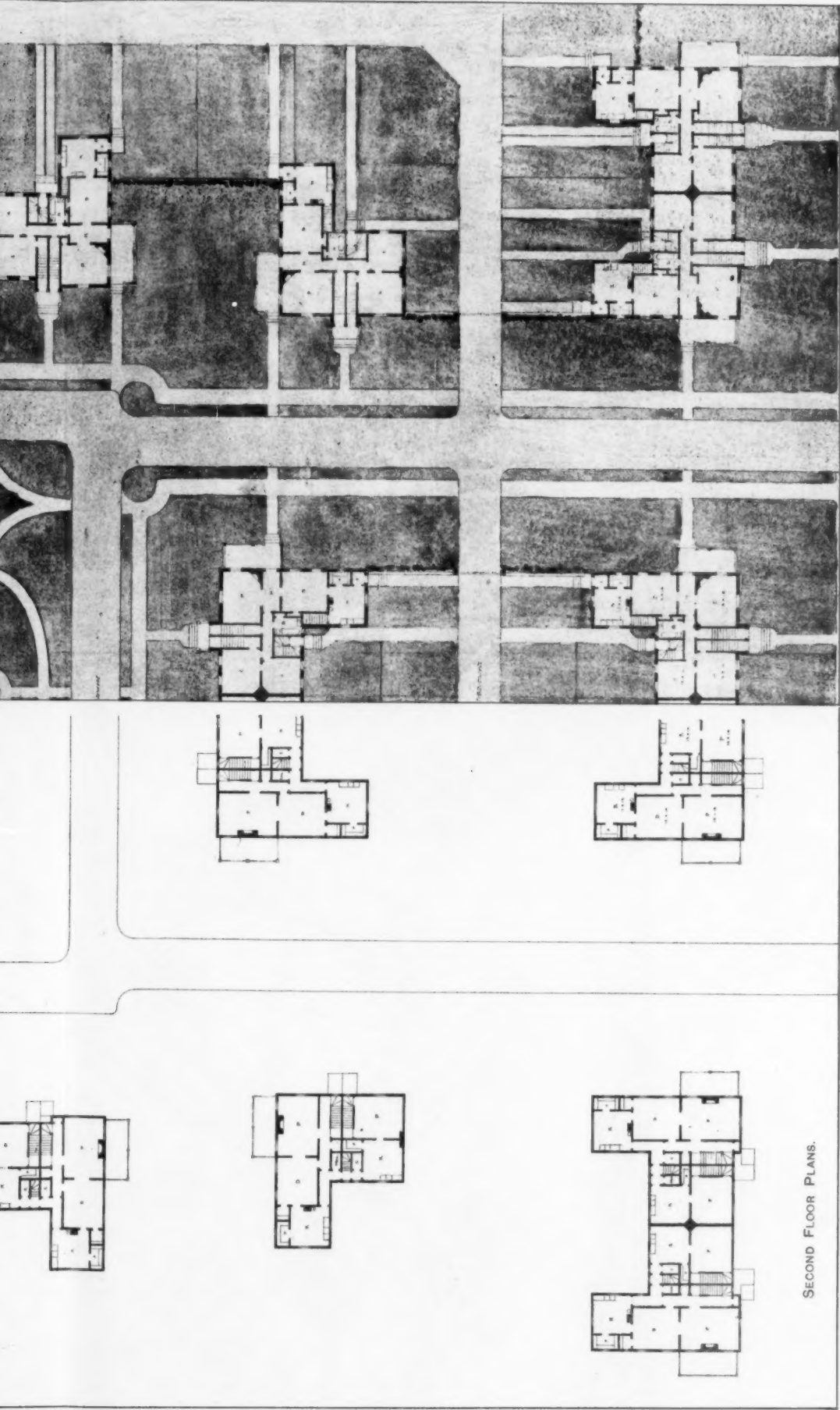
DESIGNS FOR ARTISANS' HOMES (OPEN COMPETITION).

ECT, 85 WATER STREET, BOSTON, MASS.

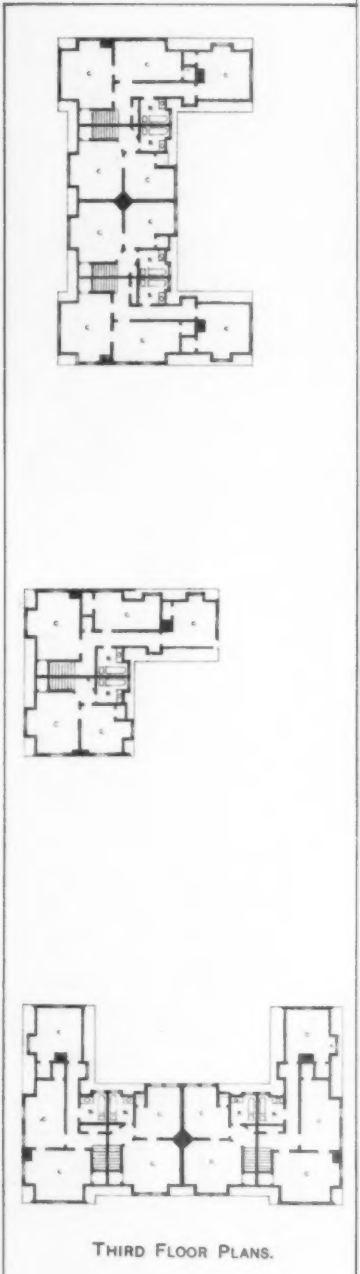
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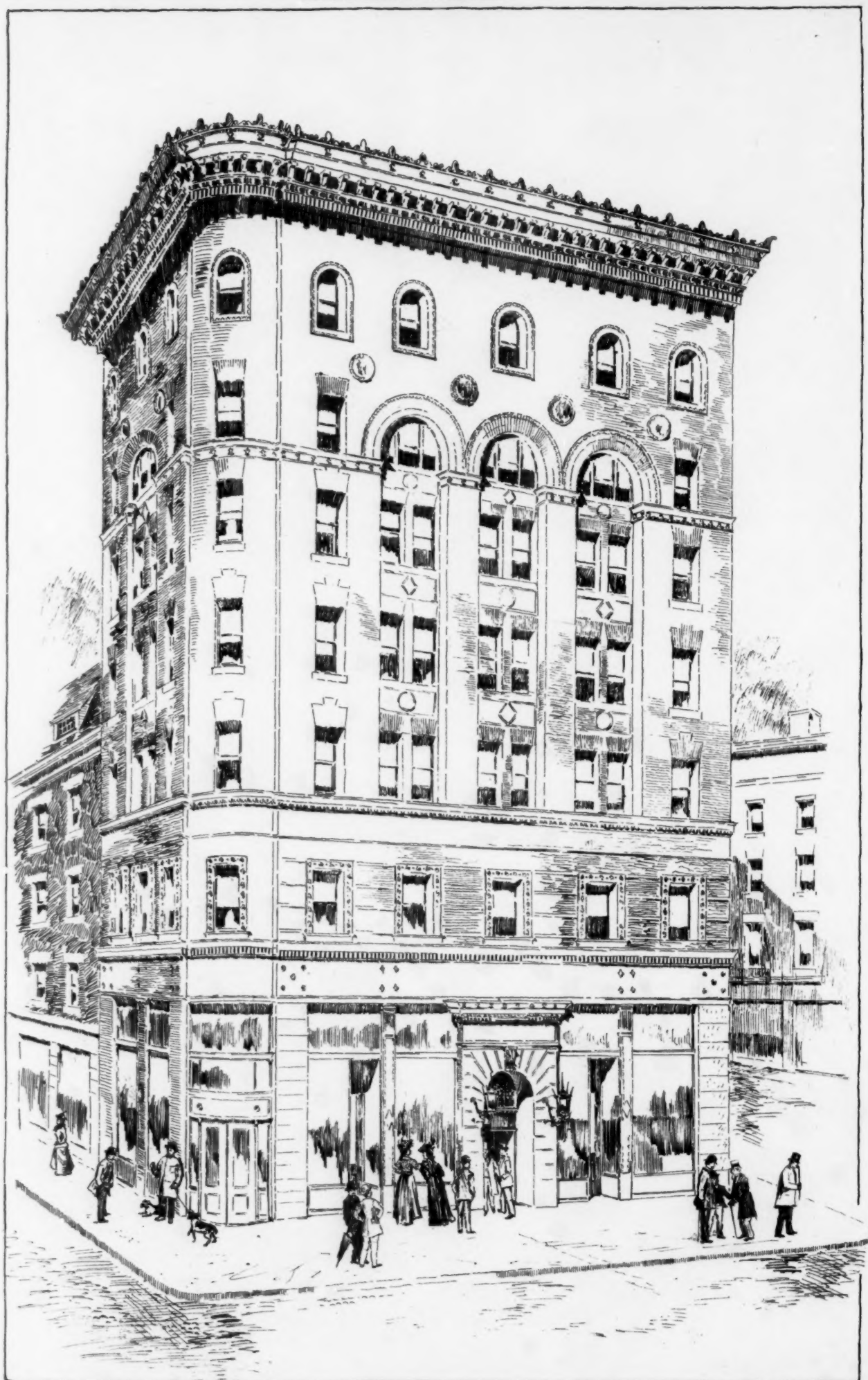


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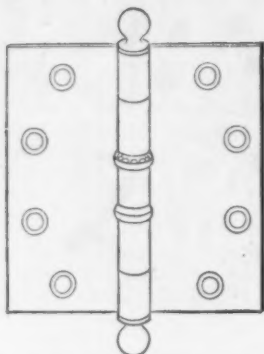
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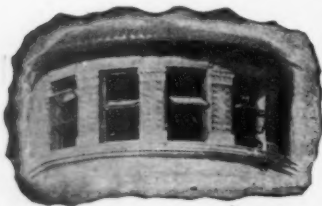
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Rubble.....	1 25 @ 1 50		9 00 @ "	1 45 @ 2 50
Sandstone:				
Longmeadow.....	80 @ 90			85 @ 1 05
Kibbe.....	90 @ 1 10			1 05 @ 1 25
Brown (Connecticut).....	1 00 @ 1 30		1 50 P cub. ft.	85 @ 95
Amherst Ohio.....	90 @ 1 00		45 @ 55	55 @ 75
Berea ".....	75 @ 1 00		45 @ 55	85 @ 95
Berlin ".....	75 @ 1 00		45 @ 55	1 00 @ 1 10
Belleville.....	80 @ 1 25		25 @ 1 35	1 05 @ 1 15
New Brunswick (Dorchester).....	1 00		75 @ 90	Not sold.
Potsdam Red.....	1 30		1 40	@ 1 55
Caen.....			2 00	@
Carlisle, English.....	1 05		1 05	@
Corse Hill (Scotch).....	1 05		1 05	@
Granite: (Maine)			80 @ 1 50	55 @ 65
Limestone:				
Bedford.....	45 @ 1 25		95 @ 1 00	20 @ 40
Joliet.....	1 00			@
Lemont.....				@
Serpentine.....				@
Bluestone: (P sq. ft.)				
Sidewalk.....	30 @ 5 00		40 @ 1 75	100 @ 1 25
Planned.....	50 @ 6 00		@ 75	1 00 @ 1 25
Marble: (P cu. ft.)				
Leo, Mass.....			1 75 @ 2 50	Not sold.
Rutland, white and blue.....			@ 3 00	3 50 @ 6 00
Sutherland Falls.....	1 25 @ 1 75		@ 2 00	3 50 @ 6 00
Glens Falls, black.....			@	Not sold.
Italian, blue-veined.....			@	@ 4 40
" Sienna.....			@	Not sold.
Tennessee, red.....			@	@ 4 40
" Knoxville.....			@	@ 4 40
Pennsylvania, blue.....			@	Not sold.
Vermont, white.....			@	3 50 @ 6 00
Slate: Roofing (P square)				
Green.....	5 00 @ 6 00		4 75 @ 5 25	3 75 @ 5 00
" unfading.....	5 00 @ 6 00		5 50 @ 6 50	5 25 @ 6 00
Purple.....	5 00 @ 6 00		5 50 @ 6 50	5 25 @ 6 00
Red.....	10 00		10 00 @ 11 00	10 50 @ 12 50
Black, Lehigh.....	4 25 @ 4 75		@	4 50 @ 5 50
" Chapmans.....	@		@	5 30 @ 6 15
Genuine Bangor.....	4 35 @ 5 50		4 75 @ 5 90	5 25 @ 6 50
Unfading black.....	6 00 @ 8 50		6 00 @ 8 50	4 25 @ 8 95
Yellow pine.....	5 50 @ 8 00		5 50 @ 8 00	5 50 @ 9 20
Tiles, Am..... P M.	@		@	Salt-glazed tiles
N. Peach Bottom, war. unfading	@		@	9" 8c. per ft.
Fire Clay Roof Tile on eas at fac.	8 00 @		8 00 @	6 00 @ 6 50
LUMBER.—P M.				
Boards: (Ordinary dimensions.)				
Pine, 1st quality, clear.....	65 00 @ 75 00		55 00 @ 70 00	50 00 @ 60 00
" 2d quality.....	55 00 @ 60 00		42 00 @ 50 00	42 00 @ 50 00
" 3d quality.....	18 00 @ 22 00		20 00 @ 40 00	20 00 @ 28 00
Spruce.....	@ 25 00		12 00 @ 18 00	Not sold.
Hemlock.....	20 @ 14		12 50 @ 14 00	10 00 @ 12 00
Yellow pine.....	20 @ 40		19 00 @ 35 00	18 00 @ 25 00
Cypress.....	@		26 00 @ 40 00	30 00 @ 35 00
Clapboards:				
Pine.....	@		35 00 @ 55 00	25 00 @ 30 00
Spruce.....	@		24 00 @ 35 00	Not sold.
Framing Timber:				
Pine.....	14 00 @ 16 00		14 00 @ 16 00	15 00 @ 25 00
Spruce.....	12 00 @ 16 00		12 00 @ 15 00	Not sold.
Hemlock.....	18 00 @ 21 00		19 00 @ 25 00	10 00 @ 15 00
Yellow pine.....	@		@	16 00 @ 25 00
Laths:				
Pine..... Round Wood	@		2 00 @ 2 50	1 90 @ 2 00
Spruce..... Slab.....	2 10 @ 2 25		1 80 @ 2 25	Not sold.
Shingles:				
Pine, shaved..... P M.	5 00 @ 6 00		@	Not sold.
Pine, sawed.....	4 00 @ 5 00		@ 4 50	2 60 @ 2 75
Spruce, sawed.....	1 50 @ 2 00		1 50 @ 1 75	Not sold.
Redwood..... P M.	1 40 @ 1 60		3 00 @ 3 75	4 00 @ 6 00
Cedar split.....	@		@ 6 00	Not sold.
Cedar sawed.....	@		2 00 @ 3 25	2 50 @ 2 90
Cypress, Split..... 7 x 36 "	18 00 @ 20 00		8 00 @ 6 00	@

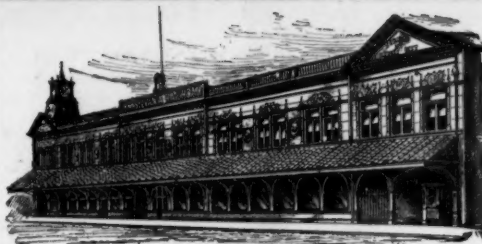
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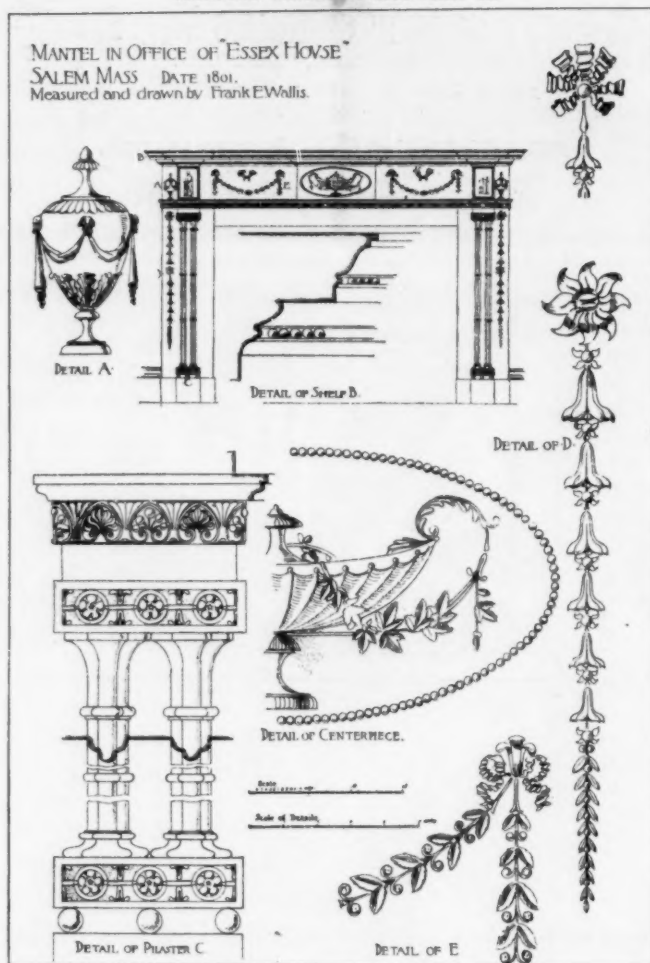
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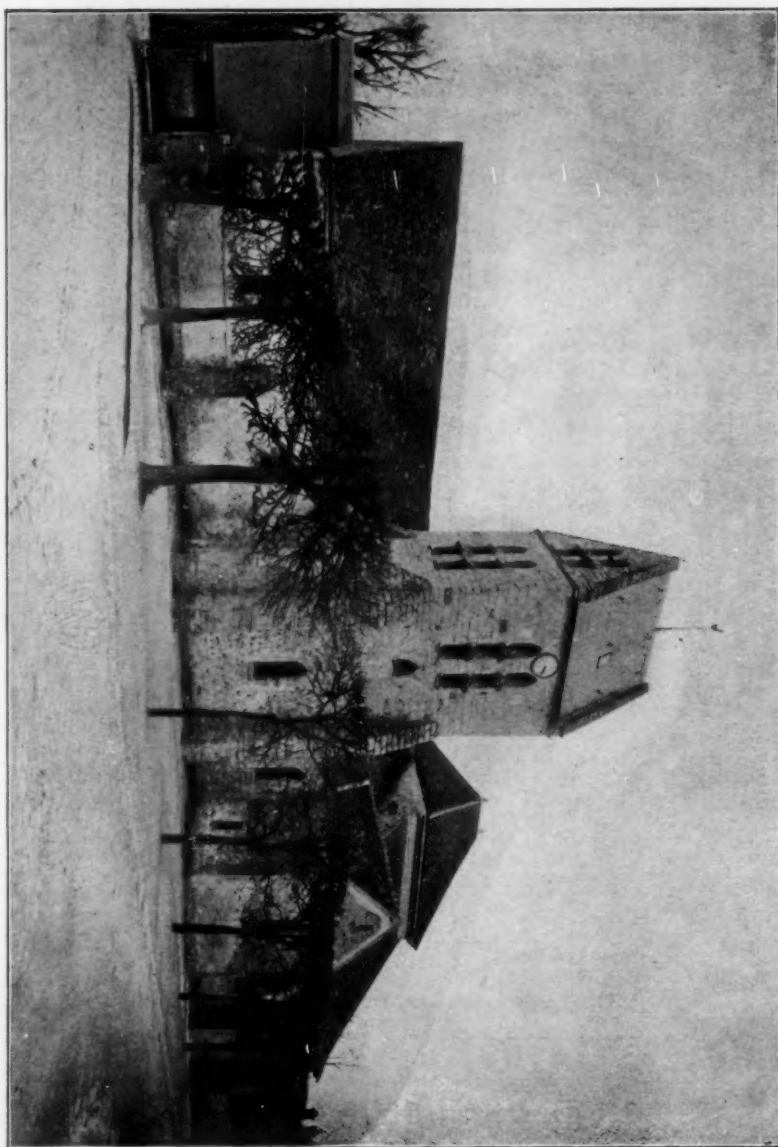
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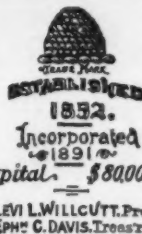
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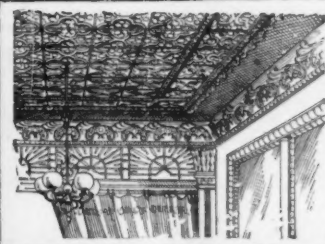
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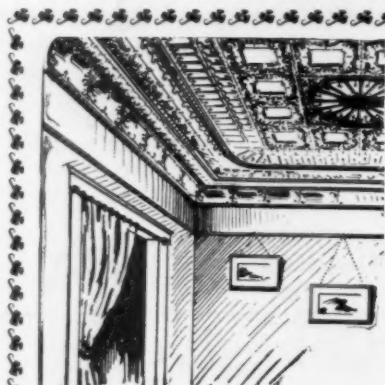
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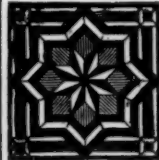
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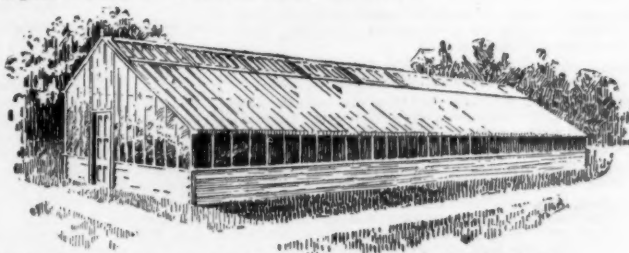
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620,114. METHOD OF AND APPARATUS FOR FIRE-PROOFING WOOD, ETC.—Joseph L. Ferrell, Philadelphia, Pa.
620,178. PROCESS OF AND COMPOSITION FOR CLEANING STONE.—Frank W. Prentice, Nelson, O.
620,187. FIREPROOF FLOOR CONSTRUCTION.—Frederick W. Settan, New York, N. Y.
620,199. SASH-FASTENER.—Martin P. Van Ryzin, Appleton, Wis.
620,212. HEATER.—Cornelius Barnhart, Walker Valley, N. Y.
620,231. APPARATUS FOR CLEANING WATER-HEATERS.—George J. Dehn, Iron Mountain, Mich.

BUILDING PATENTS.

620,245. PASSENGER-ELEVATOR.—John McLean, New York, N. Y.
620,263. VENTILATOR.—Lewis E. Wentworth, Jr., Merchantville, N. J.
620,293, 296. WINDOW-SASH.—John C. Fleming, Philadelphia, Pa.
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620,348. WEATHER-STRIP.—Barney Murphy, New Haven, Conn.
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620,352. OVERFLOW, VENTILATING AND DISCHARGE FITTINGS FOR CLOSETS.—Arthur O'Brien, Helena, Mont.
620,364. SAFETY DEVICE FOR ELEVATORS.—Louis W. G. Rolff, New York, N. Y.
620,376. LOCK.—Andrew J. Stoops, Chattanooga, Tenn.
620,377. LATCH AND LOCK.—Andrew J. Stoops, Chattanooga, Tenn.
620,383. COMPOUND FOR MAKING ARTIFICIAL STONE.—Hiram S. Utley, Austin, Ill.
620,446. MANUFACTURE OF STONE, ETC., FROM KIESELGUHR, ETC.—Carl Grünzweig, Ludwigshafen, Ger.
620,468. WINDOW-FASTENER.—Frank J. Lowery and Frank E. Billings, Fort Fairfield, Me.
620,481. ANCHORING DEVICE FOR BRICK WALLS.—Henry T. Moody, Newburyport, Mass.
620,489. SASH-PULLEY.—Charles H. Ocumpangh, Rochester, N. Y.
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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, espe-
cially from the smaller and outlying towns.]

ADVANCE RUMORS.

Anderson, Ind.—It is stated that the M. E. Society
proposes to build a \$30,000 church. A. A. Small
and C. S. Henry are said to be interested.

Atlantic City, N. J.—The City-hall Commissioners
will immediately take steps to erect a public build-
ing on the old site, at the corner of Atlantic and
Tennessee Aves.

Avon, O.—Plans have been prepared by H. J. Hanks,
603 New England Building, Cleveland, for a new
church for the Roman Catholic Society.

Baraboo, Wis.—Claude & Starck, Madison, have
prepared plans for a high-school building to be
erected here; cost, \$25,000.

Bedford, Ind.—The Methodist Society of this city
contemplate the erection of a \$40,000 church.

Bismarck, N. D.—It is said that the Governor has
approved the bill authorizing the issue of \$50,000
bonds for the erection of the additional buildings
at the State Insane Asylum.

Boise City, Idaho.—It is stated that a \$60,000
hotel will be erected here.

Boston, Mass.—Press reports state that the Board
of Estimate and Apportionment has set aside \$500,-
000 of the borrowing capacity of the City of Boston,
within the debt limit, for new primary and grammar
school houses to be designated by the School Board.
The School Committee has voted \$250,000 for
school-house repairs, etc., for the current year.
W. L. Morrison, 70 Kilby St., is preparing plans
for 38 dwellings on Beacon and St. Mary Sts.
The sale of about 500,000 square feet of land in
Dorchester has just been consummated by E. Bertram
Newton, who will have under his direction the
laying out of 2,400 feet of streets. The land fronts
on Blue Hill Ave., Morton St. and Lauriat Ave. A
number of lots have been sold and the building of
one and two family houses will soon begin.

Buffalo Grove, Ill.—A \$15,000 brick church for
the St. Mary's congregation is to be built from
plans by W. J. Brinkman, 86 Metropolitan Block,
Chicago.

Chicago, Ill.—It is stated that \$50,000 will be ex-
pended on improving the Michael Reese Hospital.
New heating and lighting will be supplied.

Dr. E. M. Rosekrans, will erect a four-story apart-
ment-house, 132' x 175', costing \$100,000, on the
corner of Ellis Ave. and 38th St., from plans by
Wm. F. Pagels, 637 Unity Building.

The Methodists of this place are to begin the
construction of a great hospital in the spring, at
the northeast corner of 25th and Dearborn Sts. It
is to be built by the Wesley Hospital Association.
The cost of the new building will be \$600,000.
Robert D. Sheppard, president of the Wesley Hos-
pital Board, pledged \$150,000 of the amount.

Sketches prepared by L. E. Stanhope, 1201 The
Temple, have been accepted for the Lexington
Avenue Baptist Church.

Crete, Neb.—It is stated that T. H. Miller will
erect a modern residence at a cost of \$10,000. A
\$2,000 barn will also be built.

Daleville, Ind.—Plans have been drawn by Wm.
S. Kauffman, Richmond, for an eight-room brick
school-building to be erected here, to cost about
\$15,000.

The School Board is stated to have decided to
build a \$15,000 school. C. Holinger, Trustee.

Deerfield, O.—It is stated that a \$10,000 school
will be erected.

Detroit, Mich.—Report states that two 12-room
schools are to be built, costing \$70,000.

Dorchester, Mass.—The Baptist City Missionary
Society will erect a chapel on Lauriat Ave., near
Blue Hill Ave. It is to be a frame structure with
a seating capacity for 300, and will cost \$4,000.

Dothan, Ala.—R. L. Jones, of Atlanta, Ga., is pre-
paring plans for a \$15,000 school-building to be
erected. It will be constructed of brick, with tin
roof, and will have hot-blast heat.

Duluth, Minn.—It is stated that the Northern
Pacific R. R. will spend \$200,000 in and about this
city the coming summer. About \$50,000 of this
will be spent on the 7th Avenue Dock.

Fort Worth, Tex.—The Thompson Construction

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Co. of St. Louis, Mo., is stated to have received
the contract to build the station for the Texas &
Pacific Railway Co.; estimated cost, \$125,000.

Green Bay, Wis.—It is estimated that it will cost
\$600,000 to complete the reformatory. An approp-
riation of \$150,000 has been asked this year to
complete the north cell wing.

Grinnell, Ia.—Liebbe, Rasmussen & Nourse, of
Des Moines, have completed plans for a hotel build-
ing to be erected here by L. I. Capron, at a cost of
\$15,000.

Huntsville, Ala.—Reports state that the Merri-
mac Manufacturing Co., of Lowell, Mass., will
erect a large cotton-mill of 200,000 spindles at this
place, to cost about \$250,000.

Iowa City, Ia.—It has been voted to erect here a
\$90,000 Court-house and \$10,000 Jail.

Long Branch, N. J.—It is stated that a new paro-
chial school will be built here by the Star of the
Sea Church; cost, \$30,000.

Lowville, N. Y.—This town will erect a \$20,000
town-hall.

Marquette, Mich.—An appropriation of \$25,000
has been made by the legislature for the erection
of a Normal School in this city.

Milwaukee, Wis.—The Pawling & Harnishfeger
Co. has had plans prepared by C. J. Ringer for a
three-story brick addition to its factory on Oregon
St.; cost, \$25,000.

Minneapolis, Minn.—Report states that I. R.
Beery, 416 Bank of Commerce Building, has let
the contract for erecting his flat-building on Mary
Pl., between 12th and 13th Sts., and work will begin
at once. Henry W. Orth, architect; cost, \$35,000.

W. B. Dunnell, architect, has drawn plans for a
branch telephone station to be erected in southeast
Minneapolis for the Northwestern Telephone Ex-
change Co.; cost, \$10,000.

Monroe, La.—The plans of J. W. Gaddis, of Vin-
cennes, Ind., have been accepted for a high school;
cost, \$25,000.

Mt. Vernon, Ia.—Plans are being prepared by Geo.
Kramer, 1 Madison Ave., New York, N. Y., for a
new church, to be erected by the Mt. Vernon Metho-
dist Episcopal Society. It will be constructed of
stone, one-story and basement, with slate roof,
steam heat. The estimated cost is \$25,000.

New York, N. Y.—Robt A. Chesebrough, Pres.
Chesebrough Mfg. Co., is to erect a twelve-story
fireproof office-building on State St.; estimated
cost, \$600,000.

North Washington, Pa.—It is stated that a \$20,000
school will be erected here.

Omaha, Neb.—Chas. E. Ford will erect a residence
and barn at 36th and Farnam Sts.; cost, complete,
about \$10,000.

Orange, Mass.—It is proposed to build a \$15,000
addition to the high-school building which was
erected 20 years ago at a cost of \$25,000.

Pittsburgh, Pa.—The United Presbyterian con-
gregation of Turtle Creek proposes to erect a new
church this summer on the site of the present
structure on Church St., to cost about \$20,000.

Topp & Craig, 530 Bissell Block, are preparing
plans for an eight-story brick and stone building,
67' x 112', for Mrs. Amy Hostetter Du Puy; cost,
\$60,000.

The Carnegie Steel Co. will build an annex to its

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

office-building, to be 16 stories high, 120' x 120',
built of brownstone and pressed-brick; cost, about
\$500,000.

It is said that the School Directors of the 27th
Ward have accepted plans for a \$50,000 school, to
replace the Brashear School, recently burned.

Plainview, Minn.—Koenig Bros. have had plans
prepared by H. C. Gerlach, Mankato, for a business
block; cost, \$18,000.

Providence, R. I.—It is stated that plans have
been prepared for a \$17,000 edifice for the Globe
Congregational Church. E. O. Ronian, Chmn. Bldg
Com.

Racine, Wis.—It is stated that plans have been
adopted for a \$20,000 school, also a \$14,000 addition
to the 6th Ward School.

Rupert, Pa.—It is reported that the Reading Rail-
way Co. will replace the wooden bridge across the
Susquehanna River by an iron structure, with 9
spans of 158' each; cost, \$85,000.

San Luis Obispo, Cal.—It is stated that the Senate
has passed a bill providing for the establishment
of the California Polytechnic School in San Luis
Obispo County. An appropriation of \$100,000 was
made for the work of construction.

Spokane, Wash.—Work has been started on a
three-story block to be erected by Col. W. M. Rid-
path; cost, \$40,000.

Steger, Ill.—Steger & Co., piano manufacturers,
will erect a three-story factory, 135' x 160', costing
\$25,000, at this place from plans by Fred. Ahl-
schlager, 70 La Salle St., Chicago.

Stoughton, Wis.—F. H. Kempe, Madison, has
drawn plans for a school to be erected here by the
Norwegian Lutheran Society; cost, \$15,000.

Toledo, O.—It is stated that the congregation of St.
Anthony's Church will erect a \$20,000 school.

Wellesley, Mass.—The will of Martha S. Pomeroy,
late of Washington, D. C., bequeaths \$60,000 to
Wellesley College for the purpose of erecting a
dormitory and other purposes. The executors
named are Charles A. Allen, of Boston, and Edw.
A. Bowers, of New Haven, Conn.

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If there be any former subscriber who would like to take up his subscription at the point where he dropped it, it might be worth his while to communicate with us, as the opportunity is such as to allow us the unusual enjoyment of taking part in a "dicker."

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*It having been pointed out that this phrase is capable of two interpretations we attempt to reconcile the difficulty by substituting the following sliding sale:

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BUILDING INTELLIGENCE.	BUILDING INTELLIGENCE.	BUILDING INTELLIGENCE.
(Advance Rumors Continued.)	(Apartment-Houses Continued.)	(Apartment-Houses Continued.)
Williston, N. D.—W. T. Towner, of St. Paul, Minn., has prepared plans for a school-building to be erected here. It will be of brick, containing ten rooms, including class-rooms, with hardwood interior finish, hot-air heat and dry-closet system; cost, \$16,000.	New York, N. Y.—St. Mark's Pl., No. 51, five-st'y bk. flat, 25' x 97'; \$23,000; o., Gustav Dohrenwend, 147 W. 85th St.; a., Schneider & Herter, 46 Bible House. One Hundred and Seventy-eighth St., cor. Webster Ave., four-st'y bk. flat, 33' 4" x 83'; \$30,000; o., C. J. Singhi, 184th St. & Jerome Ave.; a., Henry Anderson, 1180 Broadway. Tenth St., Nos. 105-107, 2 five-st'y bk. flats, 23' x 79' & 23' x 94'; \$88,000; o., P. Kotlowsky, 235 Henry St. and B. Levy, 118 Henry St.; a., Schneider & Herter, 46 Bible House. One Hundred and Fourteenth St., nr. 2d Ave., 2 five-st'y bk. flats, 50' x 105'; \$88,000; o., Henry Brown, 506 E. 121st St.; a., Franklin Baylies, 51 Bible House. Eagle Ave., cor. Westchester Ave., five-st'y bk.	flat, 32' 4" x 95' 2"; \$30,000; o. & a., Albert Rothermel, 663 E. 144th St. Eighth St., Nos. 319-325, 3 six-st'y bk. flats, 34' x 82' & 28' x 80'; \$101,000; o., Geo. Hoffmann, 53 W. 24th St.; a., Schneider & Herter, 46 Bible House. Attorney St., N. s. 10-12, six-st'y bk. flat, 40' x 84'; \$42,000; o., Abram Silverson, 235 Henry St.; a., Schneider & Herter, 46 Bible House. Birmingham St., cor. Madison St., six-st'y bk. stores & flats, 38' x 55'; \$25,000; o., Abelman & Rosenblum, 1804 Madison Ave.; a., M. Bernstein, 245 Broadway. Elton Ave., cor. 160th St., 2 four-st'y bk. flats, 25' x 95' & 25' x 75'; \$76,000; o., Geo. A. Macdonald, 51 E. 117th St.; a., Edw. Wenz, 2877 Third Ave. Boulevard, bet. 148th & 149th Sts., 6 six-st'y bk. flats, two 31' x 95' & four 34' x 87'; \$325,000; o., J.

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(Houses Continued.)

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W. One Hundred and Second St., Nos. 202-204, five-sty bk. flat, 36' 5 1/2' x 70' 5 1/2'; \$25,000; o., James Bradley, 838 West End Ave.; a., Horgan & Slattery, 1 Madison Ave.

E. Seventy-sixth St., No. 232, six-sty bk. store & flat, 25' x 88'; \$28,500; o., Moses K. Wallach, 240 E. 79th St.; a., G. F. Pelham, 503 Fifth Ave.

One Hundred and Twelfth St., nr. 8th Ave., 2 five-sty bk. flats, 37' 6 1/2' x 82' 4 1/2'; \$80,000; o., Carrielle D. Lanchantin, Hawthorne St., Brooklyn; a., L. F. J. Welher, Jr., Mount Morris Bank Building.

One Hundred and Forty-sixth St., nr. College Ave., five-sty bk. flat, 25' x 90'; \$26,000; o., Ragette & Wolf, 2662 Third Ave.; a., Edw. Wenz, 1491 Third Ave.

Forty-fifth St., Nos. 132-134, eight-sty bk. & st. bachelor apart., 25' x 90'; \$110,000; o., Mohawk Realty Co., 136 Liberty St.; a., Neville & Bagge, 217 W. 125th St.

Eighty-third St., nr. Riverside Drive, 2 six-sty bk. & st. apart.; \$80,000; o., E. W. Kilpatrick, 50 W. 67th St.; a., Frederick Jacobsen, 54 W. 18th St.

One Hundred and Thirty-fourth St., nr. 5th Ave., 2 five-sty limestone flats, 25' x 87'; \$40,000; o. & b., W. Rogers, 139 W. 116th St.; a., Harry T. Howell, 748 E. 138th St.

Monroe St., No. 280, six-sty bk., st. & terra-cotta flats, 25' x 81' 3 1/2'; \$25,000; o., Weil & Mayer, 35 Nassau St.; a., Schneider & Herter, Bible House.

One Hundred and Forty-third St., nr. 3d Ave., five-sty bk. & st. flat, 25' x 85'; \$25,000; o., Ragette & Wolf, 3d & Alexander Aves.; a., Edw. Wenz, 1491 Third Ave.

CHURCHES.

Dover, N. J.—On-sty bk. & st. church; \$75,000; o., Presbyterian Church; a., Paul Botticher, 751 Broad St., Newark.

BUILDING INTELLIGENCE.

FACTORIES.

Boston, Mass.—Beverly St., Nos. 78-80, Ward 8, three-sty bk. manufactory, 40' x 50', flat roof, steam; \$35,000; o., Jos. Green, 53 State St.; b., J. J. Galvin.

HOUSES.

Boston, Mass.—Abbottford St., No. 8, Ward 21, 2 1/2-sty fr. dwell., 33' x 35' x 37', pitch roof, furnace; \$5,000; o., Eliz. Graham; a. & b., J. P. Campbell, 26 Boylston St., Jamaica Plain.

Richfield St., nr. Olney St., Ward 20, two 2 1/2-sty fr. dwells., 26' x 41', hip roofs, stoves; \$9,000; o., a. & b., Fred'k J. Rockwell, 12 Leonard St., Dorchester.

Arcadia St., Nos. 3-5, Ward 20, 2 two-sty fr. dwells., 18' x 22' x 51', stoves; \$8,000; o., a. & b., Wm. T. Eaton, 178 Devonshire St.

Flora St., nr. Kenneth St., Ward 23, 2 1/2-sty fr. dwell., 26' x 42', pitch roof, furnace; \$4,500; o., a. & b., Mackenzie & Henderson, 124 Dartmouth St.

Bennington St., Nos. 178-180, Ward 1, 2 two-sty fr. dwells., 21' x 63', flat roofs, stoves; \$10,000; o., Anna Rome, 121 Havre St., E. Boston; a., J. S. Eastman.

Corona St., nr. Bowdoin St., Ward 20, two 2 1/2-sty fr. dwells., 26' x 31' x 46', pitch roofs, furnaces; \$11,000; o., Ellen M. Downey; b., G. G. Downey, Cambridge.

Fisher Ave., No. 112, Ward 19, two-sty fr. dwell., 27' x 50', flat roof, stoves; \$8,800; o., M. Kenney; a. & b., J. A. McEachern, 75 Day St.

Lindsey St., nr. Tonawanda St., Ward 20, 2 1/2-sty fr. dwell., 22' x 47', pitch roof, furnace; \$4,000; o., a. & b., H. A. Merry et als., 169 W. Selden St.

Woodside Ave., nr. Washington St., Ward 22, two 2 1/2-sty fr. dwells., 26' x 53', pitch roofs, furnaces; \$10,000; o., a. & b., Geo. A. Cahill, Jamaica Plain.

Evelyn Ave., nr. Blue Hill, Ward 20, two 2 1/2-sty fr. dwells., 25' x 44', pitch roofs, furnaces; \$9,000; o., Emma J. Rockwell; a. & b., F. J. Rockwell, 12 Leonard St.

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Estey St., Nos. 10-12, Ward 19, 2 two-sty dwells., 25' x 52', flat roofs, stoves; \$9,000; o., a. & b., M. McPherson, 75 Day St.

O St., cor. E. Broadway, Ward 14, 2 1/2-sty fr. dwell., 26' x 70', pitch roof, hot water; \$6,500; o. & b., J. H. White, 150 K St.; a., A. U. Joslin.

Seaver St., cor. Humboldt Ave., Ward 21, three-sty fr. dwell., 48' x 92', pitch roof, hot water; \$15,000; o. & b., Simon Goldsmith, 28 Ruggles St.; a., Jas. Hutcheon.

Circleville, O.—Two-sty bk. dwell., 46' x 54', slate roof, hot air; \$5,000; o., W. C. Darst; a., C. A. Stribling & Co., Columbus.

Columbus, O.—Monroe and Franklin Aves., two-sty bk. dwell., 40' x 52', slate roof, furnace; \$6,000; o., George Sherman; a., H. A. Linthwaite.

E. Main St., three-sty bk. dwell., 44' x 56', slate roof, furnace; \$7,000; o., Henry Holzman; a., H. A. Linthwaite.

Hackensack, N. J.—First and Passaic Sts., 2 1/2-sty fr. dwell.; \$6,000; o., F. C. Dunn; a., W. A. Lambert, 99 Nassau St., New York City.

New York, N. Y.—One Hundred and Fifth St., nr. West End Ave., 4 four-sty bk. & st. dwells., 22' x 63'; \$100,000; o., J. C. Umberfeld, 3 W. 75th St.; a., James & Leo, 765 Boulevard.

One Hundred and Eighth St., nr. Riverside Drive, 7 five-sty bk. dwells., 40' x 65', 35' x 65', 25' x 67' 4 1/2', 20' x 67' 4 1/2', 19' x 60', 16' x 60'; \$179,000; o., Wm. Van Wyck Graham, 1238 Madison Ave.; a., Thomas Graham, 1238 Madison Ave.

Seventy-sixth St., nr. W. Central Park, 3 five-sty st. dwells., 25' x 71'; \$120,000; o., James Carlew, 17 W. 122d St.; a., Cleverdon & Putzel, 41 W. Union Sq.

One Hundred and Forty-second St., nr. Boulevard, 10 three-sty & base. bk. dwells., 15' x 48'; \$75,000; o., J. S. Heisler, 215 W. 125th St.; a., Henri Fouchaux, 162d St. & 11th Ave.

Paterson, N. J.—Seventeenth Ave., No. 154, 2 1/2-sty bk. & fr. dwell.; \$5,000; o., Robert McMillan; a., Charles E. Sleight.

Philadelphia, Pa.—Hazel Ave., bet. 50th & 51st Sts., 50 three-sty bk. dwells., 16' x 53'; \$150,000; o. & b., Killough Brothers.

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Pueblo, Col.—Fourth and Main Sts., two-sty bk. business block, 120' x 124', pitch roof, steam; \$30,000; o., Col. Albert A. Pope, Boston, Mass.

STABLES.

Boston, Mass.—Woodward Park, No. 17, Ward 16, 1 1/2-sty fr. stable, 24' x 26', pitch roof, stoves; \$800; o. & b., Arthur H. Kinder, on premises.

Brooklyn, N. Y.—Gates Ave., nr. Ralph Ave., two-sty bk. stable & milk depot, 50' x 175', slate roof; \$49,000; o., Anglo-Swiss Milk Co., Gates & Ralph Aves.; b., F. J. Ashfield, 168 Montague St.

Pompton, N. J.—Two-sty fr. stable, 30' x 40'; \$2,500; o., A. P. Frothingham, 2 Wall St., New York City; a., M. Houman, Central Building, Paterson.

TENEMENT-HOUSES.

Boston, Mass.—Prince St., Nos. 32-34, Ward 6, four-sty bk. tenement, 24' x 25' x 112', flat roof, stoves; \$20,000; o. & b., John Greeley, Fitchburg R. R.; a., E. P. Morse.

New York, N. Y.—Rutgers Pl., No. 17, six-sty bk. st. & terra-cotta tenement with stores, 26' x 96' 8 1/2'; \$25,000; o. & b., John Katzman, 177 Orchard St.; a., Horenburger & Straub, 122 Bowery.

Fourth St., Nos. 250-252, 2 six-sty bk. st. & terra-cotta tenements with stores, 25' x 85'; \$44,000; o. & b., John Kafka; a., Michael Bernstein, 245 Broadway.

W. Sixty-sixth St., No. 32, five-sty st. tenement, 25' x 86'; \$23,000; o., Frans Fohr, 132 Nassau St.; a., G. F. Pelham, 503 Fifth Ave.

Broome St., Nos. 137-139, six-sty bk. tenement with store, 40' x 48'; \$30,000; o., Julius & Max Weinstein, 6 E. 112th St.; a., Geo. F. Pelham, 503 Fifth Ave.

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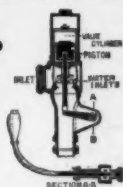


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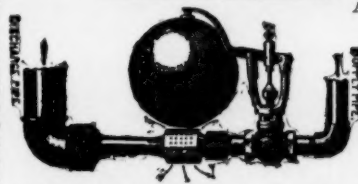
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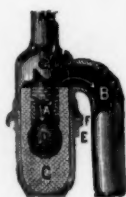
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BUILDING INTELLIGENCE.

(Tenement-Houses Continued.)

Norfolk St., No. 51, six-st'y bk. tenement, 28' x 108'; \$30,000; o., Leon & Jacob Pizer, 249 W. 133d St.; a., G. F. Pelham, 503 Fifth Ave.

One Hundredth St., cor. Park Ave., 13 five-st'y bk. stores & flats, 45' to 25' x 60' to 88'; \$237,000; o., Morris Mandelstein, 355 Pleasant Ave.; a., Thomas Graham, 1238 Madison Ave.

Avenue D, nr. 5th St., six-st'y bk. tenement, 31' x 72'; \$23,000; o., Morris Jacobson, 206 E. 78th St.; a., Fred Ebeling, 354 Grand St.

Avenue D, cor. 5th St., six-st'y bk. tenement, 27' x 82'; \$28,000; o., Morris Jacobson, 206 E. 78th St.; a., Fred Ebeling, 354 Grand St.

WAREHOUSES.

Boston, Mass.—Hanover St., No. 490, Ward 6, four-st'y bk. warehouse, 100' x 167' x 172', flat roof; \$80,000; o., T. B. Wales, 40 Water St.; b., Wm. Pray.

COMPETITIONS.

CHANGE OF SCALE.—Society of Beaux-Arts, Class B, Order Programme No. 9, Competition No. 34. The scale of finished plan has been reduced from 1-8" to the foot to 1-16" to the foot. ERNEST FLAGG, Chairman.

PROPOSALS.

COURT-HOUSE.

[At Dallas, Ore.]

Bids are wanted March 22 for a Court-house. EUGENE HAYLER, Clk. Co. Bd. 1211

STORES.

[At Fulda, Minn.]

Bids will be received until March 20, 1899, for two brick store buildings. Parties figuring on these buildings must figure on two separate buildings and separate contracts will be let for the E. A. Erickson Building and for the Mulligan & Smith Building. E. A. ERICKSON, MULLIGAN & SMITH. 1211

BANK AND OFFICE BUILDING.

[At Lake City, Ia.]

Sealed proposals will be received by the undersigned until March 28, 1899, at the Citizens' Bank,

PROPOSALS.

Lake City, Ia., for the furnishing of all materials and labor for the erection of a bank, two stories, with offices, entertainment and I. O. O. F. hall. E. W. & W. A. TOWNSEND & JOHN HANSON, for I. O. O. F. 1211

SCHOOL-HOUSES.

[At York, N. D.]

Bids are wanted March 25 for 2 schools in School District No. 8. J. L. JOHNSON, Clk. 1212

CHURCH.

[At Bloomington, Wis.]

Bids are wanted March 20 for a church. WM. D. RYAN, Secy. Bldg. Com., North Andover, Wis. 1211

SCHOOL-HOUSE.

[At Wells, Minn.]

The undersigned hereby gives notice that sealed proposals for the furnishing of all labor and material for the erection of a school-building to be erected at Wells, Minn., will be received until the 3d day of April, 1899. B. BIERI, Secretary of Board of Education, Ind. District No. 68 of Wells, Minn. 1212

INSANE ASYLUM.

[At Bloomfield, Ia.]

Bids will be received by the County Auditor until April 6, 1899, for the erection of a two-story and basement insane asylum. Bids are asked for the entire contract; also for the carpentry, masonry, plumbing and heating separately. 1212

SCHOOL-HOUSE.

[At Algona, Ia.]

C. M. Dorse, secretary, will receive bids until March 14, for the erection of an 8-room high-school building, after plans by Smith & Guttersen, architects, of Des Moines. Bids will also be received at same time for a steam-heating plant. 1210

SCHOOL-HOUSE.

[At Wood Lake, Minn.]

The undersigned hereby gives notice that sealed proposals for the erection of a frame school-house at Wood Lake, Minn., including all labor and material, will be received by J. P. Hauck, clerk, until the third day of April, 1899. (Signed) H. G. WERNER, Director. 1211

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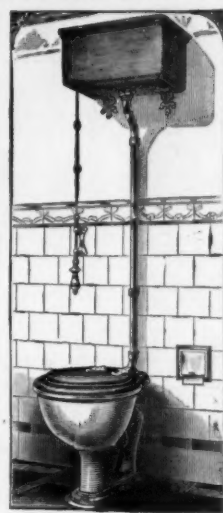
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Treasury Department, Office Supervising Architect, Washington, D. C., March 4, 1899. Notice is hereby given that the time for opening the bids for the masonry-work, roof-covering, etc., of the Post-office, Court-house, etc., building at San Francisco, Cal., is hereby extended from 2 o'clock P. M. on the 30th day of March, 1899, to 2 o'clock P. M. on the 17th day of April, 1899. JAMES KNOX TAYLOR, Supervising Architect. 1211

Treasury Department, Office Supervising Architect, Washington, D. C., February 25, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 30th day of March, 1899, and then opened, for the all the masonry work, roof-covering, etc., for the United States Post-office, Court-house, etc., building at San Francisco, California, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Superintendent at San Francisco, Cal. JAMES KNOX TAYLOR, Supervising Architect. 1211

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[At Lake Crystal, Minn.]

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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."

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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.

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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.

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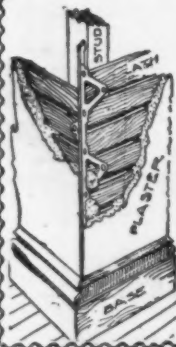
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