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OCTOBER 1904



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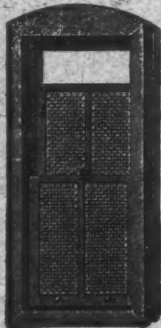
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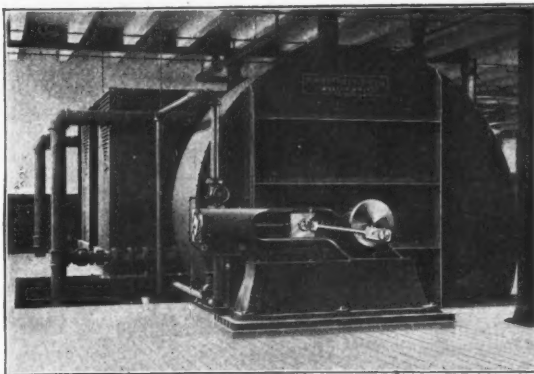
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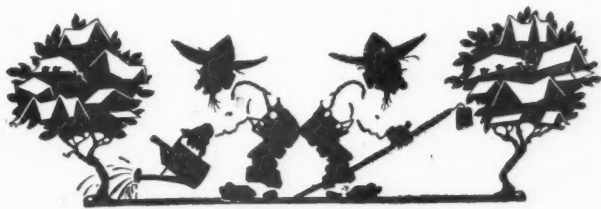
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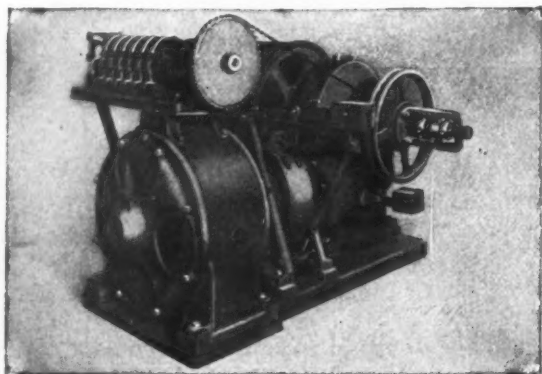


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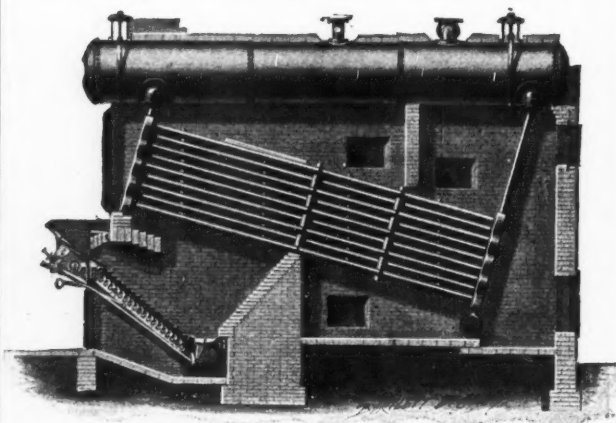
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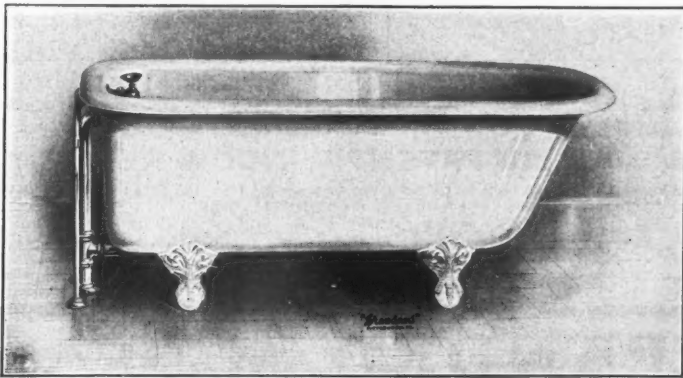


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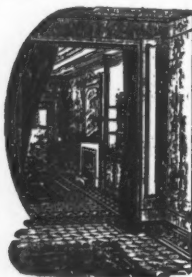
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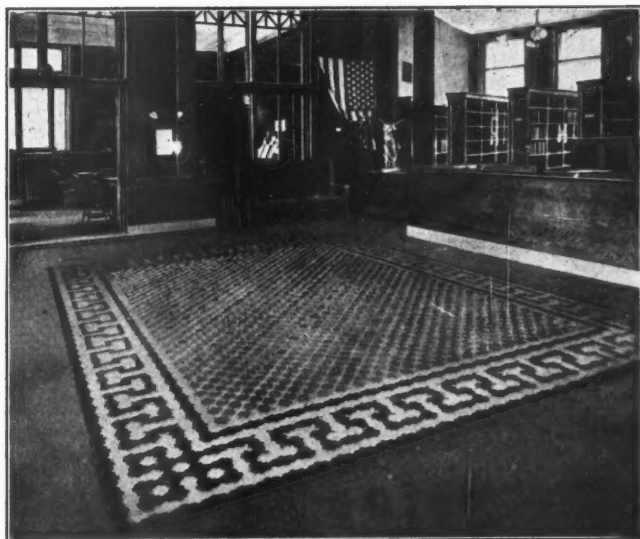
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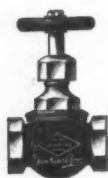
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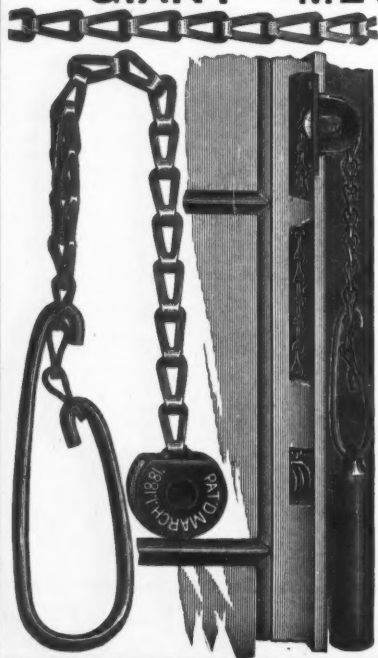
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Brick Co.	IX	Westinghouse, Church, Kerr	IV	Wisconsin Central.	VI	Terra Cotta.	
Omaha Hydraulic Press	IX	& Co.	IV	Range Closets.		Northwestern Terra-Cotta	II
Brick Co.	IX	The Westinghouse Machine	IV	Standard Sanitary Mfg. Co.	V	Works.	II
Builders' Hardware.		Laundry Tubs.		Reflectors.		Winkle Terra Cotta Co.	IV
Orr & Lockett.	XVI	Standard Sanitary Mfg. Co.	V	Frink, I. P.	VI	Tile (Rubber).	
The Yale & Towne Mfg. Co.	XVI	Lavatories.		Roofing Tile.		New York Belting & Pack-	VII
Builders' Sundries.		Standard Sanitary Mfg. Co.	V	National Tile Roofing Co.	II	ing Co., Ltd.	VII
The Yale & Towne Mfg. Co.	XVI	Lead Pipe.		Celadon Roofing Tile Co.,		Trees.	
Building Papers.		Standard Sanitary Mfg. Co.	V	Manufacturers of Highest		Peterson Nursery.	II
Cabot, Samuel.	XII	Locks.		Grade Roofing Tile, 204		Urinals, Porcelain Enameled.	
Cements.		The Yale & Towne Mfg. Co.	XVI	Dearborn St., Chicago; 156		Standard Sanitary Mfg. Co.	V
French, S. H., & Co.	VI	Mail Chutes.		Fifth Ave., New York.		Valves (Steam).	
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Standard Sanitary Mfg. Co.	V	Marble.		and Ottawa, Ill.		Vimometers.	
Conduit.		Standard Sanitary Mfg. Co.	V	Roofing Tin.		Standard Sanitary Mfg. Co.	V
National Fireproofing Co.	36	Mechanical Stokers.		American Tin Plate Co.	VII	Window Lines.	
Cordage.		Westinghouse, Church, Kerr	IV	N. & G. Taylor Co.	III	Samson Cordage Works.	XVI
Samson Cordage Works.	XVI	& Co.	IV	Rolling Doors and Shutters		Wood Floors.	
Creosote Stains.		The Westinghouse Machine	IV	(steel).		Moore, E. B., & Co.	VI
Cabot, Samuel.	XII	Co.	IV	Kinnear Mfg Co.	X	National Wood Floor Co.	XIII
Drawing Material and Implements.				Rubber Tiling.			
Abbott, A. H., & Co.	XII			New York Belting and Pack-	VII		
				ing Co.	VII		
				Sanitary Appliances.			
				Cudell, F. E.	IX		
				Standard Sanitary Mfg. Co.	V		

*Roman figures refer to advertising pages.



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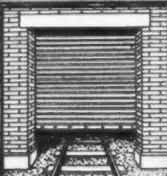
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THE INLAND ARCHITECT AND NEWS RECORD

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No. 3



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IN THE WEST.

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The columns and illustration pages of THE INLAND ARCHITECT are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

ANNOUNCEMENT.

Realizing that the fireproofing of buildings, not only in their structural parts, but in trimming, decoration and furnishing, is fast becoming, as it should, one of the chief factors in architectural advancement, and that there are many ways in which the less costly work can be made approximately safe, THE INLAND ARCHITECT proposes to furnish such advice as it may be called upon to give in this direction. To benefit architects who have limited opportunities for observing the latest and best methods of fireproofing, we have made an arrangement with our Washington representative, Mr. F. W. Fitzpatrick, to act as our expert in the matter. Architects are therefore invited to write Mr. Fitzpatrick, at 1431 Welling place, Washington, D. C., and for convenience may send sketch, plans and specifications, so that he may incorporate his suggestions. Of course, this service is gratis, other than the postage and expressage on plans, and is undertaken by this journal on behalf of its subscribers and that the greater safety from fire will obtain in all structures where heretofore it has been only office buildings and other costly structures that have been fireproofed.

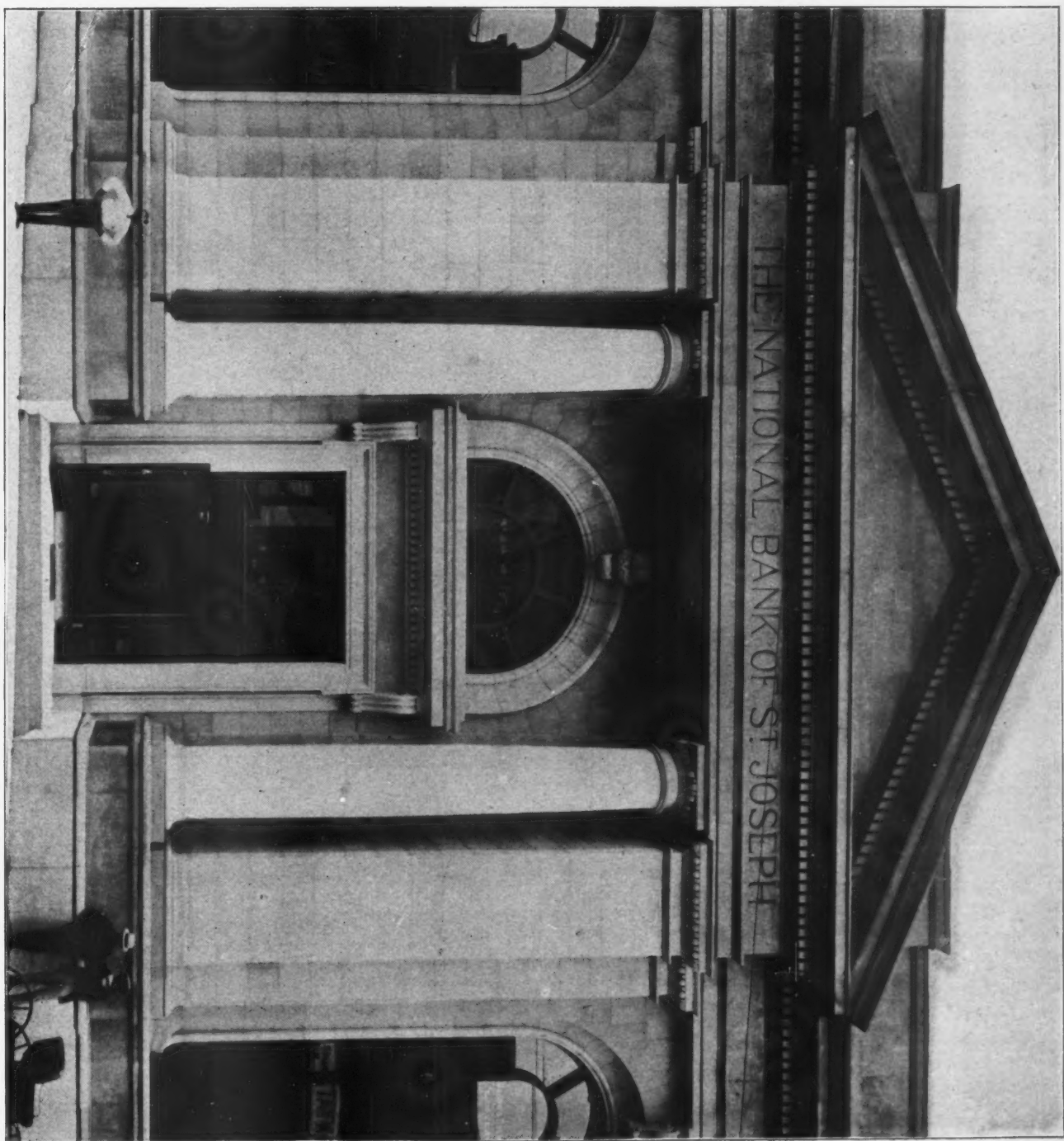
Testing Fire-proofing Materials at Columbia.

Thirty-three years ago the great conflagration at Chicago produced the first emphatic object lesson in the necessity for better fireproofing methods in large cities. In the upbuilding of Chicago, inventive genius and common sense produced a system that has steadily grown toward perfection. Not content with the theory, owners and architects instituted tests, both of fire and weight, in the

early eighties, and these tests have continued to some extent, though latterly the great fires that have occurred have made such complete "natural" tests that the "artificial" test seems superfluous. Now the Columbia University comes forward with a scheme for testing fireproofing material which outranks all artificial tests that have gone before. The plant will consist of two buildings, one for testing floors and the other partitions. The material will be placed as near as possible as in the building, but the fire test will be greater than could possibly occur in actual experience. It is hard for us to see the value of these elaborate tests, except an academic one, for, unlike the testing of strains in steel and lumber, it is not applied to the material that will be used subsequently in the structure. The testing of steel, with its covering of hollow baked clay, and the stability of hollow-tile arches under immense loads, quiescent and moving, has been sufficient to give architects a general idea of its stability under fire, water and load. What is required is a reform in rules governing its production and use. The element of too light material and of haste in its application—that element which makes for cheapness—must be corrected. If left to the standard fireproofing companies, by whom most of the important work of the past twenty years has been done, with a willingness to pay the price asked for the work, architects and owners may be assured of obtaining as perfect protection as can be produced, but light steel covered with too light and hastily set material will prove inadequate, no matter how perfectly the same material may have stood the experimental test when every condition has been arranged for with the greatest care and selected material. The Columbia test will do no harm, but it is the care with which each particular building is fireproofed and inspected that will give security when the test comes.

Mr. Burnham's Mission to the Philippine Islands.

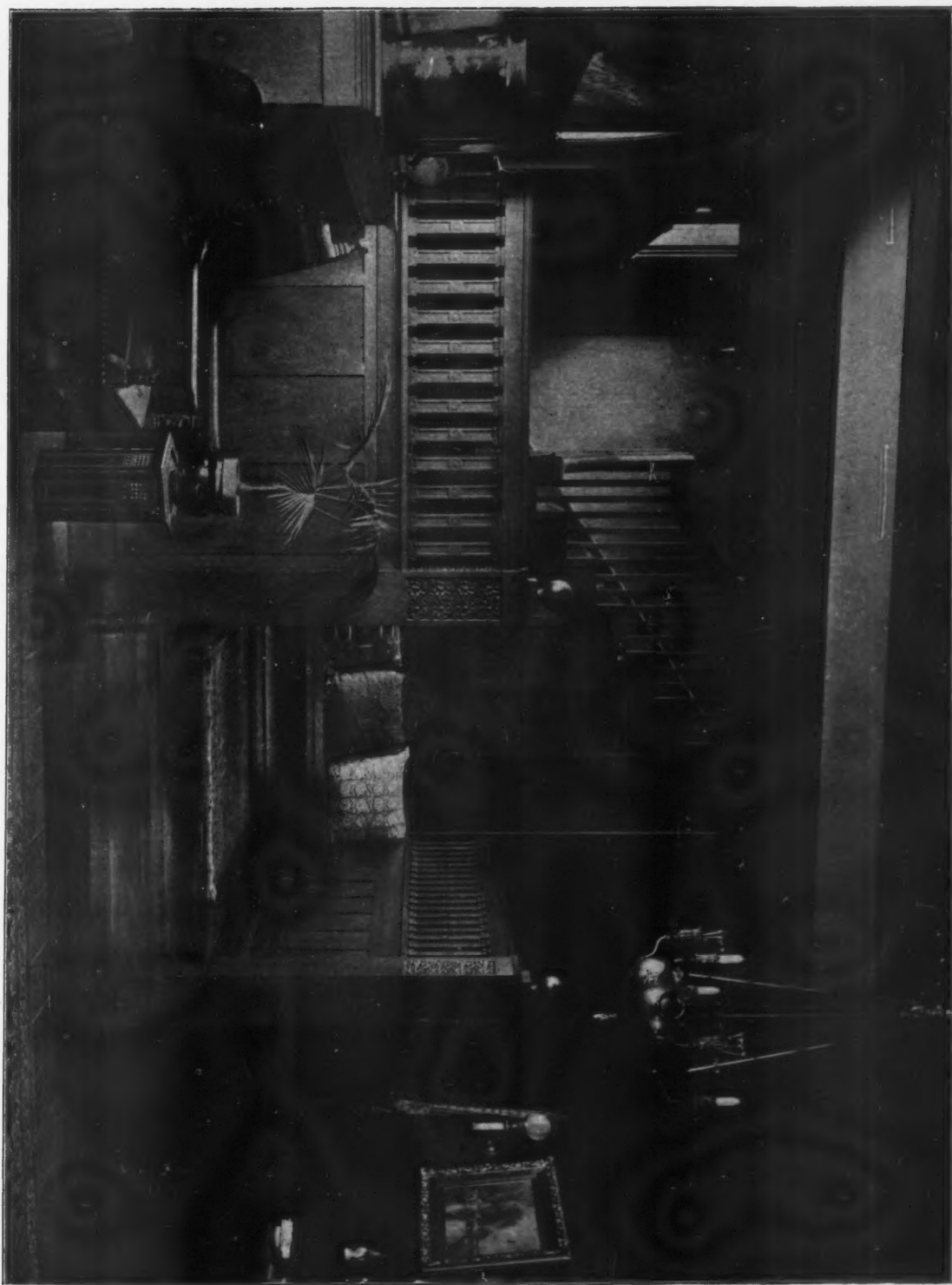
It is worthy of note that for the first time in our history a private architect has been engaged to design public buildings and grounds in a distant territory, Architect D. H. Burnham, of Chicago, being sent to Manila, Philippine Islands, for this purpose by the Secretary of War. With an immense private practice, Mr. Burnham has found time in the past ten years to study the problem of the proper relation of cities to the people in a most complete and exhaustive manner. Washington, Cleveland, Chicago and San Francisco have each received from him general plans by which urban surroundings may be made beautiful and artistic, and at the same time commercially and physically practical. Now, at Manila, his work will establish a plan that will, like the others, in the years to come, develop civilizing influences side by side with commercial advancement. It is too soon to speak biographically of Mr. Burnham's work in these directions, but the country has in him a combination of rare gifts, the development of which will be best appreciated in another generation.



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INTERIOR VIEW OF THE HALLWAY LEADING TO BUILDING CHICAGO.

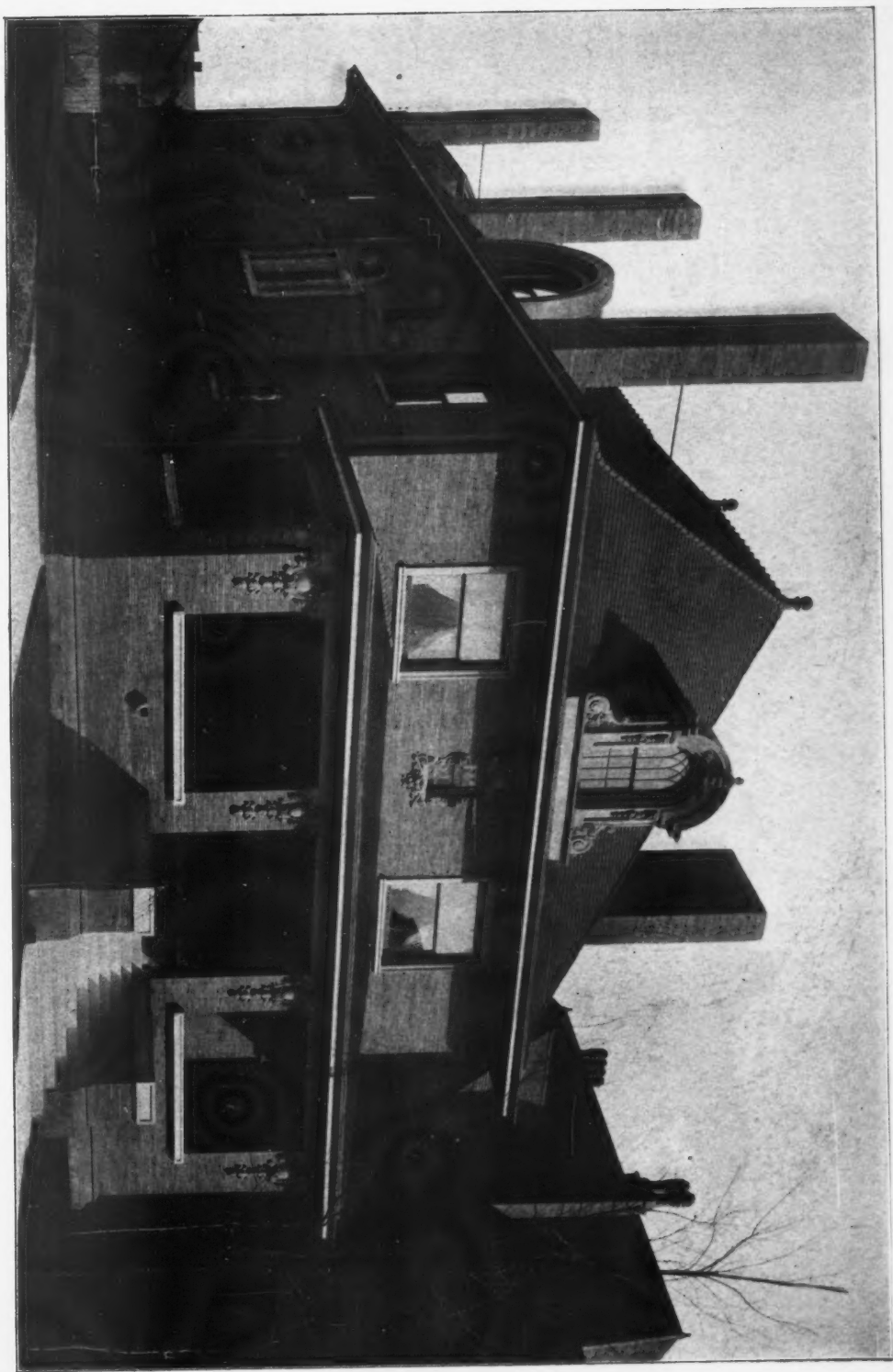
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INTERIOR VIEW THE RAILWAY EXCHANGE BUILDING CHICAGO.

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HOUSE OF D. O. HILL, 1912 BARRY AVE. CHICAGO.

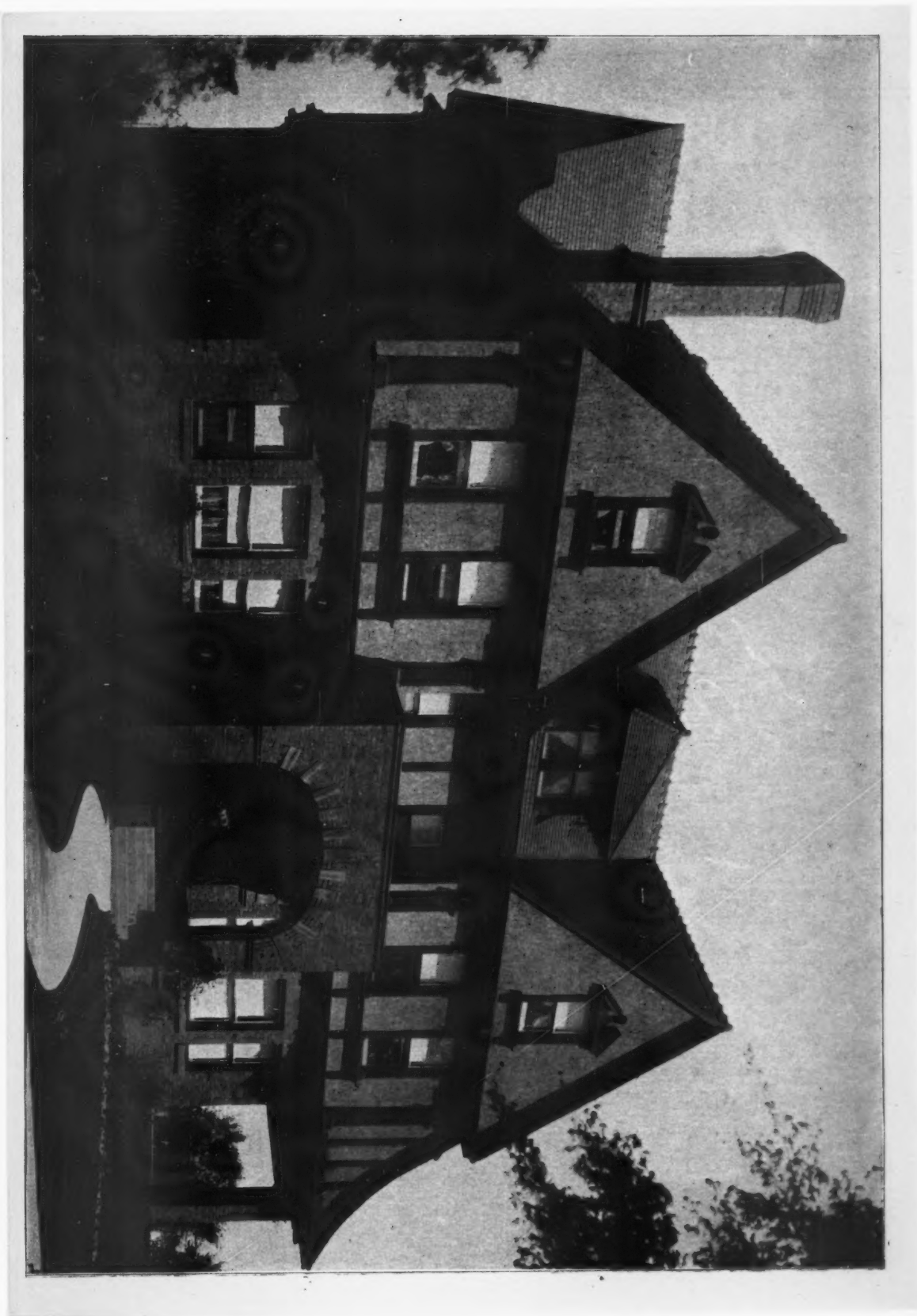
FREDERICK W. PERKINS, ARCHITECT.

John Parry, Photo

HOUSE OF MR. MELON, PITTSBURG, PA.

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HOUSE OF L. CONDUCT, EVANSTON, ILLS.

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ENTRANCE DETAIL, HOUSE OF F. E. FRENCH, EVANSTON, ILLS.

ERNEST A. MAYO, ARCHITECT, CHICAGO.

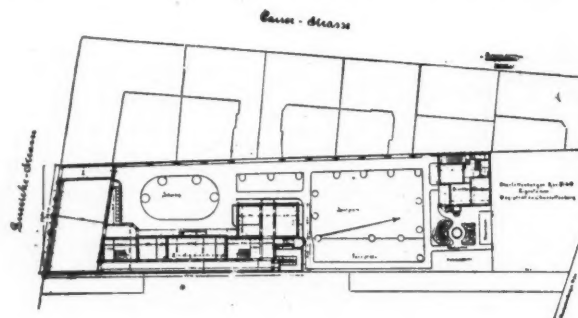
"REALSCHULE" AT BERLIN—CHARLOTTENBURG.*

BY FREDERICK BAUMANN.

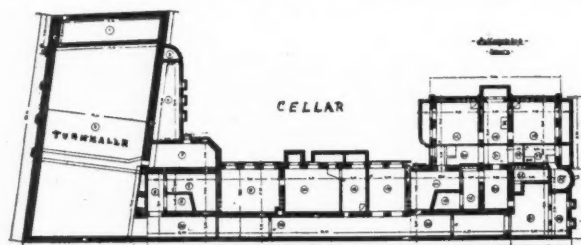
THE "Realschule" in Germany has been founded for preparing young men for practical business. It teaches living languages and leaves dead ones entirely aside. Though a source of pride and of manifold literary interest, they are of but little account, if any at all, in the business of a merchant or manufacturer or artisan. The lesson-objects are: Religion, German, French, English, history and geography, algebra and geometry, natural history, physics and chemistry, drawing, singing, gymnastics. There is in Germany no school without "religion" and song, nor without more or less gymnastics.

The school here in question is a most modern one. It was inaugurated in the past year. It has six classes, each for a course of one year, so that a beginner at an age of twelve years may pass his final examination at eighteen. Applicants with common-school education are admitted to any of the lower classes after due examination. The abiturient may proceed to the next but

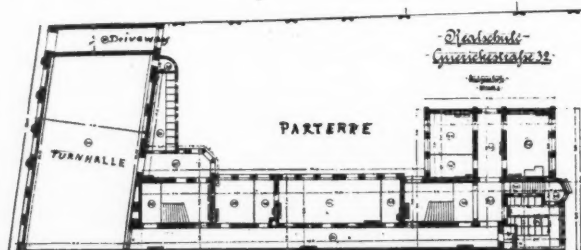
obtain for the parterre story the distance required as from its windows to the opposite sideline of lot, and hence the necessity of otherwise assigning all these rooms: for the professors, for library and apparatus, and for janitor. Since there is less light in the atmosphere of Germany than there is in that of our country (which is ten or more degrees farther south), the depth of all



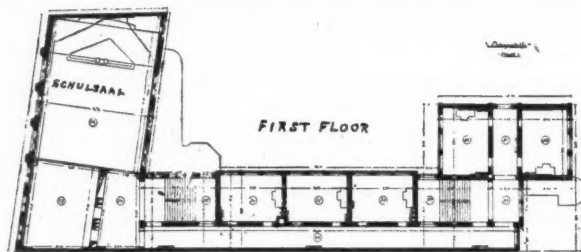
schoolrooms is restricted to 5.5 meters, and since in present case they are 7.2 in length, they each cover an area of little more than one-half of that of a Chicago schoolroom. Since the German schoolroom contains forty seats in an upper and forty-eight in a lower class, each scholar is given a space of 1.0 and one of 0.83 square meter, respectively, while a Chicago schoolroom gives 1.5



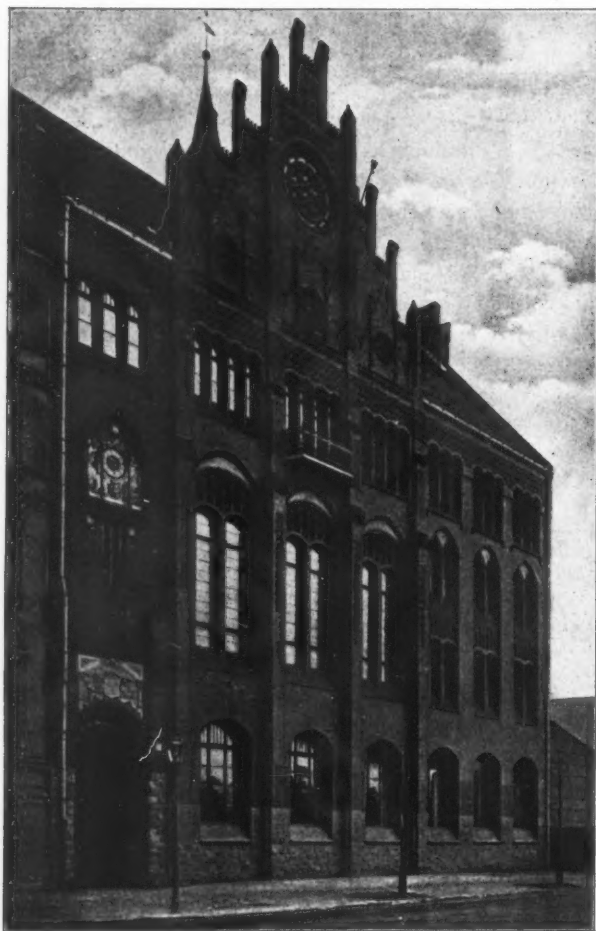
to each of its fifty-four inmates. This excess of breathing space, heights being approximately equal, furnishes a very important item as against the degree of care in Germany bestowed to the general well-being of school inmates. A far inferior care, however, is still manifested in regard to warming and ventilating, which the architect believes to be very satisfactory. No state-



ment is made as to the amount of fresh air admitted per hour to each of the classrooms. The plan fails to show any sort of propeller, nor engine, by which air may be moved, and what natural ventilation will do is ever a case of uncertainty. No positive statement is practicable in this regard, and hence the wisdom of silence on the part of the architect. All he states



is that there exists a system of heating with warmed water and that he has introduced an improvement by partly warming the air in the cellar before it advances to the coils in rooms. How different is all this with us here! We warm the air by steam coils, and expressly propel it by a powerful fan from the basement into all rooms, and this in a profuse quantity which is



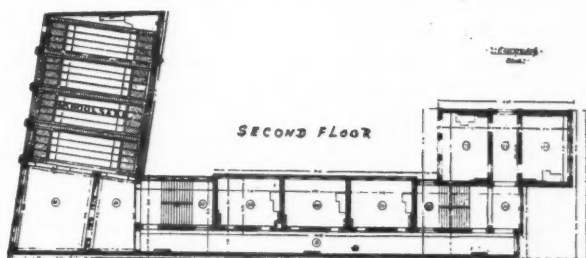
"REALSCHULE" OR BUSINESS SCHOOL.

upper class of an "Ober-Realschule," and thereupon, at option, to a university, technical academy, veterinary school, forest academy, school of mineralogy or to the army or navy.

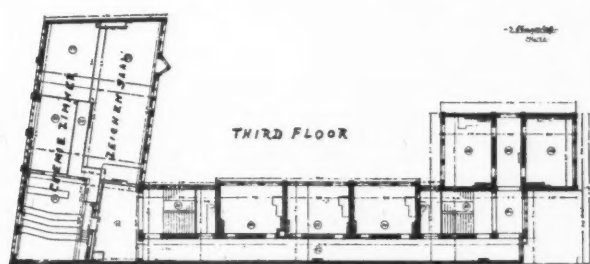
There are free schools in Germany for the poorest of people only; all scholars must otherwise pay a moderate annual fee, which, for the school in question, is 24 marks (about \$6), payable in quarterly instalments, but, aside from this, the pupil must pay a fixed low price for every schoolbook required. Boys of less than fifteen years of age are obliged to carry all implements on their backs, and not under their arms, since this may have the effect of misfiguring them. The institution is owned in private by a city, but it is bound to be built very strictly in compliance with the rules laid down by the State building department, the officers of which have full power, which they do exercise. The building lot, in the case, is an inside one, twenty-nine meters wide to a depth of 138. Its narrowness made it impracticable to

* Plans and description were sent to me as a compliment from Charlottenburg by Professor Dr. Dubislar, director of said school.—F. B.

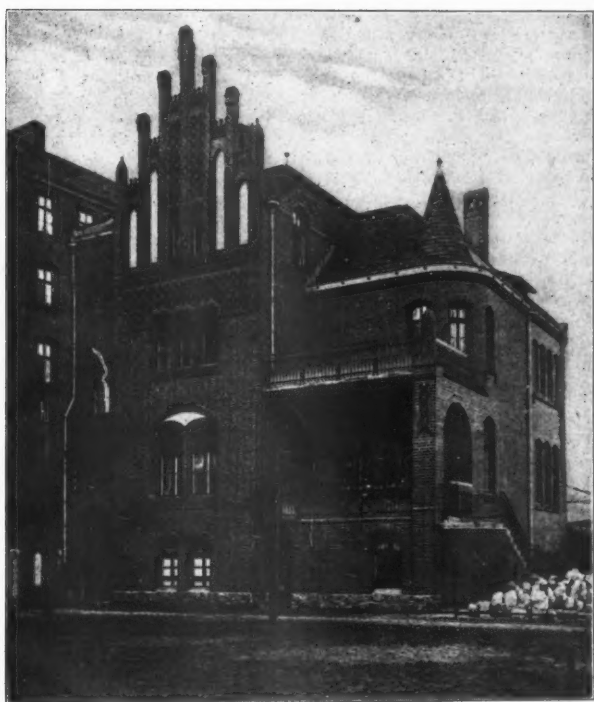
equal to eighteen hundred cubic feet per hour for each pupil. How does this compare with what is done in Germany, whence thirty to forty years ago have come to us the first principles of sanitation. The fact here is that we do not shun the expenses connected with their practical execution, which the Germans, for some reason or other, seem to do.



The gymnasium (turnhalle) of size 12.5 by 23 meters, 6 high, has its floor even with the ground, and above it is the very neatly decorated schoolhall, 8 meter high, used for examinations, addresses and exhibitions. Above this hall are the rooms for teaching chemistry, with the laboratory thereto belonging, and



a long and narrow room for drawing. The two main hallways are entered from the court. Water-closets are in close connection with the one nearest the driveway. The room for them is excessively narrow. All closets have doors which, with us, are held to be a nuisance, and an equal nuisance exists in regard to

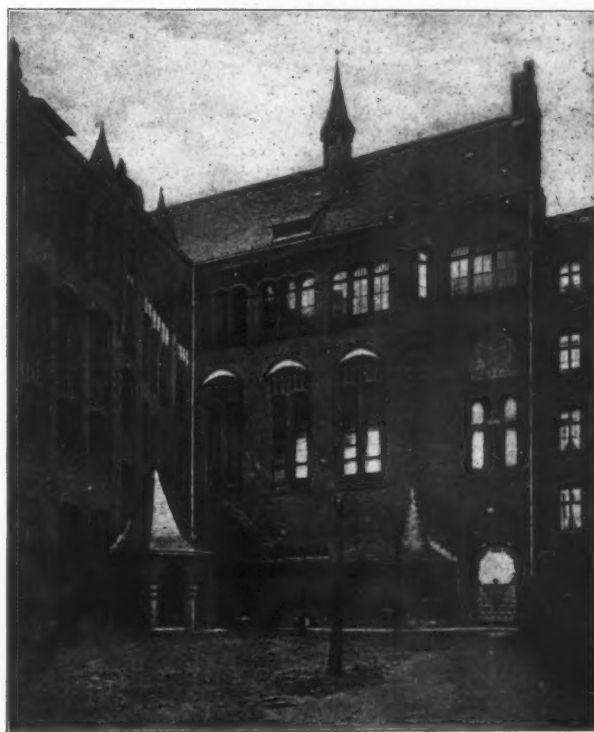


SCHOOL DIRECTORS' RESIDENCE.

the urinals, inasmuch as they are without partitions. In fact, the architect himself pronounces the room as poor for its purpose. But what hindered him to make it better?

The style of architecture adopted is derived from the characteristic Brandenburg Gothic, which some eighty years ago

Schinkel undertook to so neatly quicken with Greek detail. The modern architect, however, exhibited more reverence toward medieval art. He retained the gables so peculiarly characteristic to the style, and the general form of the details. But he understood the art of so fashioning them that upon the whole we observe, as we ought to, a rather prepossessing modern work,



REAR VIEW OF SCHOOL.

which only in a few minor parts is not fully up to date. The architect expressly states that for the sake of certainty as to repose he adhered to but one tint, that of a deep brown. With his advanced taste he could readily have introduced, with harmonizing and even dignifying effect, a second, perhaps even a third tint, both soft and complementary. The emblematic ornament over the entrance gate is the work of a professor in sculptural art. All rear parts of the building are conscientiously carried out in correspondence with its front and it must be confessed that in this regard we are, in a large majority of cases, not up to date. But in one point we are clearly ahead. We do never lead a water conductor on the front of any pilaster. We know how to conceal it with the wall, in spite of the fact that our winter is harder than that down yonder.

It is uniformly preferred in Germany to locate the residence of a director to a school in direct proximity to the same. It is thus most convenient to him as supreme boss in the premises, and the architecture of this mansion is fashioned in strict conformity with that of the main building. There are with the whole project quite a number of subjects of minor interest to us, not worth adducing, with one exception. It appears that floors are laid with d. and m. maple strips, coming from our Michigan and "so hard that nailholes in them were bored at the factory."

MANY of our great railway systems are the result of combining many little roads. Many a small, inconsequential railway, which set out with more hope than business judgment and early stranded upon the shoals of bankruptcy, has been saved from absolute wreckage by being absorbed by some larger road. By becoming an important link in a great transportation chain many an independent railway has arisen from ruin to dignity. The traveling public to-day buys a single ticket at Grand Central Station, New York, and rides in palatial comfort to Chicago in twenty to twenty-six hours without change of cars. In the past, that is still within the memory of men living, it required eight separate tickets and almost as many changes of cars to ride half that distance—to Buffalo—and it took about as long to journey across New York State as it now requires to go from Gotham to "the wonder city of the West." The desirable condition existing to-day would be impossible were every hundred miles under separate and distinct management.

DESIGN AND CONSTRUCTION OF ELECTRICAL SUPPLY BUILDINGS.*

THE buildings connected with the generation and supply of electricity—commonly known as central stations—in less than twenty years have developed from small, commonplace sheds to complex structures frequently of great size, occupying prominent sites, and supplying power for innumerable purposes. Upward of seven hundred and fifty of these buildings have, in about fifteen years, been erected in the United Kingdom alone, and a much greater number abroad. The advantages of electricity were appreciated sooner abroad than in Great Britain—here, also, it was hampered for a time by unfortunate legislation—and the industry had made considerable progress in foreign countries before a start was made here. Hence it is useful to study foreign practice, for that which obtains abroad to-day is more or less that which will be put into practice in England to-morrow. The various systems of supply have been in a continuous state of evolution, and requirements have constantly changed. The buildings first erected have been quickly superseded, and information obtained from existing buildings is not so generally useful as it is in cases where slower progress on more settled lines has taken place. Now, however, matters are assuming more or less definite shape, and the time is opportune to consider buildings recently erected and those likely to be required in the immediate future.

Primarily, central stations may be divided into three classes, namely:

1. The Power Station—the class now coming into vogue and the real central station—at which power is generated for the district allotted to it, whence it is supplied to substations for distribution. Larger and more powerful machines are usually installed in power stations.

2. The Substation, which receives the power from the central source, and retails or distributes it to consumers in its immediate vicinity. There are two principal subdivisions—(a) substations housing machinery and batteries or accumulators for storing electricity; (b) substations without storage and accommodating machinery only.

3. Direct Supply Stations (subdivided into simple and composite), where the power is both generated and distributed. The simple direct supply station comprises the machinery departments only. The composite direct supply station is rather an electricity works, and contains, in addition to the rooms for machinery, accommodation for meters, mains and roadwork, tramways and administration departments, sometimes also destructor, etc., but the accommodation varies considerably in every case.

The initial source of power—i. e., wind, water or steam—exercises the greatest influence on design and construction. The more directly the natural elements are employed, the fewer processes are involved and the more simple the building required.

The simplest kind of station is that in which air or wind is the source of power. The only station of this kind, that at Askov, consists of a single room containing dynamos and accessory machinery. It has been running satisfactorily since its erection in 1902. The windmills are above the building and connected to a countershaft, whence the dynamos are driven by belts.

A great number of water-power stations have been erected abroad, but there are none of first-class importance in Great Britain. It is usually a one-story building above the ground line, having one and occasionally two or more principal rooms. The flumes, aqueducts, weirs, and sluices required for diverting and controlling the water and directing it to the turbines, and for leading it back to its natural channels, the foundation of these buildings, honeycombed with chambers and tunnels, are the most interesting parts of the works. Their construction requires considerable technical skill, as almost every kind of vault, dome and curved structure meeting and intersecting at every kind of angle is to be found in these buildings.

At Niagara, probably the best-known water-power station, the volume of water is estimated to represent seven million horse-power, the greater part of which can, and eventually will, be made available. Thus a force equivalent to the consumption of over two hundred thousand tons of coal per day (practically the daily output of the world's coal mines) will be penned in and controlled in the buildings. The machines dealing with this power must all be fixed rigidly in one place, and will be concentrated in a comparatively small area. This concentration and fixing of machinery of enormous power within a building is a new feature. The structure must be calculated with an ample margin of safety, and to allow considerable strength above what would be considered sufficient in ordinary practice.

Some of the European water-power stations are interesting examples of well-studied architectural treatment. Full advantage has been taken of the shape of the building required for the arrangement of plant. The most important members of the construction have been accentuated in the elevations, and the buildings have been carefully grouped to accord with the locality in which it has been necessary to erect them. A picturesque example is the power station at Tivoli, on the Tiber, where the energy for the city of Rome is generated.

The steam-power station, a comparatively recent introduction, is a more complicated building than the water-power station. Owing to the larger size of the rooms, the greater number of

departments, and the more complicated construction required, these buildings present even greater opportunities to the architect. The author predicted a great demand for these in the future, for they are the direct outcome of the system of generation and supply which now seems in a fair way to receive general acceptance. Steam stations generally consist of engine-house, storage for electricity, boiler-house, pumproom, chimney-shafts, coal store and water department. The station of the London Electric Supply Corporation at Deptford was perhaps the first of this kind, designed by Mr. Ferranti in 1888. Stations erected ten years later in America have followed very closely Mr. Ferranti's design. The special construction problem presented is the manner in which the heavy loads requiring to be accommodated in these buildings have to be disposed on the site. The Americans have displayed great ingenuity in installing very powerful plants on sites of small superficial area; stations with plant on more than one floor are more common there than elsewhere. A remarkable instance is the Edison station at Philadelphia, where the plant is installed in an eleven-story building, each department being placed on a different floor, one above the other. It is not, however, an arrangement which would be adopted in ordinary practice.

The Manhattan station, New York, is typical of central stations generally in one respect. It is built on a bad foundation, the gneiss bed rock bottom being deeply eroded by streams which formerly traversed it. It was therefore of unequal supporting power, which accounts for the apparently unequal strength and thickness of foundations. Large quantities of water are used in connection with the work carried on in central stations, therefore they are frequently erected on the banks of rivers and canals, where the subsoil is hardly suitable for such buildings and careful adjustment of the weight is necessary. Sometimes the subsoil is hard in places and yielding in others. In such cases foundations like those of Manhattan have been found suitable, but in very soft soils much water-logged, it is as a rule better to support the load on concrete floats proportionate to the weight, allowing somewhat more than half the load which would be taken for an ordinary building. A thick float of concrete all over the site is a common method of meeting the difficulty, both in English and German practice. It is a good plan on clay, but should be keyed on the underside on looser soils.

In the architectural treatment of some of the continental stations, the buildings are faced externally with fine hard bricks, bright buff, laid in the German fashion, all headers. The gable ends are well treated with very large windows and strongly-marked divisions in the lights. The general wall-faces are plain, but the header bond gives an excellent scale to the buildings, and the ornament is concentrated in a few well-designed and well-placed features by which the full value of the expenditure on embellishment is obtained. It is often said of buildings treated like Geneva, Munich, and the Berlin stations, that they are expensive. They are generally less costly than many buildings which look plain and are so described. The difference is that in the one case full value is obtained from the embellishments by good design, in the other case the same or greater expense is incurred for material not essential to construction frittered over the surface and therefore ineffective. Other notable buildings are the power station at Munich, with its interesting and original shaft, the whole forming a most picturesque group with the baths which adjoin it; the station at Turin, with elegant gable treatment and a circular brick shaft, well treated with pilasters and cornice at the top and plain brickwork below, partly water-power and partly steam is an interesting example of Italian practice; at Vicenza, where a most ingenious arrangement of double arches and open tilework is adopted for the windows.

Almost every combination and kind of plant and design of central station is to be found in Great Britain. One of the largest power houses in London will eventually be that of the Central Electric Supply Company at Groveroad, St. John's Wood, which will supply power for general purposes for the west-end districts of London served by the Westminster Electric Supply Corporation and St. James' and Pall Mall Electric Lighting Company. It is situated on the banks of the Regent's Canal, the site being 7½ acres in extent, all of which will eventually be covered with the buildings. Upward of one hundred and fifty thousand horse-power can be placed on the site if the plant is arranged on the one-floor system. The one-half of the first section has recently been completed, and provides accommodation for four thousand eight hundred horse-power.

The simple direct supply station in the power stations at Edinburgh, Glasgow, Manchester and other cities consists of the machinery departments somewhat on the same lines as the power station. It was almost the earliest form of station, and originated simultaneously with the composite form of direct supply station. It was required in those districts which were too large to be served by one central station, before the days of the power station. It is not probable that many more of these stations will be required. Some of the existing simple direct supply stations are already being converted into substations, and in time, no doubt, the steam plant will be taken out of many and be replaced with electrical machinery only.

Of the composite type of direct supply stations though, in small towns, in the country remote from other towns or from centers where power can be generated under exceptionally favorable conditions, and in agricultural districts this type will be erected for some years to come; sooner or later combination between towns and districts will take place, and coöperative

* Abstract of paper read before the Royal Institute of British Architects by Mr. C. Stanley Peach, as reported by *The Builder*.

power stations will replace this class also, and those then existing will become at any rate partly substations also. It will be a great advantage to this country in the keen war of trade competition which is before it, and will reduce the appalling extravagance and waste of the mineral wealth of this country which is now going on from the unnecessary consumption, carriage and handling of coal, and all the attendant waste of land, labor and time, and congestion of traffic produced and fostered by present methods.

Substations to accommodate static transformers were formerly small, unimportant structures, frequently vaults under the pavement or roadways, or in basements of houses. It is now, however, a building requiring careful design and of daily increasing importance. The function of the plant installed in it is either to alter the character or to reduce the tension of energy derived from the power stations, and to distribute either the same energy at another potentiality or to generate and distribute new energy at low tension by means of dynamos directly coupled and driven by motors. Every precaution should be taken to prevent transmission of mechanical vibration or escape of sound beyond the building. The buildings must be dry, well ventilated and well lighted in every part.

The chimney-shafts of central power stations are not ordinary factory chimneys. Their importance to the undertaking, and consequently to the community, their great size, and the fact that they may be erected in groups of from two up to six or more, require that they should be of better construction and appearance than is often deemed sufficient. Cast-iron caps are frequently objected to as being heavy; properly designed, they are lighter than a corresponding height of brickwork. Within reasonable limits a fairly heavy cap is an advantage and not a disadvantage.

HOW THE GOVERNMENTS OF EUROPE AND AMERICA PRESERVE THEIR ANCIENT MONUMENTS AND NATURAL SCENERY.*

THE adequate protection of ancient monuments and natural scenery is greatly desired by many of us, for they are now recognized as providing something more than amusement for antiquarians and subjects for landscape painters. It may therefore be of interest to examine briefly the steps taken by the governments of Europe and America to bring about this result, although it is impossible, within the limits of our article, to do more than indicate the general direction taken by legislation with regard to this matter.

We must realize at once that we can not preserve the realities of antiquity, but memories and isolated examples only, and the same has to be said of the purely natural features of our landscape.

Let us face the fact at once then; the glories of the past have departed for ever. Neither the technical skill nor the literary power of our greatest experts can do more than construct a reminder of them. To see that, we have only to compare the interest aroused by a paper on some ancient building read at a winter meeting of an archaeological society with that awakened by a visit to the same building in the course of a summer excursion. Ancient remains which exist have much to teach; it behooves us, therefore, who believe that their lesson is a beneficial one, to insure the continuance of their existence and the consequent prolongation of the lesson. And the same has to be said with regard to much of the natural landscape of this country.

So let us realize at once that in a time of commercial and industrial development, of constantly increasing population, when we are covering whole counties with houses, and when the jerry-built villa is invading our heaths and our pinewoods, when every street in our towns is undergoing improvement, the demands of the utilitarian have a tendency to swamp every other consideration, and the records of past ages, either in the natural features of our landscape or in the building of our ancestors, are swept away and lost for all time. Numberless instances of such destruction will occur to every one—the primeval fen land is drained, and where the mowing machine comes the swallow-tail butterfly can not remain; the water from our grandest falls is conducted away in leaden pipes for generating electricity; the triumphs of an age of bridge builders are destroyed that an iron-girder substitute may bear the weight of motor traffic; ancient barrows and stone circles are robbed in order that the flints they contain may be sacrificed to some practical use. The Cheddar cliffs are converted into road material; Wren churches are destroyed that their site may bear a stupendous block of offices; medieval almshouses are removed that tramways may be made. Much of this is, of course, inevitable, and I at least have no desire to share with Mrs. Partington the labors of stemming the Atlantic tide with a housemaid's mop. But the evil may be reduced to a minimum, and it may, I think, turn out that it is not an ocean's tide which we have to face, but only the flow of a river which may easily be controlled by an efficient system of locks. If our ancient monuments and our natural scenery are to be preserved, it seems to me that in the first place their preservation should be desired by the people at large, and it is for us who appreciate these treasures to cultivate that desire; in the next place the central government should take the lead in effect-

ing the wish of the nation. Let us see how far the governments of Europe and America are giving the lead required.

Beginning near at hand, we see in France that national monuments of historic or artistic interest are scheduled under the direction of the Minister of Public Instruction and Fine Arts. In cases in which a monument is owned by a private individual, it usually may not be scheduled without the consent of the owner, but if his consent is withheld the state minister is empowered to purchase compulsorily. No monument so scheduled may be destroyed or subjected to works of restoration, repair or alteration without the consent of the minister, nor may new buildings be annexed to it without permission from the same quarter. Generally speaking, the minister is advised by a commission of historical monuments, consisting of leading officials connected with fine arts, public buildings and museums. Such a commission has existed since 1837, and very considerable sums of public money have been set apart to enable it to carry on its work. In 1879 a classification of some twenty-five hundred national monuments was made, and this classification has been adopted in the present law. It includes megalithic remains, classic remains, and medieval, Renaissance and modern buildings and ruins.

The Belgian people appear to have realized for a very long time the importance of preserving their historic and artistic treasures. By a royal decree of 1824 bodies in charge of church temporalities are reminded that they are managers merely, and while they are urged to undertake in good time the simple repairs that are needed for the preservation of the buildings in their charge, they are strictly forbidden to demolish any ecclesiastical building without authority from the ministry which deals with the subject of the fine arts. By the same decree they are likewise forbidden to alienate works of art or historical monuments placed in churches. Nine years later, in 1835, in view of the importance of assuring the preservation of all national monuments remarkable for their antiquity, their associations, or their artistic value, another decree was issued constituting a royal commission for the purpose of advising as to the repairs required by such monuments. Nearly 200,000 francs are annually voted for expenditure for these purposes. The strict application of these precautionary measures has allowed a number of monuments of the highest interest in their relation to art and archaeology to be protected and defended, but it does not appear that the government controls in any way those monuments which are in the hands of private persons.

In Holland no statutory provisions exist for this end, but public money to the extent of some £5,000 or £6,000 a year is spent on preserving and maintaining national monuments and buildings of antiquarian and architectural interest.

Germany likewise lacks statutory provisions with regard to ancient monuments generally, but there would appear to be a growing feeling that steps ought to be taken to protect both them and the natural beauty of the landscapes of the country. Prussia and Hesse are taking steps to control and limit the disfigurement of landscapes by advertisement hoardings; for it is realized that the interest of all who love beautiful nature is in question, and, moreover, that it would be folly to overlook the pecuniary loss which must accrue if the natural beauty is damaged which attracts the tourist. In Saxony a Commission for the Preservation of Monuments has recently been appointed for the supervision of their removal, restoration, or repair; and although no right of active protection of monuments possessed by private persons is conferred upon the commission, I understand that in desirable cases it would be ready to address an official protest to any individual proprietor and to expose him to official pressure and remonstrance in the necessary direction. In Bavaria precautions are taken to protect public buildings which are to undergo repair, but action on the part of the State does not go beyond that point. Plans for any important alterations of a national building, either secular or ecclesiastical, have to be submitted to the Royal Commissioners of Public Buildings and approved by them. A passage from the ministerial order of 1884, with reference to the restoration of churches, may be justly quoted:

"If the restoration of a public building is to be completely successful, it is absolutely essential that the person who directs it should combine with an enlightened esthetic sense an artistic capacity in a high degree, and, moreover, be deeply imbued with feelings of veneration for all that has come down to us from ancient times. If a restoration is carried out without any real comprehension of the laws of architecture, the result can only be a production of common and dreary artificiality, recognizable perhaps as belonging to one of the architectural styles, but wanting the stamp of true art, and, therefore, incapable of awakening the enthusiasm of the spectator."

And again: "In consequence of the removal or disfigurement of monuments which have been erected during the course of centuries—monuments which served, as it were, as documents of the historical development of past periods of culture, which have, moreover, a double interest and value if left undisturbed on the spot where they were originally erected—the sympathy of congregations with the history of their church is diminished, and, a still more lamentable consequence, a number of objects of priceless artistic value destroyed or squandered, whereby the property of the church suffers a serious loss." How much richer might we be here in England if only our central authorities had in the past circulated these admirable doctrines!

If we turn to Denmark we find that, as in the case of Belgium, the preservation of immovable objects of historical value has

* A paper read by Mr. Nigel Bond, secretary of the National Trust, at a meeting of the Dorset Natural History and Antiquarian Field Club, reported by *The Builder* for April 9, 1904.

attracted the attention of the government from the early years of the nineteenth century. As early as 1807 a royal commission was appointed, whose powers have from time to time been increased. It has no direct control over those monuments which are not the property of the State, but when any particular monument is inadequately protected it has powers of acquisition by purchase. The government has taken steps to impress upon owners the importance of preserving ancient monuments and upon the incumbents of livings the desirability of protecting the ecclesiastical remains of which they have charge. Steps have also been taken by the government to prevent removals of stones from monuments of historic interest for utilitarian purposes, such as is causing the rapid disappearance of the remains on Dartmoor in this country. Outside the scope of the forest laws, which prevent undue destruction of trees, the Danish government has not taken any special measures to protect natural scenery as such.

The government of Sweden and Norway has advanced so far as to have laid down the principle that an ancient monument (the term including long abandoned burghs, castles, monasteries, etc.) may be of such an age that it can no longer be held to be private property. The State Antiquary, acting on behalf of the Royal Archaeological Academy, may cause to be raised or repaired fallen stones, notifying his intention to the owner or occupier of the land on which they are situated, and, if necessary, compensating him for damage. The site of such remains may not be cultivated to any increased extent without special permission. Fines are imposed upon any one who may demolish or disturb ancient relics by blasting or plowing. Old churches, to which historical memories cling or which possess features of artistic interest, may not be destroyed without the royal permission.

The government of the Tsar has not yet turned its attention to this subject, but from a recent announcement one may perhaps conclude that public opinion, in the capital at any rate, is moving in the right direction, for it appears that the city council of St. Petersburg proposes in future to exempt from taxes those persons who build artistic houses, to confer gold medals on the architects, and to insert a marble tablet on the best façades. The demands of beauty, therefore, as well as of utility, are to be encouraged.

In Austria there has existed for the past forty years an "Imperial and Royal Central Commission for the Investigation and Preservation of Artistic and Historical Monuments," constituted for the purposes of inspection and consultation, and in order to quicken the public interest in these matters. It is a central body, in close touch with the government, and working throughout the country by means of local correspondents or "conservators." It has rights only over those buildings which belong to the State, and has no rights whatever over private property; but nevertheless its advice is often sought and plans for restoration, etc., submitted to it for correction, and its existence forms an official acknowledgment of the desirability of placing ancient monuments beyond risk of destruction.

The Greeks have stringent regulations to insure the preservation of antiquities, which are regarded as national property, and may on no account be damaged either by owner or lessee. To remove all temptation for the filching of stones it is forbidden to construct a lime-kiln nearer than two miles from any ancient ruins. Should an owner in any particular case refuse to coöperate with the government in repairs to an ancient monument his interest in it may be compulsorily purchased.

It is said, however, that, while the greatest care is taken of classical remains, the law is not so strictly enforced as might be with regard to medieval monuments.

In Italy the laws on this subject vary in the different portions of the kingdom, but the most important law is that founded on the edict of Cardinal Pacca of 1820. Among the regulations contained in it is one forbidding the owners of estates on which ancient monuments exist to do them damage or to make use of them for any common or unworthy purposes. Road mending would appear to be in all countries a baneful source of woe to the antiquarian, and it may be some consolation to us to know that even in Italy it is necessary to take precautions to protect ancient monuments from the highway authorities.

The Swiss Federal Council has appointed a commission to look after the historic treasures in that country, and makes an annual grant for the purpose, part of which is spent in aiding private individuals in their preservation and another part in their purchase by the State.

Spain has elaborate machinery for the protection of historic and artistic monuments. Each province has a commission immediately dependent on the Royal Academies of History and Fine Arts in Madrid. These commissions give official recognition to the antiquarian or artistic value of public monuments, direct archaeological investigations, and prepare catalogues of buildings of interest. Public local bodies have to keep them informed of the condition of classified buildings and of proceedings affecting them. The commissions do not appear to have any absolute power to prevent injury to monuments in private hands, but from their official character and position exercise considerable weight on their behalf.

When we leave Europe, and turn our eyes across the Atlantic to the new world, we have in front of us, of course, a land of natural beauty rather than of historic association; but it is worth while to note that the Americans have in many cases taken steps to secure the preservation in their original condition of the scenes of historic battles, partly as national monuments, partly

for purposes of military education. New York State owns Washington's headquarters at Newburgh, and has also acquired the Saratoga monument (originally erected by private subscription) and the lands surrounding it. In many of the States (notably in Florida and North Carolina) the sites of ancient burying places are carefully protected. With regard to prehistoric remains also, in Ohio, which is one of the richest fields in the world for archaeological work, the State partially maintains an Archaeological and Historical Society, the purpose of which is to preserve historical material and to afford better care and protection for tumuli and other relics.

The great national parks are, of course, one of the chief features of the country. These are not confined to the neighborhood of great cities, and in them the natural features of the landscape are placed beyond all possibility of destruction. The best known of these is the Yellowstone Park, whose size exceeds thrice that of the county of Dorset. Twenty years have now elapsed since this great area was set aside as a public recreation ground and as a place of security for all kinds of animal and vegetable life.

Lack of time prevents my making more than a passing allusion to the remarkable work of the Massachusetts reservations. The city of Boston has organized an almost perfect system of open spaces of all kinds, in order that the citizens may enjoy the benefits of natural scenes in the midst of what would otherwise be a vast area of unadulterated bricks and mortar. Over seven thousand acres have been acquired for public parks within the metropolitan area in the last ten years, and these parks are connected with one another by parkways or green lanes, of which there are some twenty-three miles in all, and in addition to this large areas along the river banks are preserved as public open spaces.

Finally, as to Niagara. New York State acquired in 1883, by compulsory purchase, the American portion of the Falls, together with Goat Island and a fringe of the shore in order to effect the preservation of the scenery; and the Canadian government has, if somewhat more reluctantly, taken similar precautions with regard to the opposite bank and side. It may be mentioned that the movement with regard to Niagara was the outcome of efforts made by the late Lord Dufferin when Governor-General of Canada.

I have now told my tale, though, I fear, without adornment; may I, in conclusion, briefly point to a moral? Our Protectionist friends have not yet subjected the importation of foreign example in legislation to any prohibitive tariff; we are still free to consider whether we could not in some degree follow the direction in which the foreigner has led. Here in England we did not begin to protect ancient monuments by law till 1882, and even then we cautiously experimented upon megalithic remains only. Three years ago the somewhat limited powers of the Commissioners of Works were (by an Act promoted by the National Trust and drafted by its chairman) extended to county councils, and the term "monument" was interpreted to mean "any structure, erection or monument of historic or architectural interest or any remains thereof." But the State is, in the United Kingdom, utterly powerless against the owner of even our most important monuments. The powerlessness of the government has been well exemplified during the last year or two in the face of the determined effort of inexpert enthusiasts to find the Ark of the Covenant among the remains on the Hill of Tara.

I am not one of those who think that we should be the better, either politically or morally, for allowing the State to do the work of the individual. I would infinitely rather see the preservation of places of historic interest or natural beauty carried out by some such association of private individuals as the National Trust; nor do I think that a study of the laws of other countries forces one to the conclusion that excessive State interference is necessary. But I do think that our government should give greater encouragement to those who have undertaken this work; that it should head the movement in a more determined way than it does at present. It ought to guide and educate public opinion in these matters without, of course, being far in advance of the thoughts and wishes of the people. It seems to me somewhat humiliating that in this year of grace it should be found necessary to form a National Art Collection Fund of voluntary subscriptions because the citizens of the richest country in the world are not willing to provide out of public money sufficient adequately to supply additional art treasures to our national galleries and museums.

Still we need not be without hope. Our government has recently acquired, and is now taking steps to give proper protection to, the ruins of Tintern Abbey; a clause was inserted in the Irish Land Bill last year with the intention of further protecting the monuments which would probably receive but scant respect at the hands of peasant proprietors. There are, in fact, signs of a change at hand. But we shall do well to remember that our neighbors (in many cases much poorer than us in both relics of the past and the beauties of nature) are much more inclined to give official recognition to the importance of all artistic and historic questions. If we do so, and if we are thereby spurred to greater voluntary effort, our examination of their laws, however inexhaustive, will not have been entirely fruitless.

WILLIAM H. GOODYEAR, curator of fine arts for the Brooklyn Institute, has been elected an honorary member of the Associazione Artistica, the society of Roman architecture, being one of the six foreign honorary members.

CRAFTSMANSHIP.*

THE word craftsmanship conveys to us the thought of human achievement, that "homely fancy and lovable humility" which seems so synonymous with medieval art. But it is more than this for it is the expression of the national life and thought of a nation as told by the products of the hands and brain brought forth by necessity.

On the one hand you may have the craftsmanship of the savage, fierce in the joy of ornamenting his weapons of war; on the other hand that of the Greek—godlike in his certainty and correctness, conveying always the sublime assurance in which the dignity of the mind was always paramount—or contrasting with this philosophic calm and correctness that of the medieval age, in which you have the expression of the mind in its very humanity—the humanity absorbed by the overpowering Deity, in which man exposed his human traits and weaknesses in the expression of his hopes and fears; his desires, his successes, and failures, his loves, his sports, and the glories of his house, his dress and his town; or you have that latter work of the early Renaissance days, when we have the commingling of the humanity of medieval with the legends of the Greeks.

Craftsmanship originated when the savage made his first article of necessity and the genesis of the inherited trades which afterward developed into the medieval guilds was when the father handed that knowledge and experience to his son. In early days the inheritance of trade was compulsory by law, and a son was compelled to follow his father's trade and carry on the secrets peculiar to that business. It is a very short step from this, as demand grew greater, for the adoption of a relative, and eventually one not even of blood relationship, into the family circle by a compact for mutual benefit.

And with this growth of society, men felt the necessity of a more extensive brotherhood than their own immediate relationship, and they began to band themselves together to protect their own trade, to maintain their independence, and to render and receive aid when needed. These organizations, which were of a very ancient date (for we have the origin of freemasonry at the building of the Temple, the Solonic laws in Athens, recommending the founding of trade societies as promoting the benefit of the whole community, and in Rome Numa Pompilius, uniting musicians, carpenters, coppersmiths, dyers, jewelers, shoemakers, potters and tanners into associations, in England Alfred and Ina of Wessex framing laws for them), these organizations, through the expansion and increased vitality of industry, developed into those powerful societies known in the Middle Ages as the Craft Guilds.

These guilds were designed to suppress trade frauds, insure skill and care in workmanship, to secure the proper use of proper tools; to provide for due remuneration and recreation and the permanent employment of craftsmen; to check injurious competition; to fix the rates of wages; to arbitrate between customers and craftsmen; to fine incompetent workmanship. (Our modern trade unions strike against low wages, but I never yet heard of them striking against doing bad work.) They were associations for mutual help and poverty was unknown. When a craftsman wandered he was received as a brother in his particular craft, and one can well imagine the ready and keen delight with which he would be asked for, and would give, information of the great work that others in the craft were doing in other places. These sojournings, too, with the wonderful ideas which would be passed along, would encourage men to realize the gradual growth of that strength which eventually made them the masters of the cities and the advisers of the State.

Apprenticeship was absolutely necessary and compulsory among the producers of the art of the Middle Ages. There was little or no division of labor among them—a man knew his work from end to end. Each skilled craftsman might only take one or two apprentices at a time, for they learned by working with him. A likely youth was known to the rulers of his craft from his apprenticeship, and his progress was watched by them as by members of his family. At a certain stage the apprentice, by executing a piece of work and showing the excellence of his skill, became a master and a voting member of the Guild, and only thus would he be allowed to become an employer of labor.

Then as a citizen the dignities of the cities were open to him and the great things of his art. He might become the executant of those imperishable records erected by a grateful State to commemorate the services rendered by a distinguished son to her glory, or his genius might become the source of pleasure and pride, which his sovereign would take delight in lavishing on the rulers of neighboring States or those whom he desired to honor.

Thus under the Craft Guilds each fully instructed craftsman was by all surrounding conditions encouraged to be an artist whose labors gave a joy and a pleasure to his existence; and by this means taste and knowledge of what art was then possible spread widely among the people and became instructive in them, so that all manufactured articles, as it were, grew beautiful in the unobtrusive and effortless way that the work of nature grew. The result of five centuries of this popular art is obvious in the outburst of splendid genius which lit up the days of the Italian Renaissance. Men whose hands were skilled in the fashioning of things could not help thinking the while, and soon found out that their deft fingers could express some part of the tangle of their thoughts. They introduced the elements of hope, of pleas-

ure into all their labor, they took an active interest in their work. The exquisite armor of the knights, their swords and their lances, the decorations of their buildings, their hangings and their furniture, their domestic utensils, their dress and costume show that the art of the Middle Ages was a thing loved and cherished and made beautiful for its own sake.

All the guilds chose some particular saint to protect them, and where possible chose one of peculiar interest to their trade.

With the great wealth which they possessed, and by reason of their power in the State, they provided masses, altars, painted windows, and even whole churches, in their honor, and their important functions occurred on the namedays of their saints.

The ostentatious displays and quarrels of the noble caste, while providing the opportunities for the skill of the craftsman, released him from his servitude and provided those political rights, of which he so skilfully availed himself that he quickly became the ruler of free cities and explorer of unknown lands.

And it was this overleaping ambition which was the ruin of the craftsman and his art. For just at this period conditions arose which gradually turned the workman from the medieval craftsman into the mere artisan laborer of the capitalist system—the guild system was ousted out by the workshop. The discovery of America, of the Cape route to India and China, the conquest of Mexico and Peru, the battles in the Levant, all combined to overwhelm the natural means of production. New worlds of adventure, new worlds of thought—the inexhaustible and previously unheard of and even undreamed of supply of precious metals in their raw state—the enormous abundance of every material and riches gained by commerce forced on development at headlong speed.

To keep pace wider organizations of labor were needed, a more and more regulated division of labor became essential to compete with this haste to seize opportunities, workshops grew larger and larger, the workman ceased to own any portion of his productions.

The increasing amount of capital also needed for success in business as the markets grew and the town supplied not only the country, for foreign lands gradually broke down the democratic constitution of the trade; it was no longer a matter of course for a capable apprentice and journeyman to become in due time a master of the craft; on the contrary, the capitalist master exercised increasing authority within the Guild and turned its machinery to the disadvantage of the poorer members.

And it was this subdivision of labor which brought about the divorce of the artist and the craftsman, this overwhelming flood of demand which engendered the scientific spirit which concentrated its energies to the increase of wealth. And art by no means stood still in these latter days of the Renaissance, but took the downward path with terrible swiftness.

So, in this ever-increasing flow of trade, the craftsman was separated from the artist, the thinking powers of the one were eradicated, and the knowledge and ideas of the other were limited to effect the greater expedition of the work, and so, by the abuse of drawing as an art rather than as a means to an end, brought about step by step the separation of art from utility. It was this which bred the commercial spirit which is so rampant even to our own time.

Art is man's expression of joy in his labor, and this stereotyping influence, with its scientific and mathematical laws for the unnatural and forced production, brought about the degradation of craftsmanship and became the means of the extinction of art. Sham art is irksome to do and degrading labor, and the result was that the crafts became so degraded by past workmanship that educated men appeared to lose caste by touching the work.

The world had advanced too quickly for the artist constitutionally conservative in ideas, but it is as useless to attempt to stem this tide of energy and requirements by using medieval methods of production as it would be to attempt to stay the sun in its daily course. Nevertheless it is the artist's duty to bring his brain to bear on our requirements now as much as they did naturally in the past, and even more so, for the difficulties to overcome are greater. And however one may regret the necessity, the artist must adopt the modern methods of production, making the machine subservient to his will, and the instrument of his power.

In the course of a recent criticism which I ventured to make on the methods and work of Birmingham casters and die sinkers, I received a letter from a Birmingham firm of die sinkers complaining that machinework was cutting out the handwork, and since apparently one seemed only to be getting laborer's wage the art of die sinking would soon be an art of the past.

I have here some medals loaned me by my friend, M. Janvier, which I think, after making all allowance for the national differences of temperament in viewing art, effectually dispose of the fallacy that a machine reproduction of artistic value is impossible.

In die, sinking and stamping it is, as in everything else, the mind which inspires and asserts the mastery over the material and the machine, and I recall the use of a tool worked by an electric battery under the guidance of hand by the means of which much beautiful carved silverwork by Professor Herkomer, and that band of craftsmen now dispersed, was executed, among other things, the badge and chain of the president of the Royal Water Color Society. I do not deny that such methods are liable to great misunderstanding, but the methods are here, and it is our duty as artists to improve taste and production by their means.

(Concluded next month.)

* Paper read by Mr. W. Gilbert before the fortnightly meeting of the Architectural Association, as reported in *The Builder*.

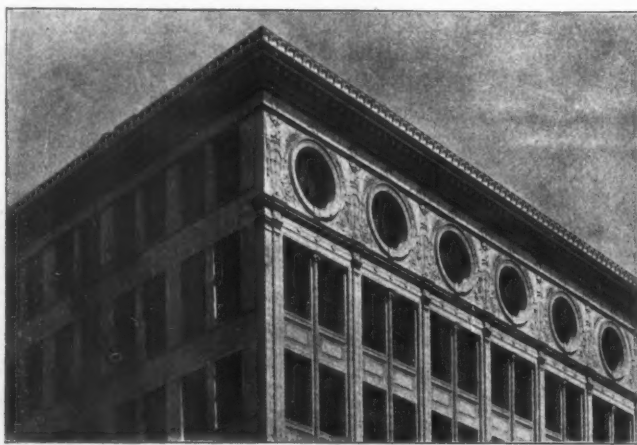
THE RAILWAY EXCHANGE BUILDING.

WHAT will probably be pronounced the perfect stage in the advancement that has been going on in method and material ever since the first steel-frame structure was designed is found in the structure of the Railway Exchange building, at Chicago, of which D. H. Burnham & Co. are the architects and A. Lindquist the general contractor. The foundations of this eighteen-story building are concrete piles, the frame of steel, the fireproofing hollow tile, all according to ordinary methods, but instead of a veneer of brick or heavy blocks of granite, the facing of this great structure is of white glazed terra-cotta.



ENTRANCE TO RAILWAY EXCHANGE BUILDING.

It is strange that almost twenty years ago, before the first steel construction buildings were erected, that is, those the walls of which are not continuous from the foundations, that in the design for a projected building for the Taylor estate, John W. Root planned to "make the front a framework of steel and fill in with panels of terra-cotta." This was the conception of a steel-frame building logically worked out, though the structure was not built.



DETAIL OF RAILWAY EXCHANGE BUILDING.

The Railway Exchange building represents the logical completion, in practical form, of the theory and practice of steel construction. Instead of a massive, cumbersome and useless veneer of granite, the white-glazed terra-cotta gives a grace and beauty

as well as practical and economic solution to a much experimented with subject, the exterior of steel-frame buildings. This is so obvious in the Railway Exchange building that it is probable that the office building of the future will have three component parts in its structure, steel, hollow tile and glazed terra-cotta. In connection with this latter material, the Northwestern Terra-Cotta Company, of Chicago, must be mentioned, as it is through the many years of this company's experimental work, combined with the highest practical knowledge, that the work of making a perfect glazed terra-cotta has been accomplished. And as this structure in its entirety is the best example of what can be done in this material yet produced, it stands as an exposition of the terra-cotta work executed by this company. For not only this great façade, but the interior finishing of the first two stories as well, is terra-cotta and terra-cotta only.

Here in the entrances are bas-relief panels, moldings and reliefs with the texture and gloss of polished ivory, artistic in effect in its broad panels beyond any that could be obtained from tiles and marble, which it replaces; so that here, too, the change will be noted in future buildings, and terra-cotta will be almost universally used. It is, at least in the hands of the designers and constructors of the company mentioned, adaptable to any design, from broad panels of plain surfaces to the most delicate tracery, bas-relief and statuettes.

It seems that even that enemy of tile and enameled brick, "crazing," has been overcome, and, as shown in the Baltimore fire, the material is not affected by fire that destroys the surface of granite and limestone. It is most adaptable in smoke-enveloped cities like Chicago and Pittsburg, as no creosote can penetrate its surface and it can be kept clean by occasional washing. As a structure, expressive of its purpose, ideal in plan, involving the minimum of cost in construction, materials and maintenance, the Railway Exchange building represents commercial architecture in its best and highest development. It is a thoroughly commercial problem commercially solved, and is the latest and best hostage to Chicago's future commercial greatness that capital and construction skill has presented.

ASSOCIATION NOTES.

THE MONTANA ASSOCIATION OF ARCHITECTS.

On December 15 of last year the architects of the State of Montana organized a State Chapter and have now completed its work in the adoption of a constitution and by-laws under the rules of the American Institute of Architects, entitled The Montana Association of Architects. The officers are C. S. Haire, Helena, president; J. F. Everett, Missoula, secretary; A. J. Gibson, Missoula, treasurer; M. D. Kern, Butte, director; J. G. Link, Butte, director.

OUR ILLUSTRATIONS.

Apartment Building, Chicago.
 Railway Station, Muskegon, Michigan.
 School. Turnock & Ohrenstein, architects, Chicago.
 Public Bathhouse, Chicago. Robert Bruce Watson, architect.
 Residence, Evanston, Illinois. E. A. Mayo, architect, Chicago.
 Apartment Building, Chicago. Borst & Hetherington, architects.
 Public School Building, St. Louis, Missouri. W. B. Itner, architect.
 Residence. Frederick W. Perkins, architect, Chicago. Views in library and in dining-room are shown.
 Stable for The Frank Parmelee Company, Chicago. M. L. Beers, architect. Exterior and floor plan are shown.
 National Bank of St. Joseph, Missouri. Jenney & Mundie, architects, Chicago. No part of a bank building is of more vital importance than the fireproofing. This was given special care in the St. Joseph Bank by the architects, who are thoroughly capable of judging the requirements of such construction. It is therefore no small recommendation of its merits that the system selected was the concrete fireproof construction of the Rudolph S. Blome Company, of Chicago, who built all the floors and roof, giving the work their usual careful personal supervision. In addition the company did all the required regular concrete work, sidewalks, etc. The Rudolph S. Blome Company, as pioneers in cement paving and concrete construction, bring to their work ripe experience and an honorable record for reliable and substantial construction in a class of work that too often falls into careless and incompetent hands.
Special Plate: The Railway Exchange Building, Chicago. D. H. Burnham & Co., architects.

SPECIAL PLATES.

Issued only with the Photogravure Edition.

The Railway Exchange Building, Chicago. D. H. Burnham & Co., architects.
 Residence of Mr. Melon, Pittsburg, Pennsylvania. Alden & Harlow, architects.
 Residence, Evanston, Illinois. E. A. Mayo, architect, Chicago. Entrance detail is also shown.
 Residence. Frederick W. Perkins, architect, Chicago. Exterior and view in hall are shown.
 Entrance Detail, the National Bank of St. Joseph, Missouri. Jenney & Mundie, architects, Chicago.

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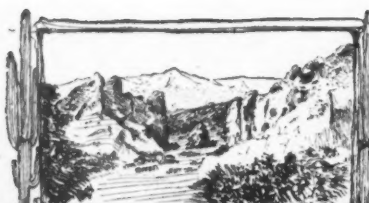
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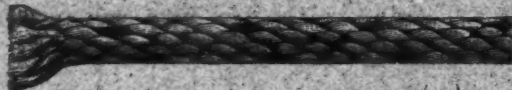


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