THE AMERICAN ARCHITECT

VOL. CIX WEDNESDAY, MARCH 22, 1916 NUMBER 2100

OLD GARDENS AND OFFICES, PLAN NO. 2
ATLANTIC TERRA COTTA CO., NORTH AMBOY, N. J.

A microscopic garden and ivy-covered office tucked away in the middle of a waste of coal trestles, boiler houses and long, low dingy buildings. The garden ornaments are antique Italian oil jars of terra-cotta, brought to this country by the late Stanford White, and reproductions of designs by R. Hinton Perry and Bela Pratt, Sculptors.

THE MODERN INDUSTRIAL BUILDING

BY EDWARD H. PUTNAM

THE general improvement in American architecture is easily apparent in the construction of the modern industrial building. Careful study of proportion and decorative treatment is the rule rather than the exception, and the bleak, barren waste of the cheapest material obtainable belongs to the past. The factory building of to-day, while strictly utilitarian, is built on the principle that economy is not of necessity limited to a saving in initial cost. The aesthetic appeal is considered, and even in instances of Spartan simplicity the crude and unsightly are carefully avoided.

There is some excuse for the old-time ramshackle structures; building materials were not on a par with those in vogue to-day and selection was limited. Steel construction was in its infancy, reinforced concrete was unknown and architectural terra cotta had not reached its present development as a practical as well as an ornamental structural material. Hollow tile and stucco were not even dreams. Even brick had not its present flexible versatility.

That the spirit was willing is attested by the occasional presence of a microscopic garden or ivy covered office tucked away in the

LOOSE-WILES BUILDING, LONG ISLAND CITY, L. I.

MR. WM. HIGGINSON, *ARCHITECT*

Reinforced concrete, veneered with architectural terra-cotta. The façade is a dazzling white, and its comparatively isolated situation makes the building a prominent landmark by day, as does its exterior illumination by night.

middle of a waste of coal trestles, boiler houses and long, low, dingy buildings covered with soot and dust. The attractive approach, while not totally lacking, was unusual.

Undoubtedly steel construction has had a great deal to do with the changed conditions. Large, heavy piers that shut out sunlight and air have no part in recent construction and the factory building is frequently a mere skeleton enclosed in steel sashed windows.

The modern policy of publicity is largely accountable for the improvement. Situated by railroads, as most factories naturally are, there is an excellent chance of prepossessing the thousands that pass daily in favor of an article that is manufactured in a clean, well-lighted, sunny building. Clothes do not make the man, but we are certainly more favorably impressed by a clean shirt than by a dirty one with frayed cuffs, and the same principle applies to buildings.

There are other reasons more practical, perhaps, but equally intangible; reasons that have to do with the hackneyed and overused words, "psychology" and "efficiency." There can be no doubt that a clean, attractive, well-lighted and ventilated building keeps the workman more alert mentally, more satisfied, and less inclined to listen to the malcontent and the agitator. He is healthier, happier, and his efficiency increases automatically.

The large number of food product buildings condemned as unsanitary some years ago has forced a marked improvement in buildings of this character. The best-known firms have made cleanliness a visible asset. An interesting example, and one in which many materials are used in a supplementary way, is the Sheffield Farms dairy. The three-story elevation of the main building is a reinforced concrete frame covered with a veneer of lustrous glazed white architectural terra cotta, a combination which is practically indestructible. The terra cotta protects the concrete from fire and weather, offers little foothold for soot or dirt, and is very easily cleaned down with soap and water. In this instance advantage is also taken of the decorative possibilities of architectural terra cotta; the name panels are raised in white against backgrounds of green, the keystones of the window arches show a conventional milk bottle in white against green, and the large cartouches under the cornice are in the shape of a cow's head executed in the natural colors of the Jersey cow. Surely an appropriate form of decoration! Instead of the usual pressed metal the panels between the window courses are of light green glazed terra cotta. The superstructure is of common brick covered with thin cement stucco artificially jointed to reproduce the effect of the lower stories. The walls of the large bottling room, four stories high, are also of lustrous glazed white terra cotta, and, if necessary, can be cleaned down with a hose. Bottling is done by the gravity system. The milk is hoisted to the top and comes out in sealed bottles at the delivery level.

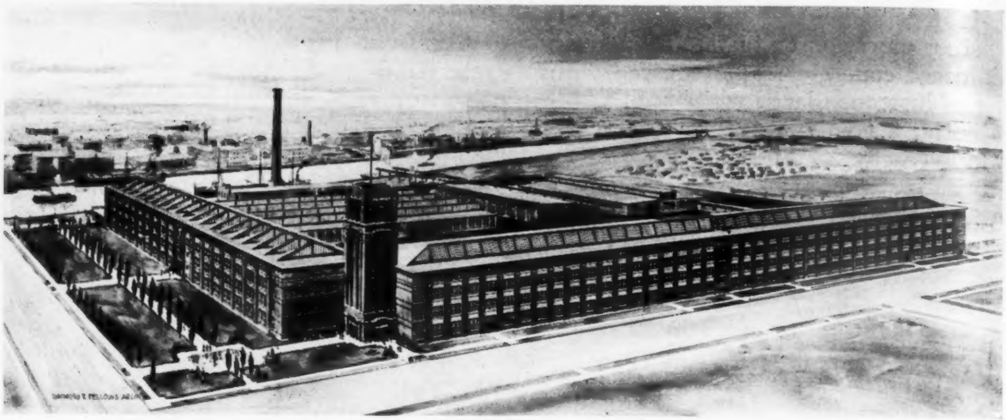
Similar in construction to the Sheffield Farms building is the bakery of the Ward Bread Co., at Ampere, N. J. This is one of a string of bakeries fittingly advertised by the Ward Co. as "snow white temples of cleanliness." Situated on the main line of the D. L. & W. R. R., the building has an undoubted advertising value.

The building of the Loose-Wiles Biscuit Co., at Long Island City, N. Y., is one of the largest bakeries in the world, and still another example of the reinforced concrete frame covered with architectural terra cotta. It is located on the Long Island Railroad and passed twice a day by thousands of com-

SHEFFIELD FARMS DAIRY CO. BUILDING, BRONX, N. Y.

MR. FRANK A. ROOKE, *ARCHITECT*

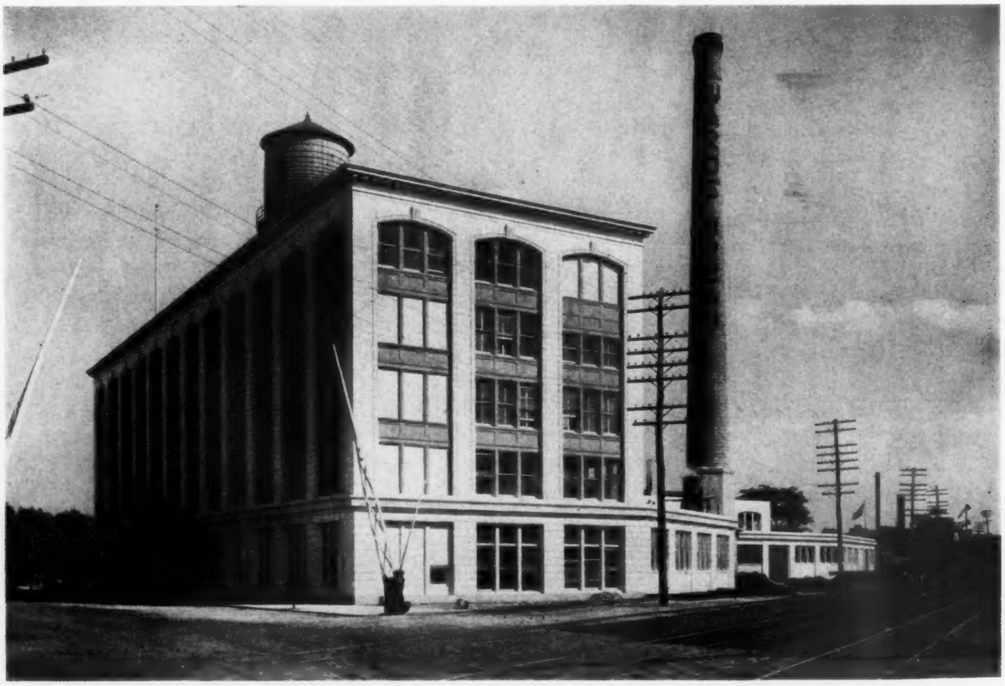
The three-story elevation of the main building has a frame of reinforced concrete with a veneer of architectural terra-cotta in lustrous glaze white. The superstructure is of concrete stucco over brick.



PLANT OF LIQUID CARBONIC CO., CHICAGO, ILL.
MESSRS. NIMMONS & FELLOWS, *ARCHITECTS*

muters. Brilliant illumination makes it a valuable advertisement at night, while its glistening white facade has the force of a strong suggestive recommendation by day.

One of the most usual forms of the industrial building is the unadorned frame of reinforced concrete. Properly constructed, its durability and efficiency are beyond question, and its strong, simple lines and uniform gray color give an impression of solid worth and not infrequently an impression of what might be called rugged dignity or grim beauty. As a matter of fact the impression of mass is misleading, for the piers are usu-



BAKERY BUILDING—WARD BREAD CO., AMPERE, N. J.
MR. C. B. COMSTOCK, *ARCHITECT*
Reinforced concrete, veneered with terra-cotta

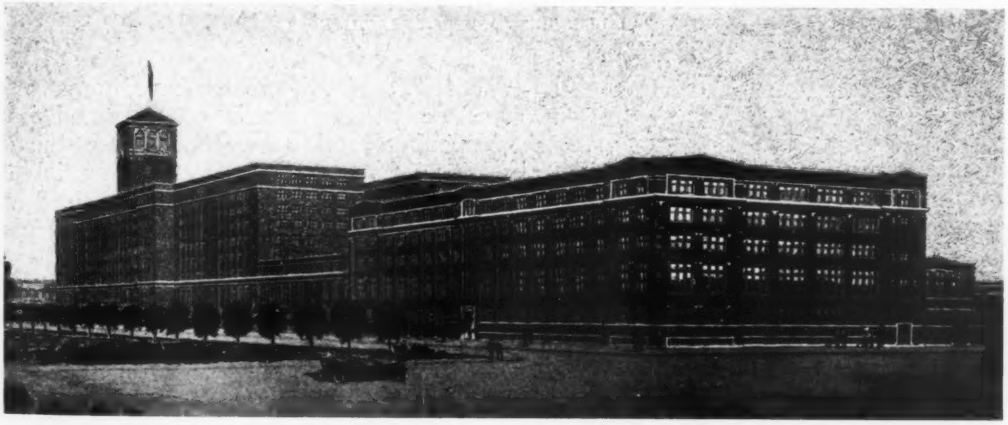
A PROPOSED RAILWAY TERMINAL WAREHOUSE

MR. GEORGE C. NIMMONS, *ARCHITECT*

ally very slender to permit maximum window space, and a multitude of large windows more than anything else is the unfailing sign of a thoroughly up-to-the-minute factory. One very real advantage of reinforced concrete is that it is a rapid form of construction.

Brick always has and always will hold its own as one of the most popular building materials for industrial buildings, and brick to-day is a far more adaptable material than it ever was before. A monotonous even red used to be the one aim and off-color brick were sold as "seconds." Almost a complete about-face in this particular is an indication of the improved public taste. Brick of uneven shade have become so popular that manufacturers are specializing along this line. Pattern work in brick-laying has come into vogue, and instead of the smooth-faced brick of other years many rugged textures have been introduced and have met with immediate favor. A brick factory to-day may express the highest type of architecture and at the same time be practical and thoroughly economical.

Just as the war has affected every other line of endeavor this year it has had a peculiar effect upon the erection of factories. The most apparent effect is one of stimulation; many factories of many kinds are cropping up all over the country, as a direct result of the war, but dependent upon the continuance of the war to dispose of their output. For that reason a large number of them are little more than temporary, and erected as an investment with the greatest haste and in the cheapest possible way in



GROCERY DEPARTMENT BUILDING: SEARS, ROEBUCK & CO., CHICAGO, ILL.

MR. GEORGE C. NIMMONS, *ARCHITECT*

order that the returns upon the investment may be immediate and generous. This necessity and the probability of closing down at the end of the war have caused a mushroom growth of flimsy shacks with one seemingly durable feature, the high fence that surrounds them.

On the other hand, the money that these makeshift factories have brought in has undoubtedly enabled many firms to erect modern plants for the production of materials that are staple in normal times.

And there is another direct result of the war. We are beginning to manufacture a number of products that formerly were imported, and the great majority of these adopted industries will become permanent naturalized residents. Each one must be housed, and there is little doubt that our present knowledge of what constitutes good industrial construction will be applied with excellent results.

VICTOR CABINET FACTORY, CAMDEN, N. J.

MESSRS. BALLENGER & PERROT, *ARCHITECTS*

The Effect of the War on Manufacturing Building Design

In spite of the unusual impetus to manufacturing building construction, given by the large orders received from abroad for "war material" during the past eighteen months, it cannot be said that there has been any marked improvement in the architectural treatment of this type of building. The terms of orders calling for first deliveries within a short time after signing of contracts has necessitated speed above every other consideration, except a moderate degree of safety.

The buildings created have, in many cases, been but mere shells, of piers and modern openings, and so urgently has been the necessity for speed that only the essentials to fit them for their purpose have received attention. This condition, while to be deplored, cannot now be remedied. We shall have for some time to come a number of structures so very commonplace in their aspect as to constitute a detrimental factor in the future development of groups of which they form a part. There is but small chance for a patient hearing of an argument for architectural treatment when the need for the building has become imperative and its use is a matter of immediate necessity to avoid pecuniary loss.

"War materials" comprise almost every class of manufacture, and many firms with adequate equipment, but whose product did not come under the class of "war orders," have abandoned for the nonce their usual line and taken sub-contracts from other manufacturers in which there was presented opportunities for large profits. It has many times happened that this change of manufacture has necessitated extension of the plant, and to meet the insistence of early and prompt deliveries plants have been enlarged.

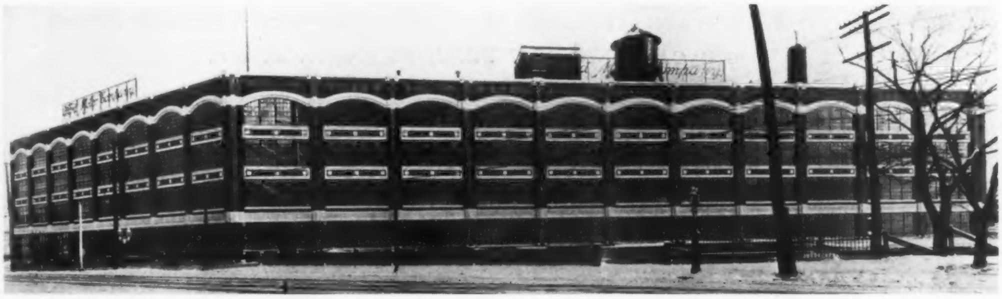
This enlargement has unfortunately been carried forward with only a regard for expediency, so that with all the activity in manufacturing building construction its aesthetic development has become retarded in place of keeping pace with the very fine development of past years.

Designers and constructors, confronted with the problem of speed, as speed has perhaps never before been interpreted, have devised and put into practical use new forms and new methods heretofore confined to a theoretical discussion as to their practical possibilities.

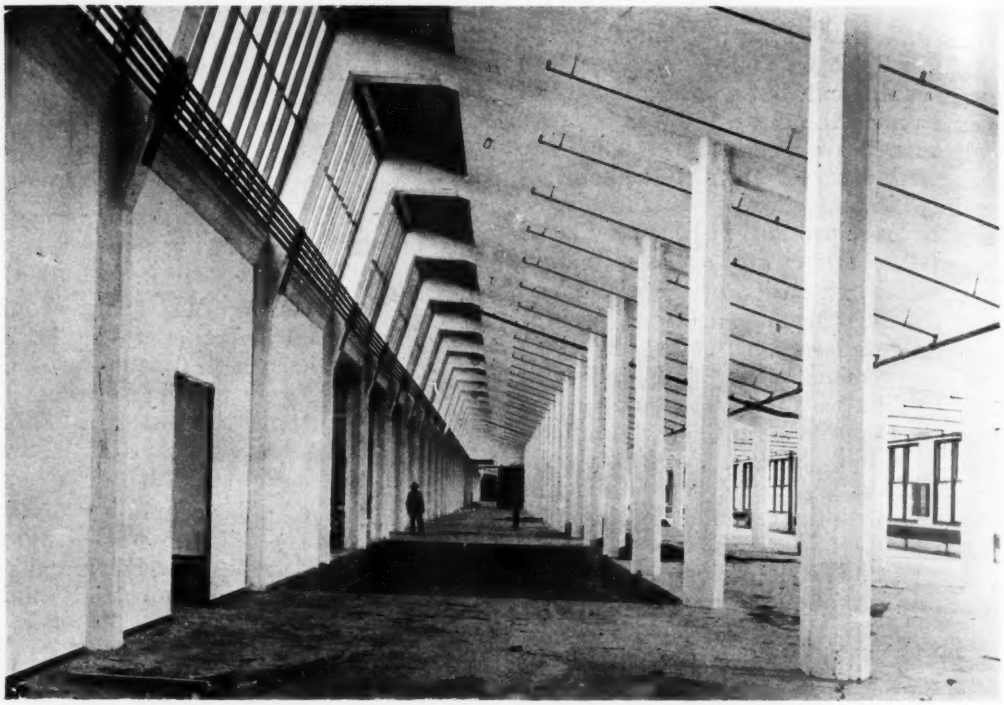
Just how successful these newer methods of construction are cannot be determined until they have stood the test of time.

As "necessity is," perforce, "the mother of invention," we find that while the aesthetic side of the manufacturing building is being neglected and going through a decadent period, the insistences that hedge about the building of these structures to-day are bearing fruit in the practical solution of many problems that were unsolved because there were no opportunities to test them. The old proverb, "It's an ill wind that blows no good," is thus again verified.

Inspection of a large number of photographs of factory buildings started and completed within the past twelve months discloses few examples of industrial buildings comparable with those of the five years past preceding the war.



BUILDING FOR FORD MOTOR CO., ALBANY, N. Y.
M. ALBERT KAHN, *ARCHITECT;* MR. ERNEST WILBY, *ASSOCIATE*



INTERIOR VIEW, SHOWING CONCRETE "SAWTOOTH" SKYLIGHT CONSTRUCTION: LIQUID CARBONIC CO.'S BUILDING, CHICAGO, ILL.

MESSRS. NIMMONS & FELLOWS, *ARCHITECTS*

DAYLIGHTING THE FACTORY

By William V. Dee

HOW many owners and architects consider a full measure of daylight in the factory in the same way as they do the convenience and purpose of the building, its architectural appearance, or its fire-proofness? Apparently not the majority of them, for one can visit plant after plant without finding this feature sufficiently studied and developed.

State laws regarding workmen's compensation were brought about through the neglect of the many to adopt the methods of the few, and the time is believed to be not far distant when laws relating to lighting will be introduced and made effective. Why not be ahead of these?

Increased production, meaning profits and savings, can unquestionably be obtained through the medium of better lighting. Then why should man-made laws be necessary where the natural one of dollar making or dollar saving is a law unto itself?

There are many other reasons for the daylighting of shops, but to enumerate them here would be to set down thoughts that must flash through the mind of every manufacturer almost simultaneously with the mention of the subject.

Light acts on the sensitized plate instantaneously with the exposure, the impression registered depending upon the amount of light available at the moment, with the result absolutely dependent upon the light quality.

So in factory production the work and workmanship depends upon the light quality even more than upon the skill of the man, for whatever may be his experience, the amount of work and workmanship decreases or increases according to the light available at the time of the task. This also affects the

BROWN & BIGELOW BUILDING, ST. PAUL, MINN.
MESSRS. KEES & COLBURN, *ARCHITECTS*

ENTRANCE DETAIL

BROWN & BIGELOW BUILDING, ST. PAUL, MINN.

MESSRS. KEES & COLBURN, *ARCHITECTS*

OFFICE FLOOR

FORD BUILDING, MINNEAPOLIS, MINN.

MESSRS. KEES & COLBURN, *ARCHITECTS*

DETAIL OF STAIRWAY

BROWN & BIGELOW BUILDING, ST. PAUL, MINN.

MESSRS. KEES & COLBURN, *ARCHITECTS*

PRESS ROOM

BROWN & BIGELOW BUILDING, ST. PAUL, MINN.

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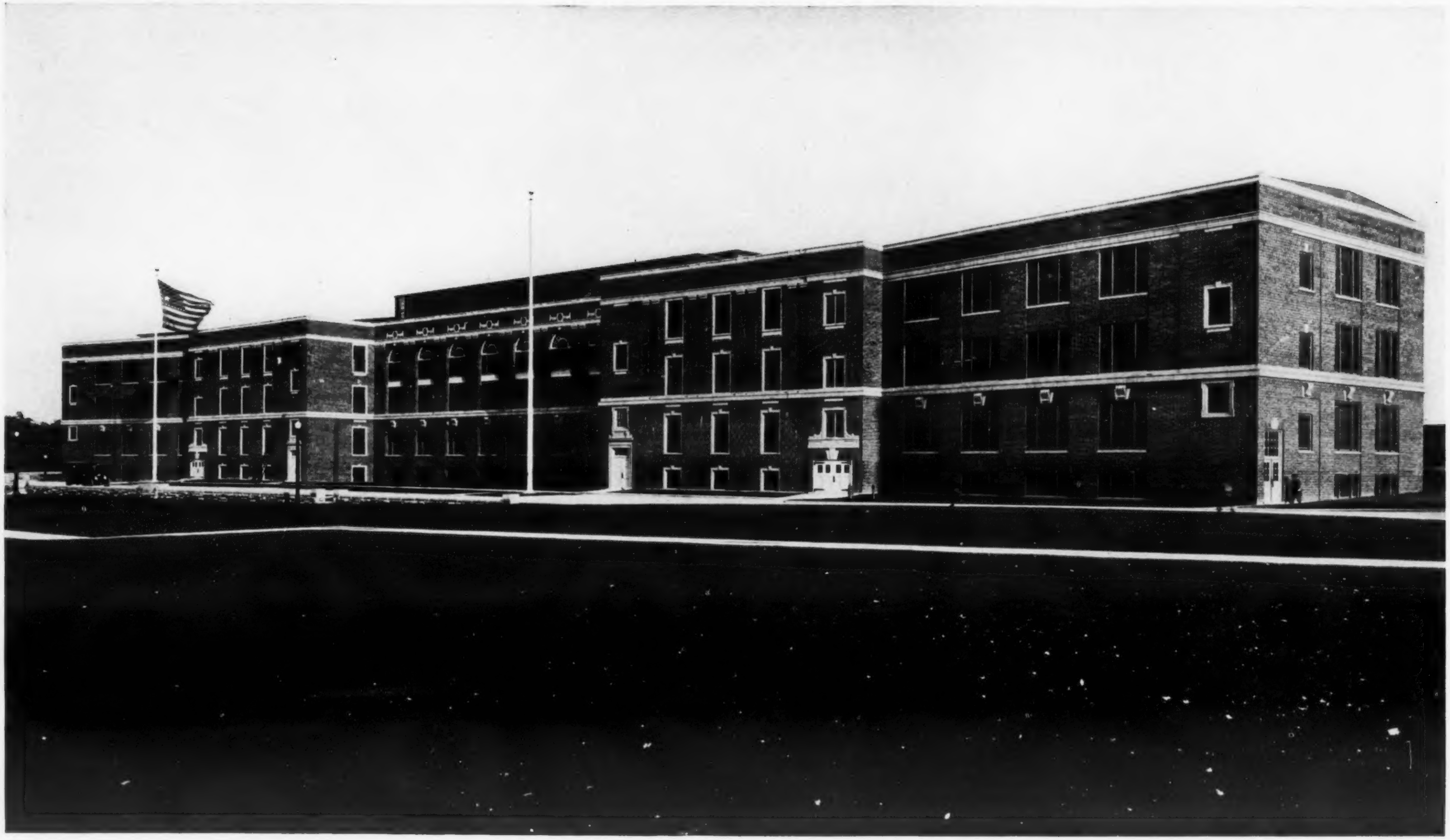


WORKING LABORATORY, NATIONAL LAMP WORKS, GENERAL ELECTRIC CO., CLEVELAND, O.

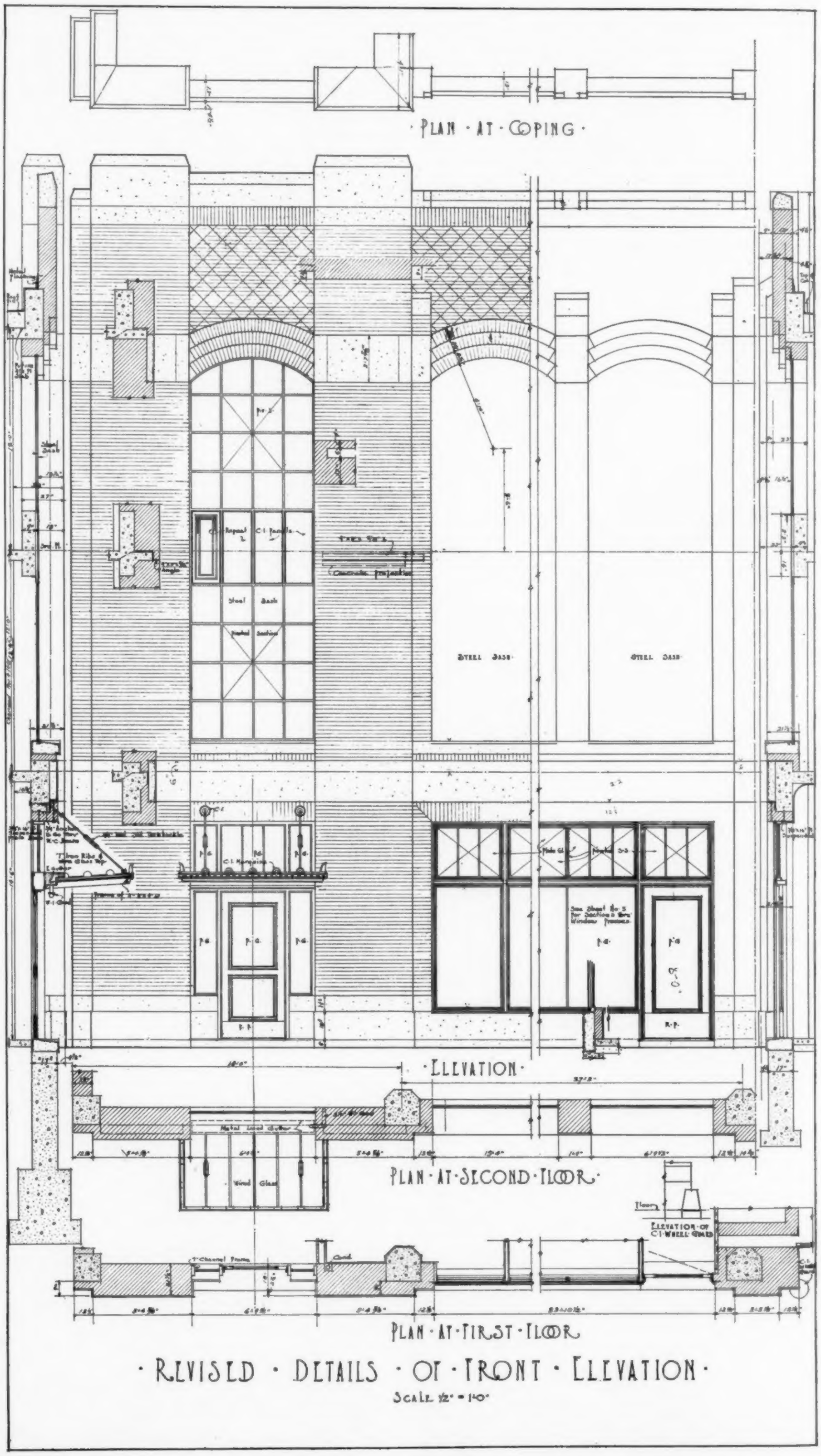
MESSRS. WALLIS & GOODWILLIE, *ARCHITECTS*

WORKING LABORATORY, NATIONAL LAMP WORKS, GENERAL ELECTRIC CO., CLEVELAND, O.

MESSRS. WALLIS & GOODWILLIE, *ARCHITECTS*

AUTOMOBILE GARAGE, DETROIT ATHLETIC CLUB, DETROIT, MICH.

MR. ALBERT KAHN, *ARCHITECT;* MR. ERNEST WILBY, *ASSOCIATE*



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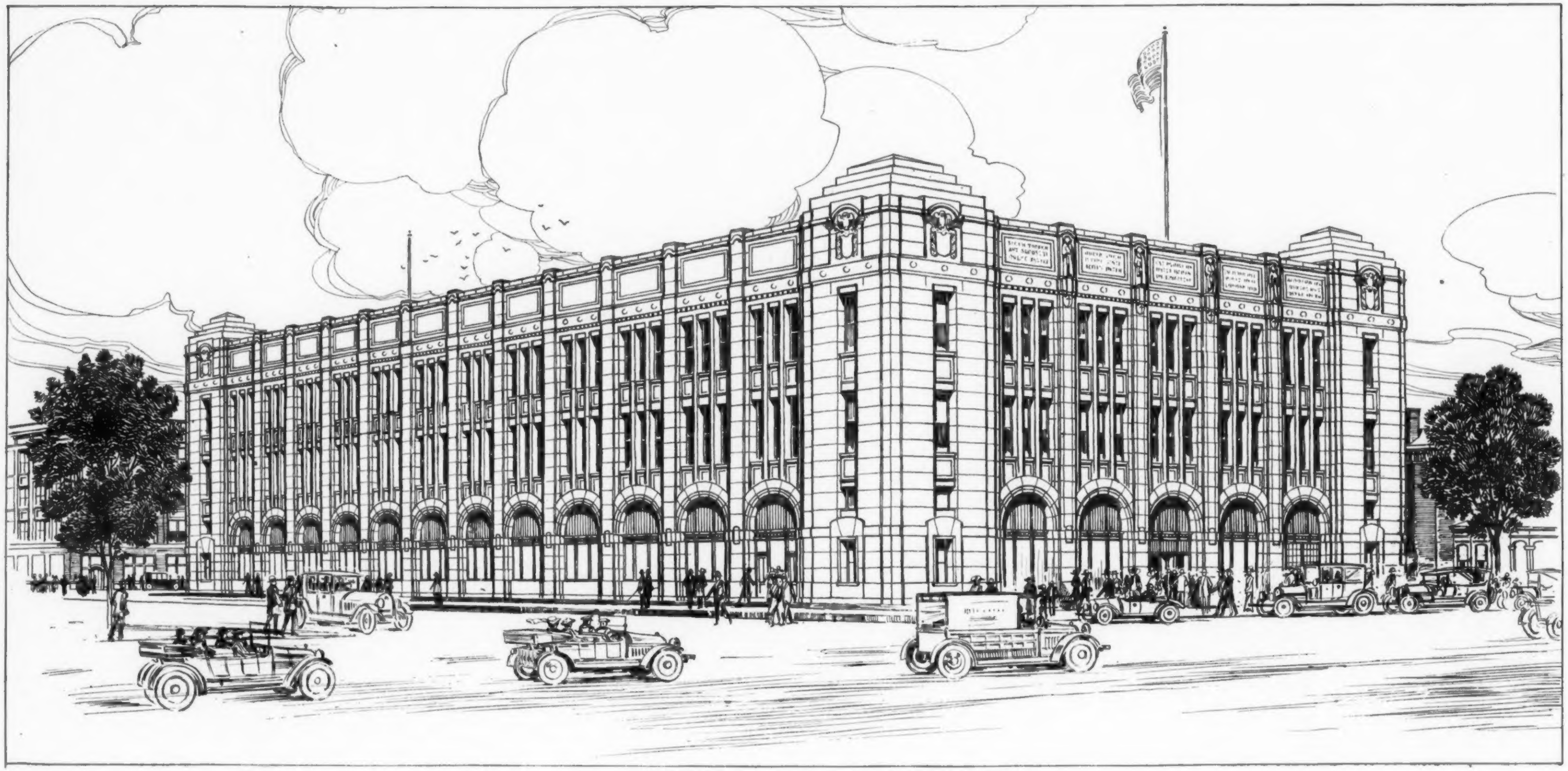
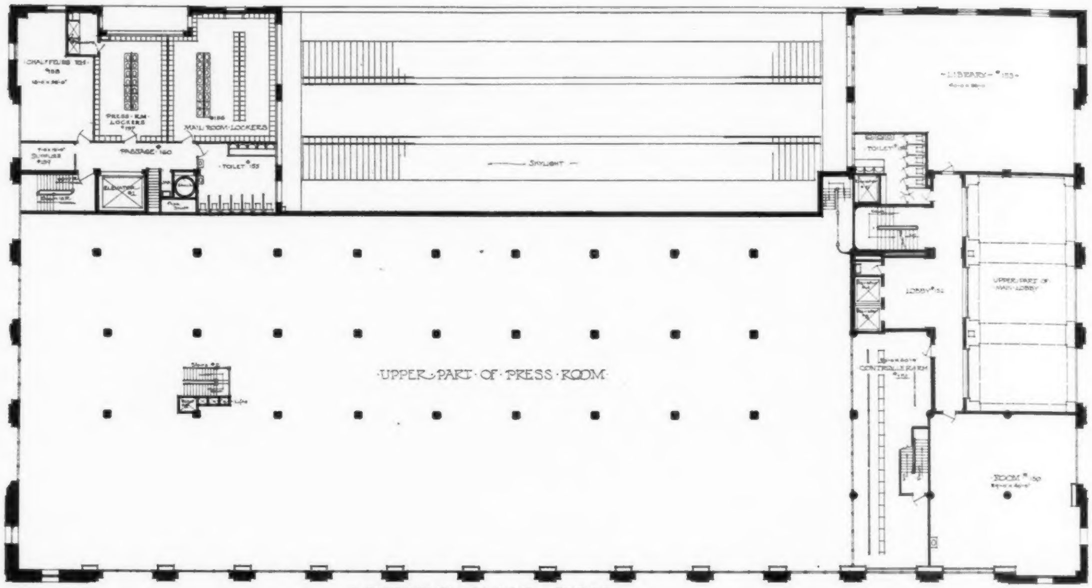
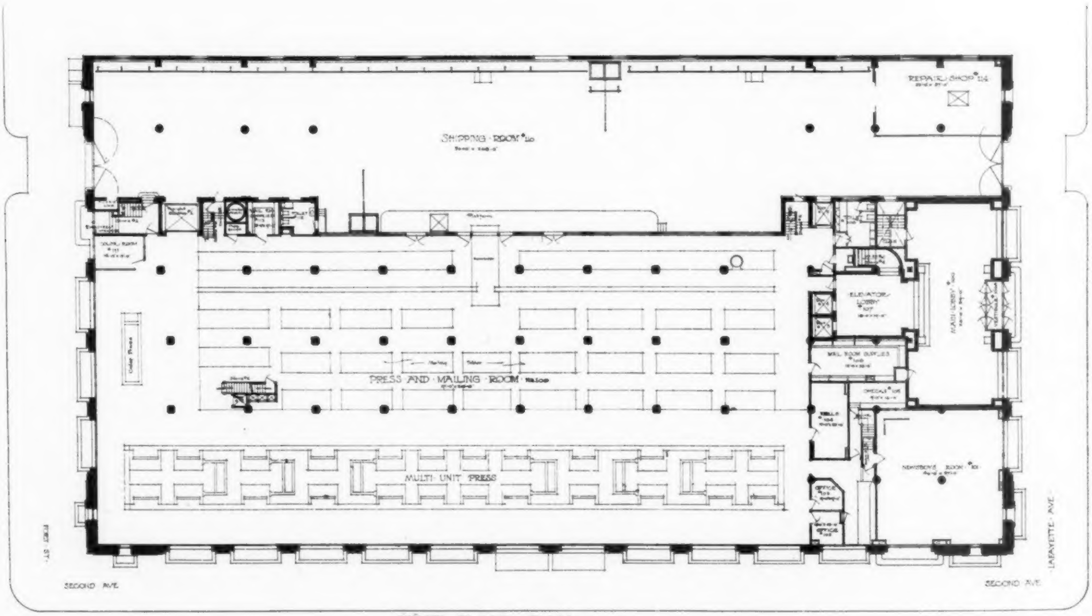


BUILDING FOR *THE DETROIT NEWS,* DETROIT, MICH.

MR. ALBERT KAHN, *ARCHITECT;* MR. ERNEST WILBY, *ASSOCIATE*



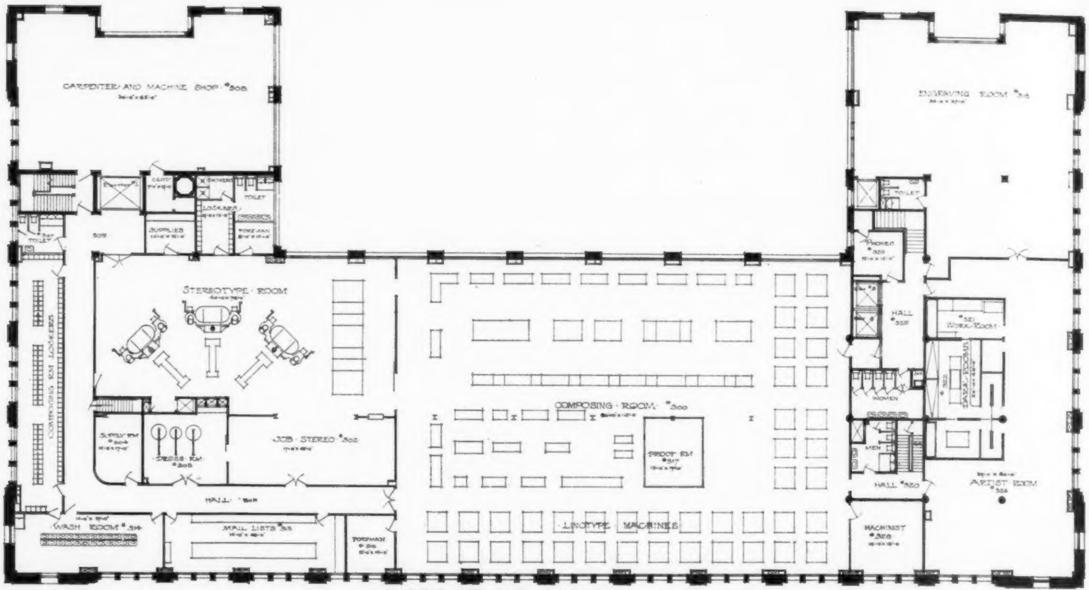
MEZZININE FLOOR PLAN



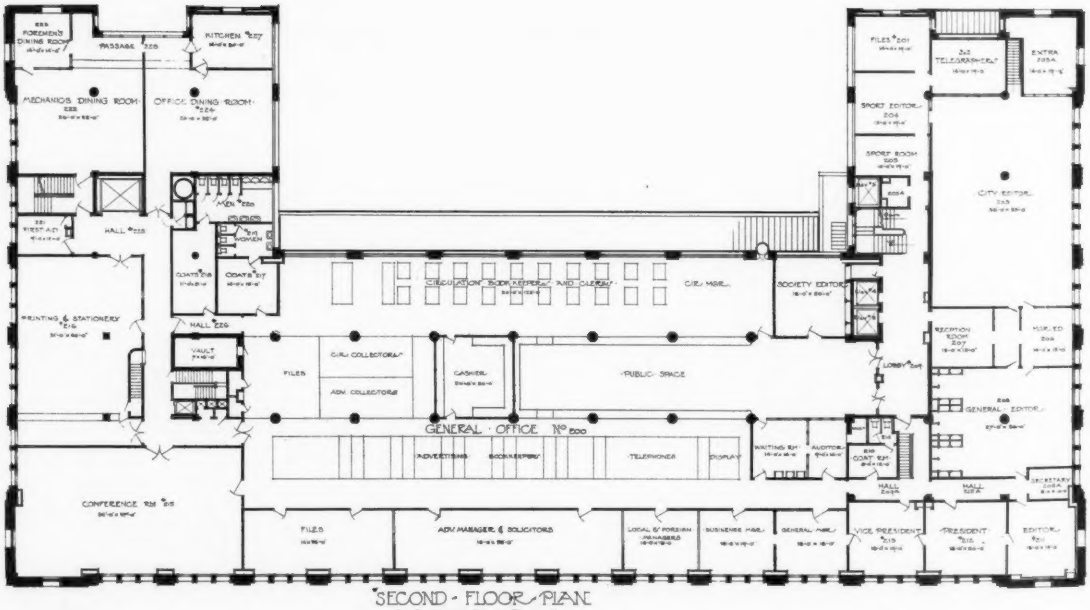
FIRST FLOOR PLAN

BUILDING FOR *THE DETROIT NEWS*, DETROIT, MICH.

MR. ALBERT KAHN, *ARCHITECT*; MR. ERNEST WILBY, *ASSOCIATE*



THIRD · FLOOR · PLAN



SECOND · FLOOR · PLAN

BUILDING FOR *THE DETROIT NEWS*, DETROIT, MICH.

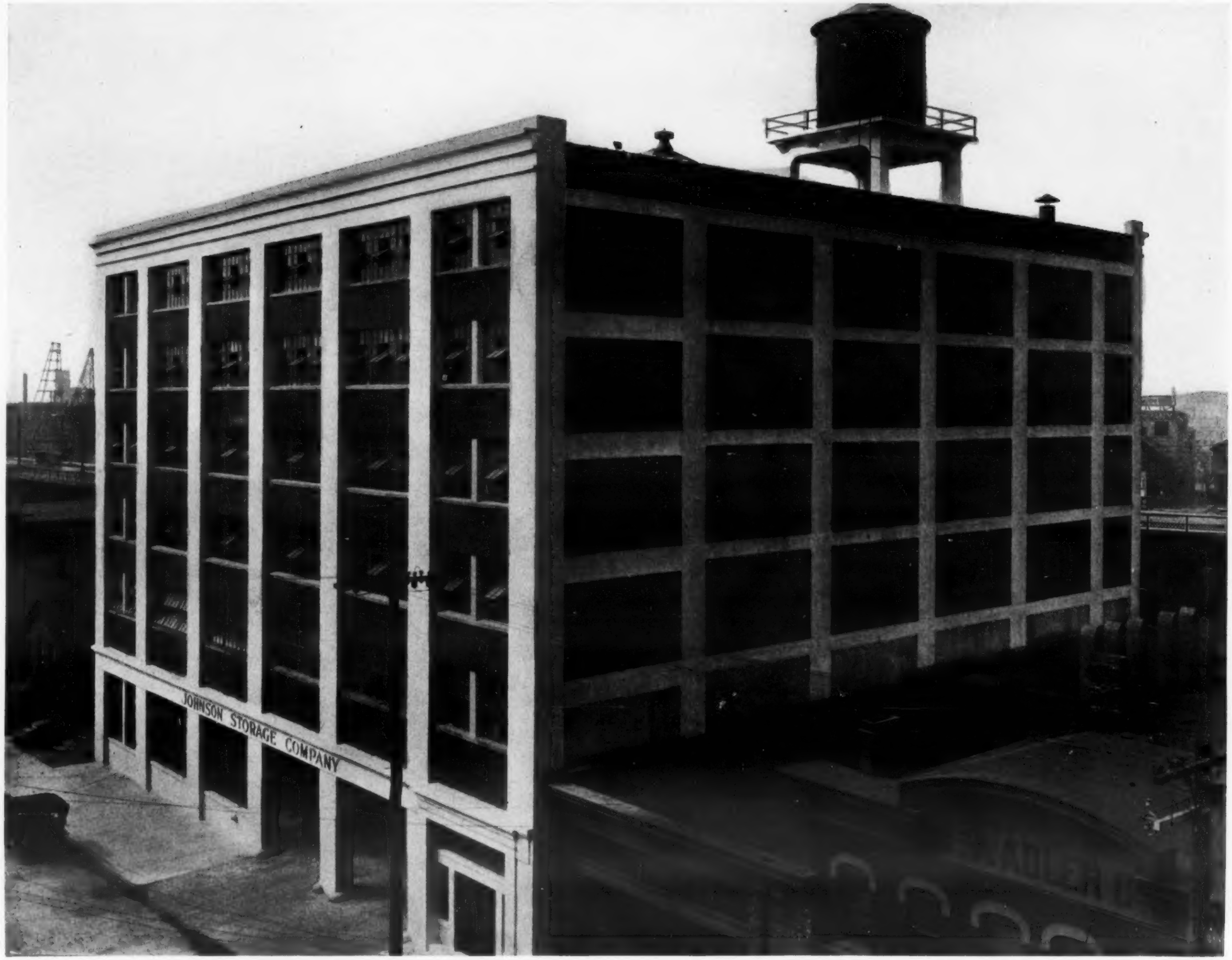
MR. ALBERT KAHN, *ARCHITECT*; MR. ERNEST WILBY, *ASSOCIATE*

BUILDINGS FOR BRETT LITHOGRAPHIC CO. AND STUDEBAKER CORPORATION, LONG ISLAND CITY, N. Y.

MR. WILLIAM HIGGINSON, *ARCHITECT*

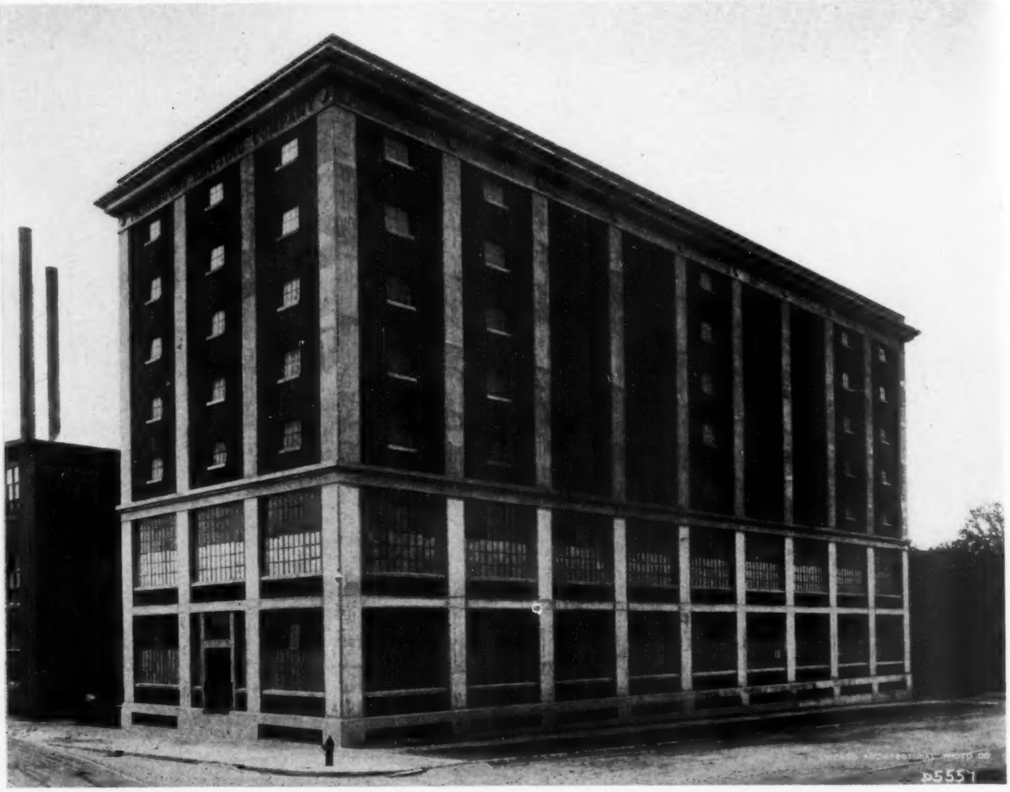
WAREHOUSE OF WILLIAM DEMUTH & CO., BROOKLYN, N. Y.

MR. WILLIAM HIGGINSON, *ARCHITECT*



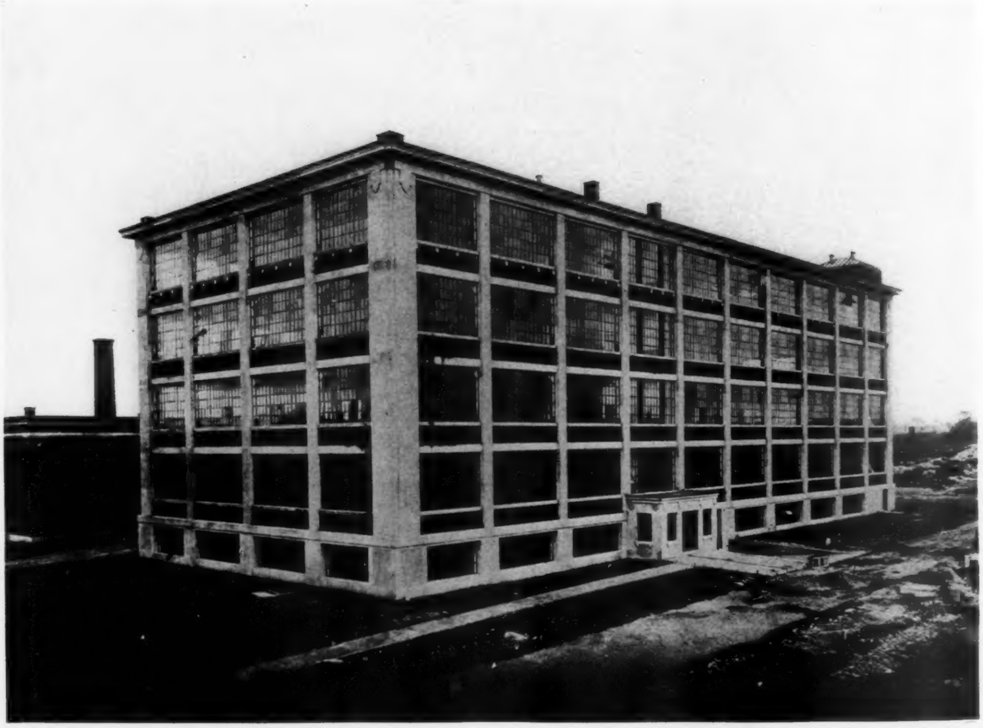
STORAGE WAREHOUSE, B. J. JOHNSON SOAP CO., MILWAUKEE, WIS.

MESSRS. LOCKWOOD, GREEN & CO., *ARCHITECTS*



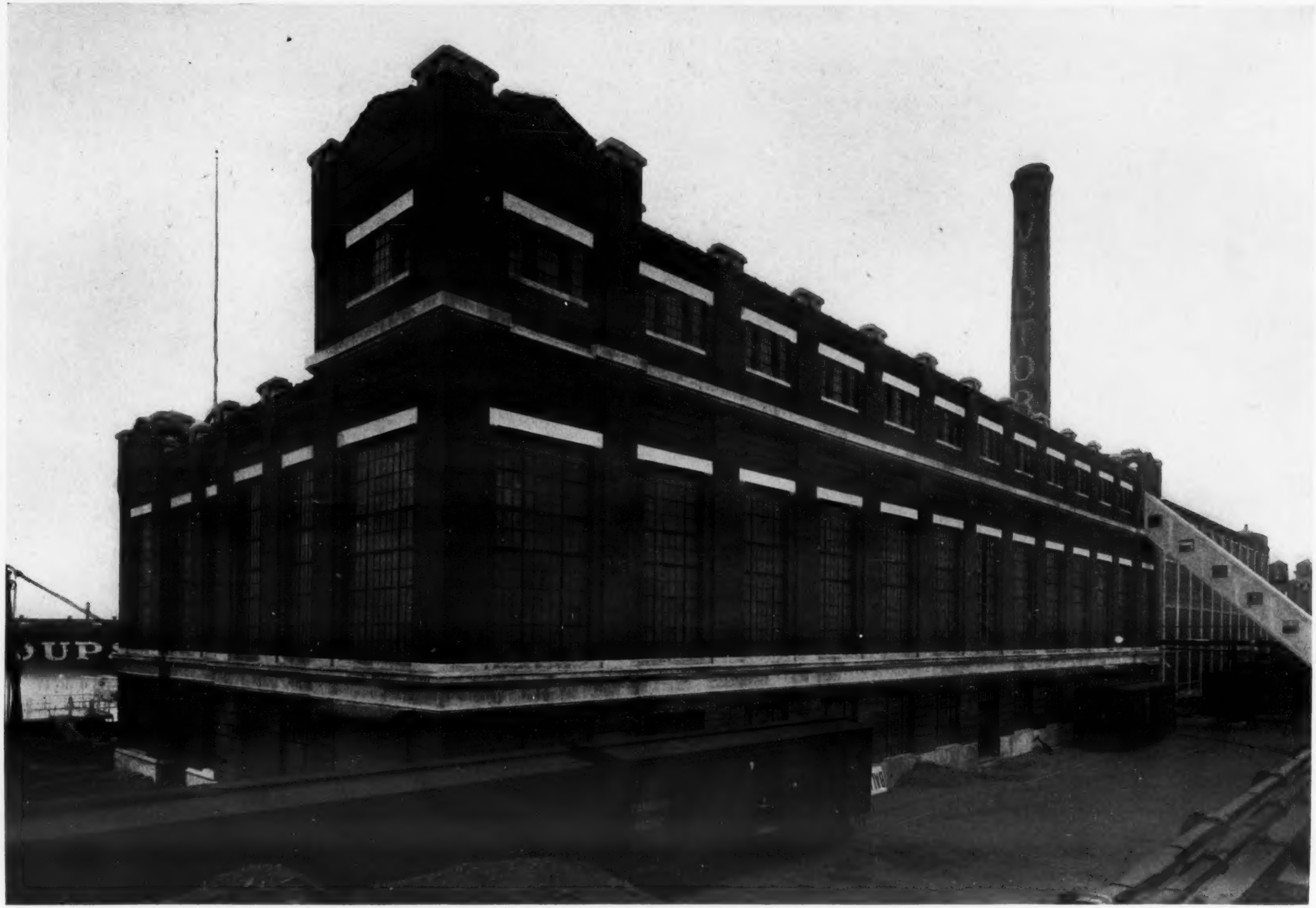
BUILDING OF PARAMOUNT KNITTING CO., KANKAKEE, ILL.

MESSRS. LOCKWOOD, GREEN & CO., *ARCHITECTS*

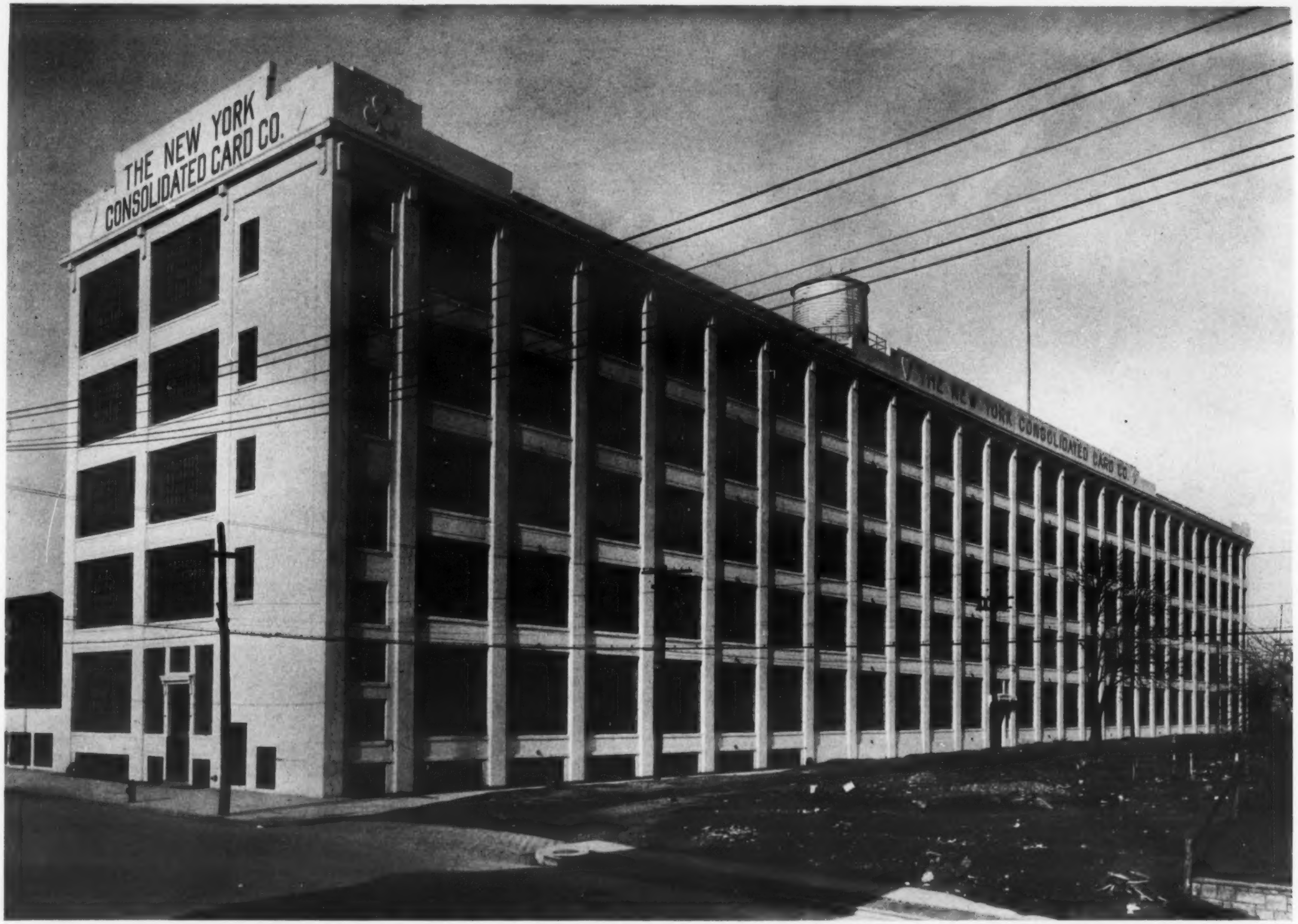


BUILDING OF BUFFALO METER CO., BUFFALO, N. Y.

MESSRS. LOCKWOOD, GREEN & CO., *ARCHITECTS*



BUILDING NO. 12, VICTOR TALKING MACHINE CO., CAMDEN, N. J.
MESSRS. BALLINGER & PERROT, *ARCHITECTS*



BUILDING FOR NEW YORK CONSOLIDATED CARD CO., LONG ISLAND CITY, NEW YORK

MESSRS. BALLINGER & PERROT, *ARCHITECTS*

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HARDWICK & MAGEE BUILDING, PHILADELPHIA, PA.

MESSRS. BALLINGER & PERROT, *ARCHITECTS*

MUNICIPAL REPAIR SHOP, PHILADELPHIA, PA.

MESSRS. BALLINGER & PERROT, *ARCHITECTS*

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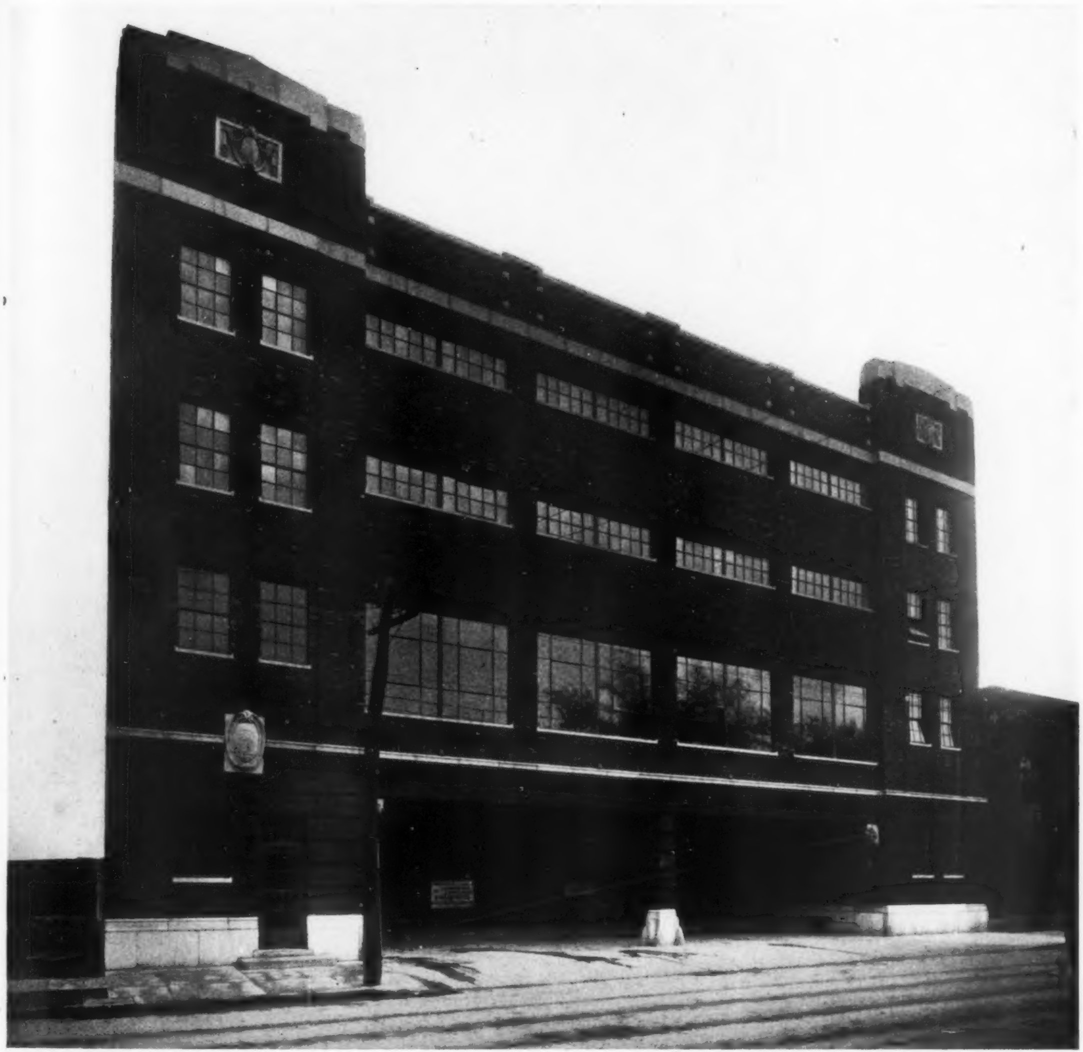
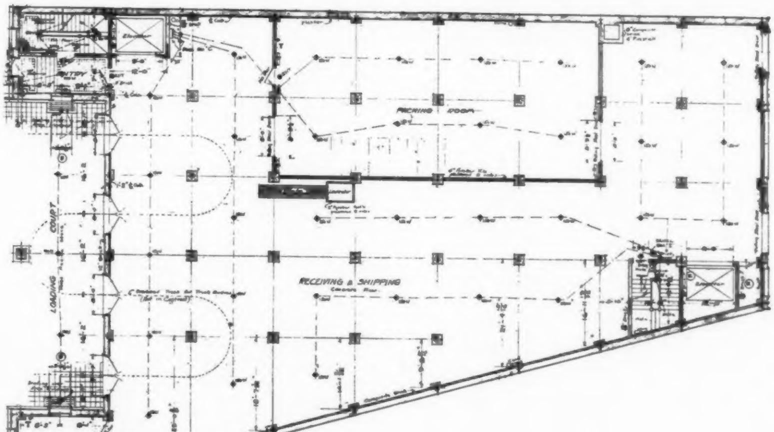
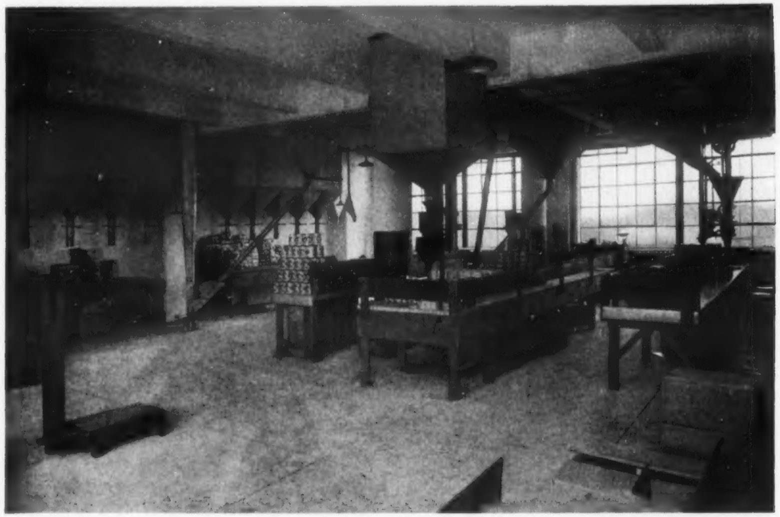
PENNSYLVANIA CHOCOLATE CO.'S BUILDING, PITTSBURGH, PA.

MESSRS. BALLINGER & PERROT, *ARCHITECTS*





WAREHOUSE AND OFFICE BUILDING FOR
MESSRS. GEORGE C. BUELL & CO., ROCHESTER, N. Y.
MESSRS. WALKER, LIVINGSTON & BRACKETT *ARCHITECTS*



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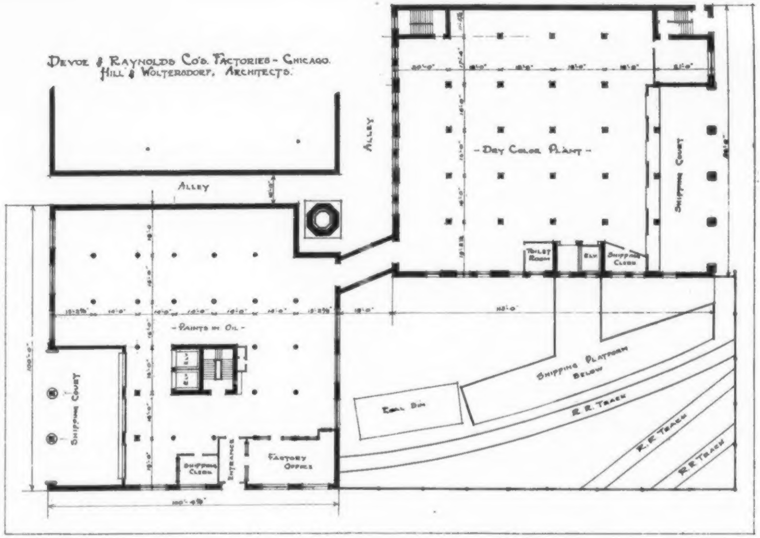
FACTORY BUILDINGS OF F. W. DEVOE & C. T. REYNOLDS CO., CHICAGO, ILL.

MESSRS. HILL & WOLTERSDORF, *ARCHITECTS*

WEST CHICAGO AVENUE FACADE



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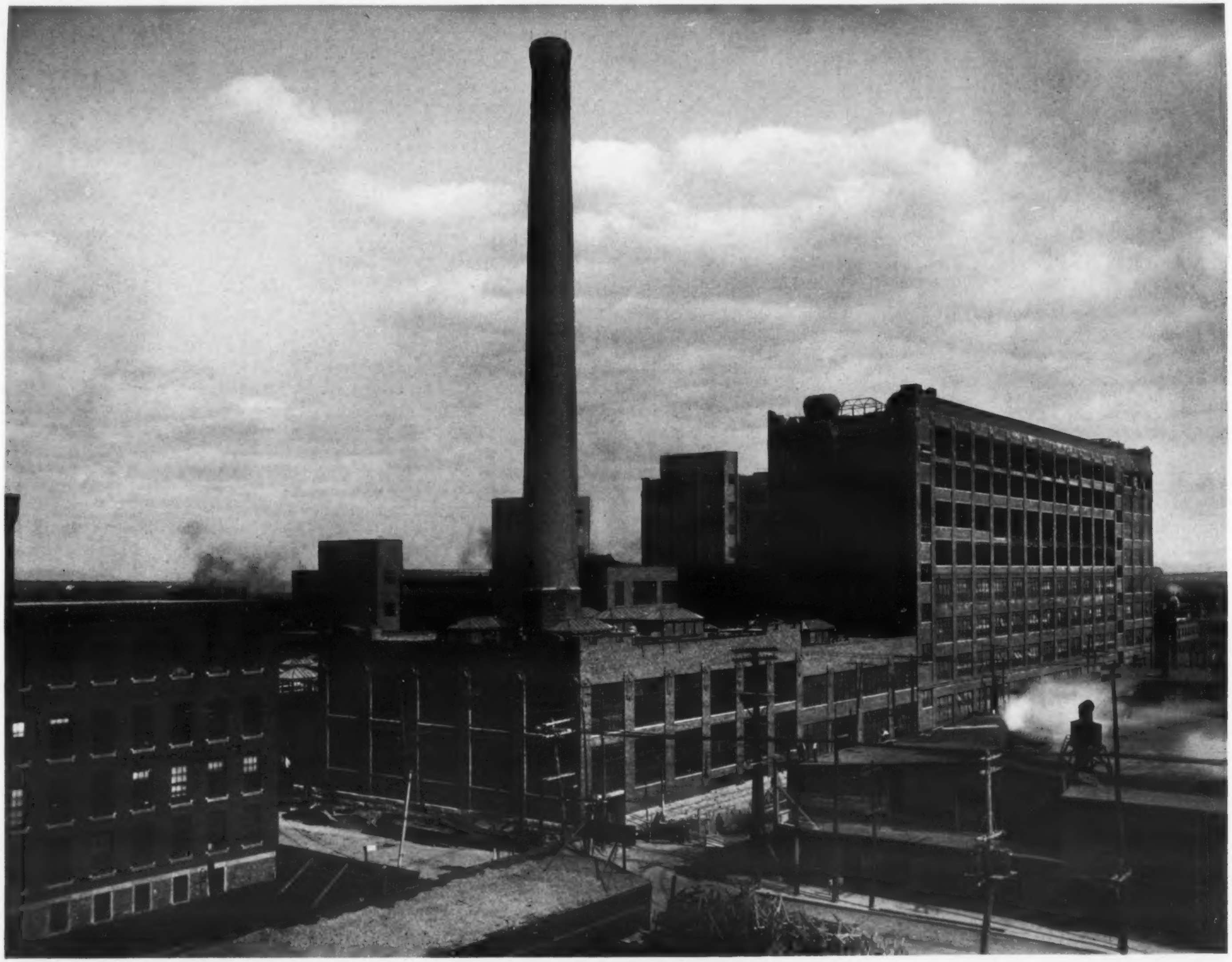
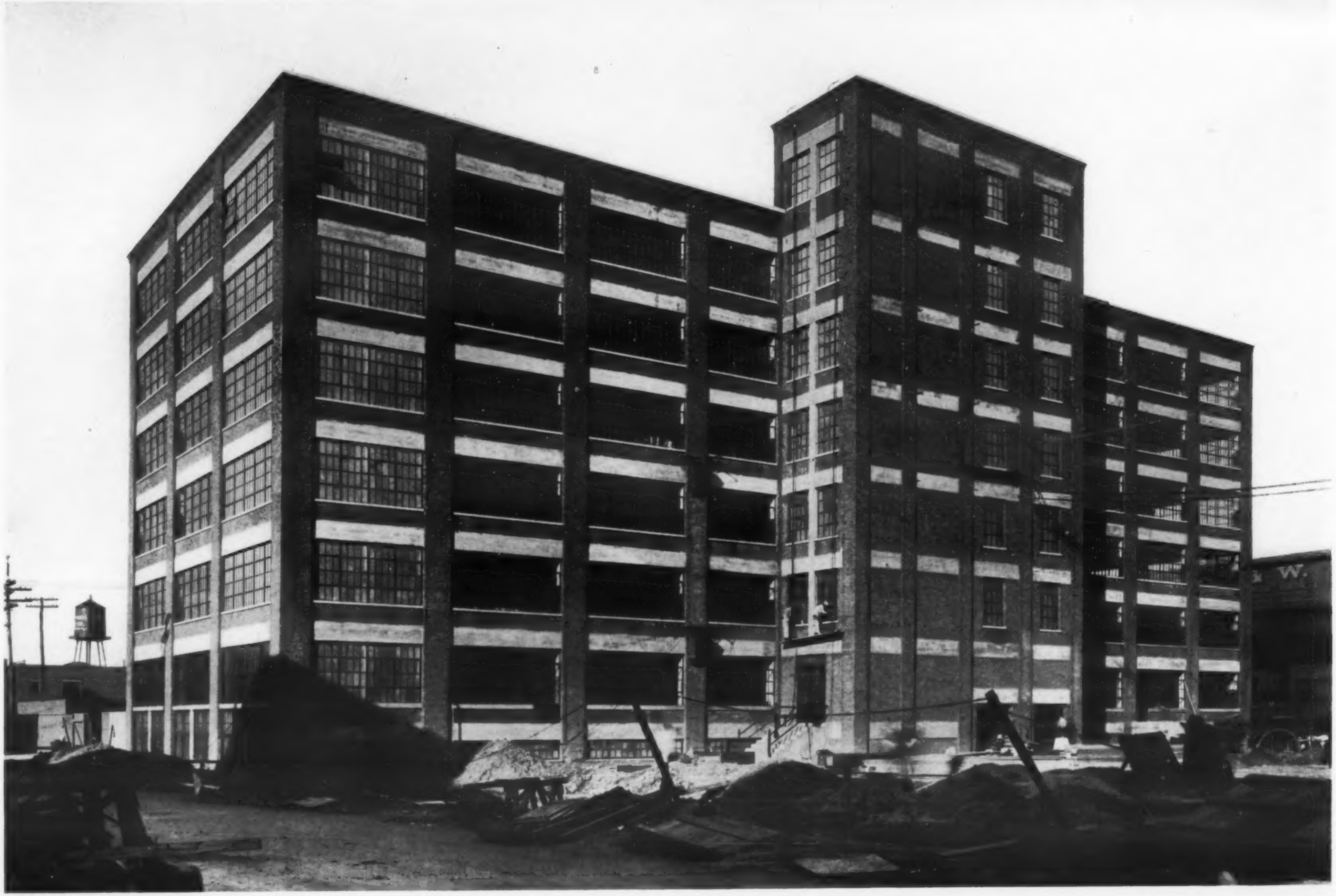


BUILDINGS OF IMPERIAL WIRE AND CABLE CO., LTD., MONTREAL, CANADA

MR. W. J. CARMICHAEL, *ARCHITECT*



BUILDING OF HYATT ROLLER BEARING CO., HARRISON, N. J.

MR. C. I. SHIRLEY, *ENGINEER*

BUILDING OF WADSWORTH CHOCOLATE CO., NEWARK, N. J.

MR. HENRY BOECHLIN, *ARCHITECT*

FACTORY BUILDING NO. 2 AND TYPICAL FLOOR PLAN

THE DAYTON ENGINEERING LABORATORIES CO., DAYTON, O.

MESSRS. SCHENCK & WILLIAMS, *ARCHITECTS*

BUILDING FOR NATIONAL BISCUIT CO., NEW YORK

MR. A. C. ZIMMERMAN, *ARCHITECT*

STORAGE WAREHOUSE OF EWERT & RICHTER, DAVENPORT, IA.

MESSRS. CLAUSEN & KRUSE, *ARCHITECTS*

BUILDING OF ADAM SCHAAF CO., CHICAGO

MR. GEORGE C. NIMMONS, *ARCHITECT*

workman. Eyestrain is one of the serious evils attending poor or bad lighting and should be prevented by all means.

Accidents are very often due to improper lighting and the reports of many investigating committees prove conclusively the value of good natural light from every viewpoint. Compensation commissioners' reports on accidents will do much to bring out this fact and no doubt will be the means of hastening the remedy in the form of laws.

It is important to bear in mind, when planning for sufficient daylight, the fact that only that portion of window or roof openings through which the sky is visible admits the proper light.

Skylights (overhead or direct light) probably provide the most direct means of daylighting, and by the use of ribbed glass, the glare from the sun which is objectionable can be minimized, and it is further reduced in buildings with unusual heights.

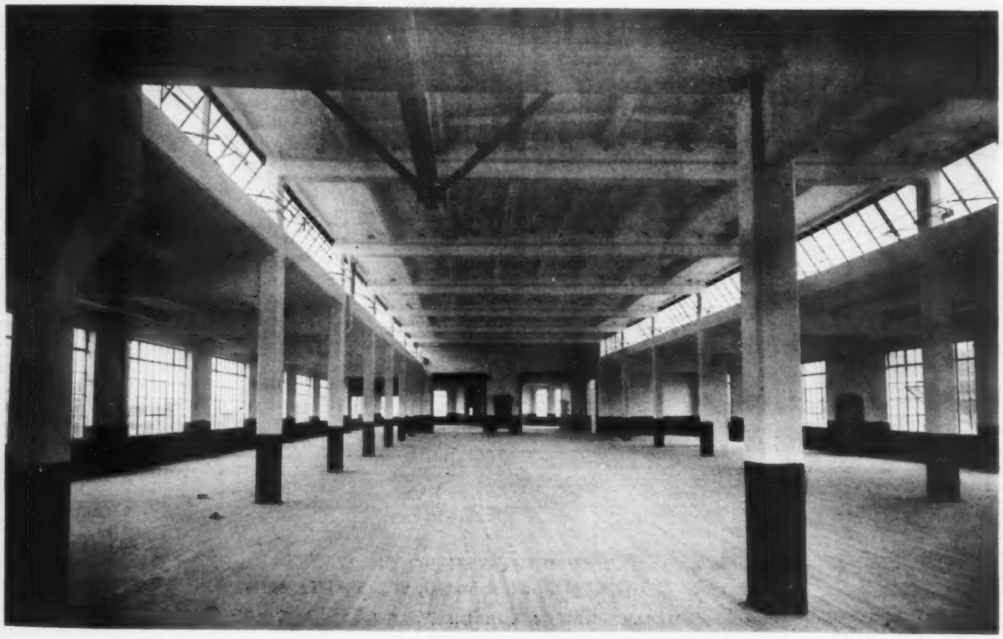
Therefore, why not be ahead of time when it will be a legal requirement, and be prepared. Let your factory be well daylighted.

Natural light costs nothing, the problem presented is only that of selection, with an eye NOT TO the first cost, but the weatherproof qualities and future maintenance factor.

The viewpoint of the practical man should, of course, be given due weight when considering the proper daylighting of buildings, yet how often do we see the most elemental phases of light and its values ignored. How often is the shop superintendent or foreman called upon to suggest what, in accordance with his experience, would be the most practical solution in such and such a case, and find him recommending solutions that have long since been superseded by better methods. Sawtooth design, for example, is very fine indeed when used in the right way and place, but if wrongly applied can be made to defeat its purpose.

Adjacent buildings shutting off sky light must be taken into consideration; dark surfaces which absorb light are especially important to consider. A monitor with windows in the side and solid roof will well illustrate the point.

How often, where machines are in operation, even in the modern building, artificial light must be depended on to provide the necessary working light and particularly to avoid eyestrain at only reasonable distances



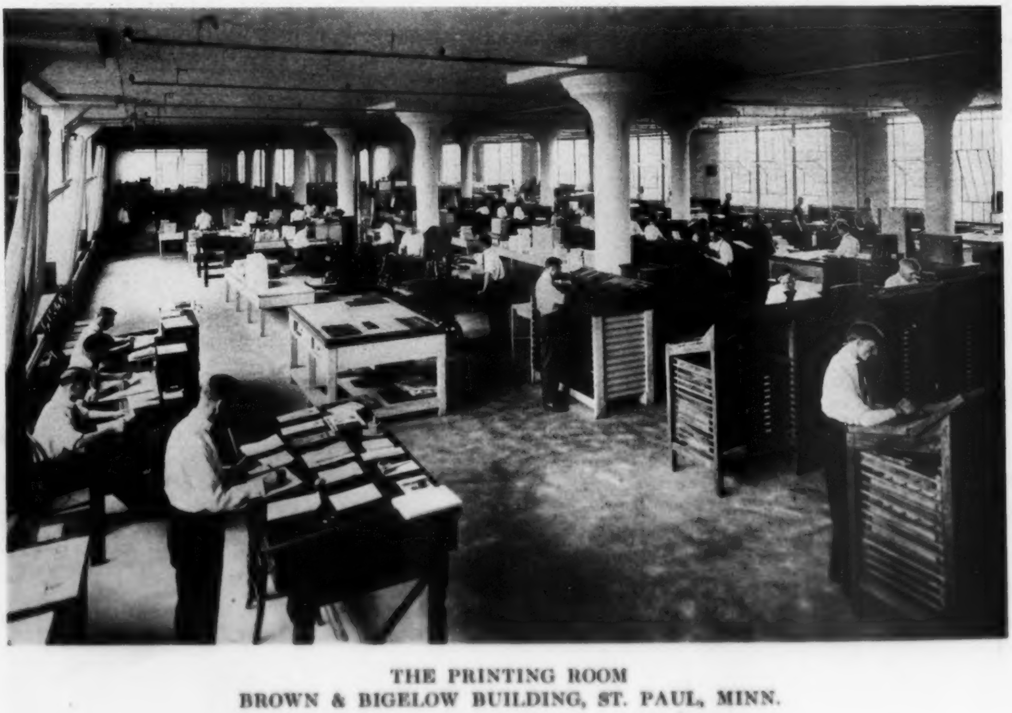
INTERIOR, MUNICIPAL REPAIR SHOP, PHILADELPHIA, PA.

MESSRS. BALLINGER & PERROT, *ARCHITECTS*

from the windows. Doesn't this suggest limited output, less expert workmanship, which means less profits? Light diffusion oftentimes misleads one to think there is plenty of working light. Try taking photographs with these varying degrees of light and note the results. The further away, the longer the exposure. Does not this prove the argument from the workman standpoint, the eyestrain theory?

How to overcome this disadvantage is the problem confronting each building designer. Of course, it depends somewhat on the amount and class of work to be performed. Some of the thoughts suggest windows carried to the height of the ceiling, ribbed glass for the extra diffusion of the light, shades operating from the bottom, instead of the top, light-colored walls above the eye vision and ceilings of a mat dullness, rather than a glary nature, skylights where possible, and, if necessary, artificial lighting of the proper sort. And don't forget (although this is a chief concern of the owner, it should be covered by the engineer or architect), that windows must be cleaned at regular intervals, else what avails the daylight provided? Dust and dirt, sediment settlements, deposits from operations inside or from neighboring works, quickly accumulate, and unless promptly cleaned off adhere to the glass surface and decrease the illuminating value and the rate of glass deterioration.

Rules concerning lighting are set down in the report of the committees of the Illuminating Engineering Society in their "Code of Lighting," and again in an interesting study and report of Messrs. Marks and Woodwell, "Planning for Daylight and Sunlight in Buildings," which are forerunners of the new daylight era. Another evidence of the value of daylight, in addition to the number of daylighted factories constructed and now being built, was the recent action of the city of Cleveland in adopting Eastern time, in order to give its citizens one hour more of daylight throughout the greater part of the year, and which was followed by others doing likewise.



THE PRINTING ROOM
BROWN & BIGELOW BUILDING, ST. PAUL, MINN.
MESSRS. KEES & COLBURN, *ARCHITECTS*

NATIONAL LAMP WORKS, GENERAL ELECTRIC CO., CLEVELAND, O.

MESSRS. WALLIS & GOODWILLIE, *Architects*

THE four pictures of this issue of the working laboratory of the National Lamp Works of the General Electric Co., Cleveland, O., are excellent examples of not only the high architectural development of modern industrial buildings, but also of the skill displayed by the architects in the beautification of the buildings' immediate environment.

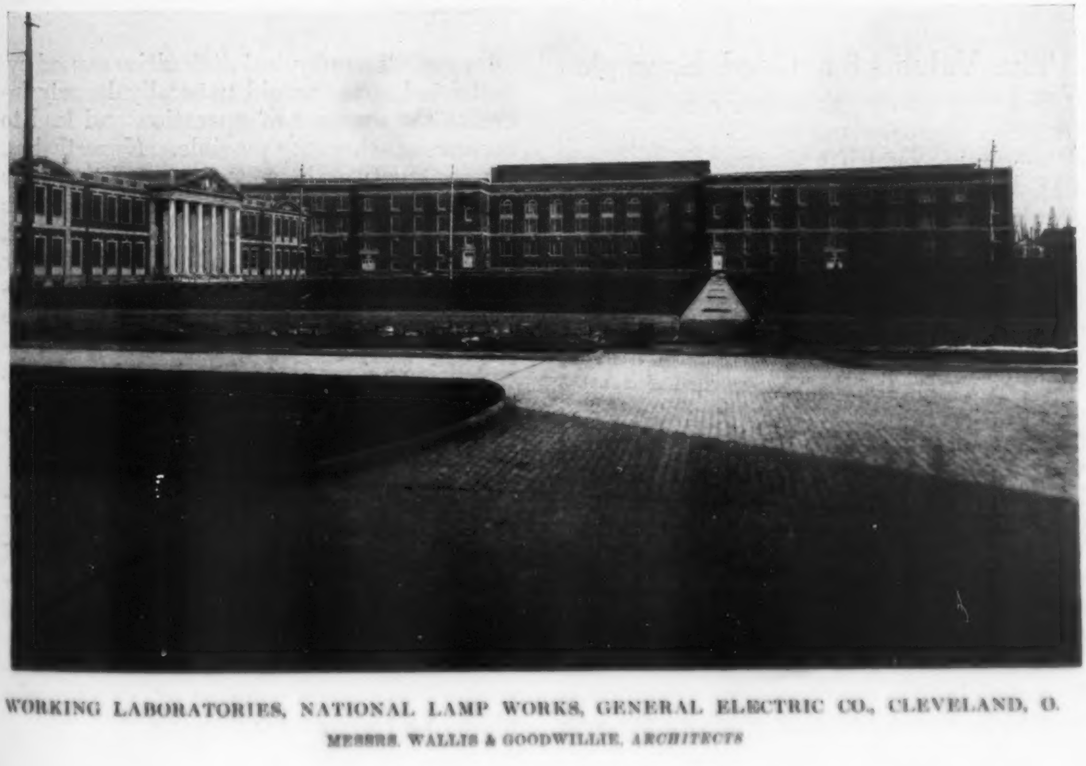
This working laboratory is literally a factory in which electric lamps are made, and in cost did not exceed that of an equally large and well equipped structure of less artistic treatment.

The setting of the building may be judged by the photographs. It will be of interest to note how the level, well kept lawns, purposely made flat and simple to give a spirit of restfulness, are in no sense indicative of the activity that is going forward within.

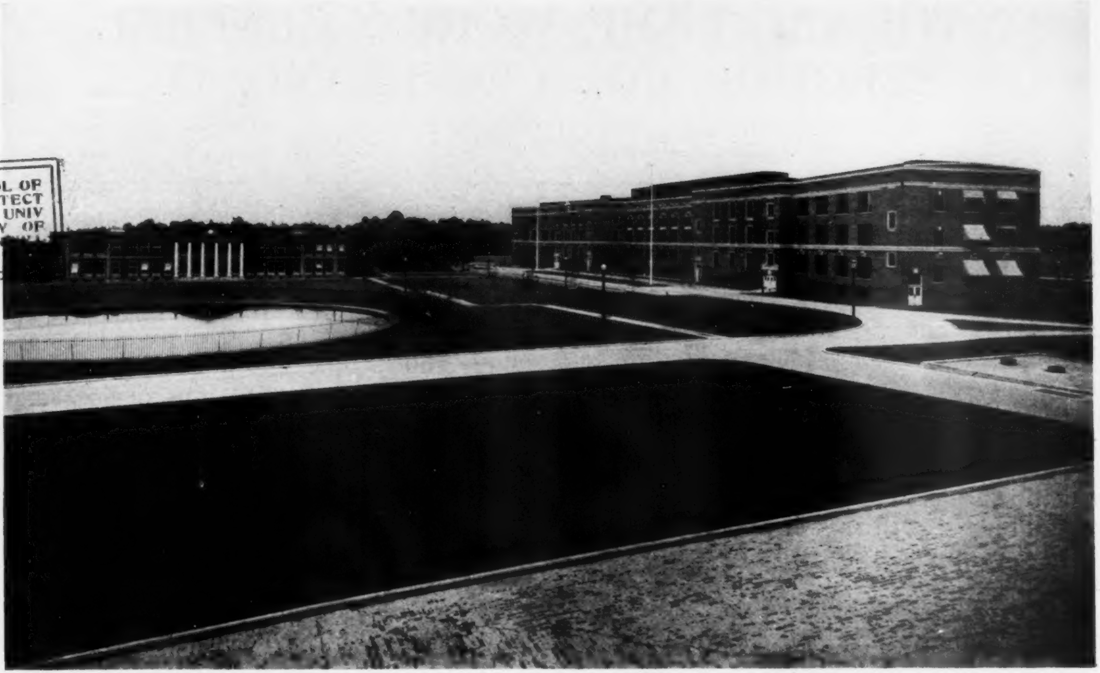
The flag poles, their height and location, the rectangular grass plots and all those exterior things that affect the ensemble were all carefully studied by the architects.

The result of this effort is obvious and the careful attention to even the smallest detail on the minds of the working people is as important as the materials that go into the building and its architectural design.

It will not be, we believe, too sweeping a statement to say that industrial centers such as this inspire a proper respect among those that labor within them, but will also create a sense of civic pride that is the first and longest step towards good citizenship.



WORKING LABORATORIES, NATIONAL LAMP WORKS, GENERAL ELECTRIC CO., CLEVELAND, O.
MESSRS. WALLIS & GOODWILLIE, *ARCHITECTS*



WORKING LABORATORIES, NATIONAL LAMP WORKS, GENERAL ELECTRIC CO., CLEVELAND, O.
MESSRS. WALLIS & GOODWILLIE, *ARCHITECTS*

The Value of a Good Example

Not very many years ago, a certain construction company engaged in the erection of a building on Fifth Avenue, New York, was compelled in compliance with building regulations to erect a "builders' arcade," or covered structure over the sidewalk. Instead of following the usual custom, and building an unsightly structure, to be covered over with advertising and garish posters, there was built an arcade of dressed timbers, covered with well-designed lattice and painted in a color that harmonized with the surroundings. The result was regarded with unqualified approval, and similar structures were afterward specified by the architects in charge of the various operations. While but a simple detail in the daily life, it was an innovation of such pronounced artistic excellence as to set an example for the future.

The influence of this small beginning may be noted in the structures that have been erected in connection with work on the new subways. The physical difficulties caused by restricted space would naturally largely increase the expense of operation and lead to economies wherever possible. Nevertheless, where structures have been erected, they have usually been designed with due regard to sightliness and have been kept in good repair. A feature that is worthy of notice is the color of the paint applied to these structures. Following usual precedent any color would have done, but the particular shade of green selected is so very restful and unobtrusive as to constitute almost an artistic feature.

In Acknowledgment

Acknowledgment is hereby made and our thanks are due to American Concrete Steel Co., Association of American Portland Cement Manufacturers, Corrugated Bar Co., Trussed Concrete Steel Co. and the Turner Construction Co. for much valuable information furnished and permission to reproduce the large number of photographs placed by them at our disposal.

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VOL. CIX MARCH 22, 1916 No. 2100

INDUSTRIAL BUILDINGS

THE importance of industrial buildings, both to the development of this country in normal times and its preservation, in case of international hostilities, has been emphasized within the past eighteen months as it never has been before. During that period the demand for buildings to house both new and expanding industries has been unprecedented, and as a result we have seen the construction of manufacturing buildings absorbing general attention at the expense of those belonging to almost every other class. That this abnormal increase in building for the accommodation of manufacturers could not take place without some sacrifice to the necessity existing during the period referred to, of producing a building in the shortest possible time was perhaps to be expected; and that the sacrifice would not be of the utilitarian features might also have been foreseen. Aesthetic features have naturally offered the most vulnerable point of attack and their conspicuous absence in many instances bears eloquent though silent witness to the result of the engagement.

They are, it seems, always the first to suffer where it is deemed necessary to ignore everything not vitally essential to the immediate production of goods. It is true that the manufacturer has been taught during these recent years that a well-designed building, one that possesses architectural merit, is a real asset to his business. This was done by demonstrating to him the fact that artistic qualities imparted to a building, did not necessarily mean an increase in cost. In fact, he seemed to be a thorough convert to the new order of things, which was gradually replacing the ugly ramshackle factories that dotted and disfigured our manufacturing states, with buildings and groups of buildings presenting a pleasing appearance to the public, which viewed them from the exterior, and to the employees which they housed. The requirements, however, of the last year and a half have demanded shelter for machinery and workmen in the shortest possible time, and promised abnormally large returns which did not seem to depend in any way upon the character of building in which the work was accomplished. This condition has done much to undo previous progress. Of course, it has not affected all industrial buildings erected. Some have been built as a result of normal requirements and have been given careful study and attention by architects of ability, and as a consequence are a credit both to their designers and owners. A number of these are shown in this issue. An abnormally large proportion of the work of 1915, however, has been constructed without the benefit of such study, and represents to an unusual extent the work of contractors and construction companies whose chief aims both on behalf of the owner and themselves were speed and immediate profit, and who probably did not thoroughly appreciate the added value which might readily have been given to the buildings without sacrificing either of the considerations mentioned, or adding materially to the cost, by the employment of really competent architectural designers.

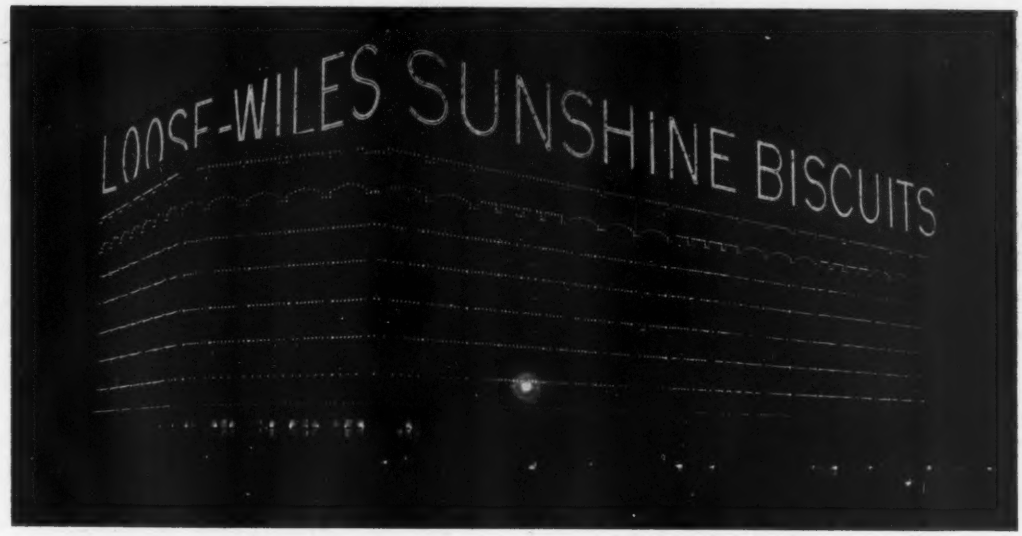
It is believed that present conditions, which can only be regarded as temporary, will speedily give place to those that were beginning to be established before the recent abnormal demand for industrial buildings was felt. Such belief is founded on the fact that it is readily demonstrable that a manufacturer receives greater value per dollar invested in a building presenting an artistic appearance, and surrounded by a pleasing environment than he can possibly secure from one not possessing these qualities, regardless of the economy exercised in its construction. Moreover, he will continue to receive this greater return year after year, as long as the building endures. Once the manufacturer ceases to be blinded by the prospect of fabulous profits to be had only if his building facilities, irrespective of their character or that of their additions, are greatly increased within the shortest possible period of time, he will again be in position to realize this fact. That time cannot in the nature of things be very far distant, regardless of the outcome of the European struggle.

A BASIC BUILDING CODE FOR NEW YORK STATE

THE appointment by the New York State Association of the American Institute of Architects of a committee to prepare a basic building code for New York State, covering the construction of buildings, other than factories, appears to be a progressive step of the first importance. The fact that buildings of many types and classes can now be erected in suburban localities, or in fact almost anywhere within the state, except in the larger cities, with little or no supervision by public authority to protect the health and insure the safety of those occupying or entering the premises, exposes a large percentage of the population of the state to needless danger.

A number of states have already passed laws designed to prevent careless or incompetent owners and builders from endangering the public health or safety, and the results obtained under some of these regulations have been extremely gratifying. Wisconsin and Minnesota, in particular, have benefited to a very noticeable extent by reason of their state building regulations. It may safely be assumed that the committee of the Association will avail of the experience gained by the operation of these laws in other states, and should, as a result of studying their provisions, be able to formulate a basic code that will not only provide a large measure of protection to the citizens of the state, but will prevent a great deal of needless expense on the part of individual towns, which are endeavoring more or less inefficiently to formulate a set of regulations independently. The possibility of the adoption of unwise and inadequate ordinances by the smaller cities and towns of the state is also avoided if a basic code is enforced everywhere within its borders. Another advantage is gained by uniformity. There is no reason why methods and materials of construction prescribed by law should vary as between the various cities of a state, and their doing so adds greatly to the inconvenience and expense of both the architect and the builder whose work is located in different municipalities of the same state.

It is to be hoped that an early report of this committee will be made and that it will be followed by careful study and then vigorous measures to secure the enactment of the proposed code into law.



NIGHT ILLUMINATION, LOOSE-WILES BUILDING, LONG ISLAND CITY, N. Y.
MR. WILLIAM HIGGINSON, *ARCHITECT*

"Night Lighting" The Factory Building

THE lure of the "Great White Way" is its brilliant roof signs that silhouette the tops of buildings and the signs whose letters are outlined with incandescent bulbs or brilliantly illuminated by flaming arcs. As moth flies to the flame, so does that element of population that seeks its recreative moments during the night hours congregate in the brilliantly illuminated sections of larger cities. To use the vernacular, there's a suggestion of "something doing" in these brilliantly lighted spaces, and as a suggestion of activity is desirable for any undertaking, it was quite natural that owners of large manufacturing plants should realize the large publicity value of night illumination of their buildings.

This feature has been successfully carried out in many cases. Notable examples are illustrated on this and page 192.

The Delco building at Dayton forms a central point of interest and carries with its skillful illumination, the suggestion of tireless activity that does not sleep.

In the same insistent way does the Loose-Wiles building, in Long Island City, proclaim to the thousands who cross the bridges at night from Manhattan or travel on any of the many car lines, both surface and elevated, the trademark name of a popular product.

These methods of publicity have a very insistent appeal, and serve to add to those features of a city's attraction that are a credit to the industrial energy of their respective sections.

Contrast these structures with the dismal and deserted manufacturing buildings of a decade ago. Generally in squalid localities, places to be shunned as dangerous after dark, they have now become in a sense civic centers, and with their adjacent parks their locality would be attractive for the night hours of a summer evening to the workers and their families as neighborhoods in which their interests were very real and material.

Delco Building, Dayton, Ohio

THE building is one unit of a complete plant to be composed of three such units.

It is of fireproof construction, consisting of a flat slab reinforced concrete system, having exterior columns faced with a red tapestry brick.

There are two large stair towers of fireproof construction, with all openings into same closed with metal doors.

Each tower opens direct to the outside at the ground level.

Stairs are of metal construction with cement treads.

Heating and ventilating system is unique, being forced draft system blowing hot and tempered fresh air into each story at four points throughout the length of the building.

Small outgoing vents are located at each exterior column, which vents exhaust at the roof through regular ventilators.

This makes an even distribution of air throughout the building and provides a change of air at least twice each hour.

In each ceiling are placed malleable iron inserts, embedded in the concrete and spaced 1′-6″ on centers each way, to provide for hanging shafting, etc. These inserts are made to receive $\frac{3}{4}$″ bolts. More than 85,000 of them are used in the structure, making a total of about 50 tons of inserts.

The largest elevator is equipped to carry a loaded truck up to any floor.

The other elevators are about 10′-0″ square, and ample in size for the regular duty imposed upon them.

The building is seven stories in height and four hundred and twenty-three feet long.

The columns are spaced 22′-0″ on centers each way, and 12′-0″ clear ceiling height is used.

Toilets and wash trays are grouped conveniently at both ends of each floor, and are equipped with hot and cold water and every sanitary convenience.

Drinking fountains are located at four points on each floor, and consist of a sanitary bubbling cup above a large size slop sink, thus eliminating the usual wet and unsanitary floor around these fixtures.

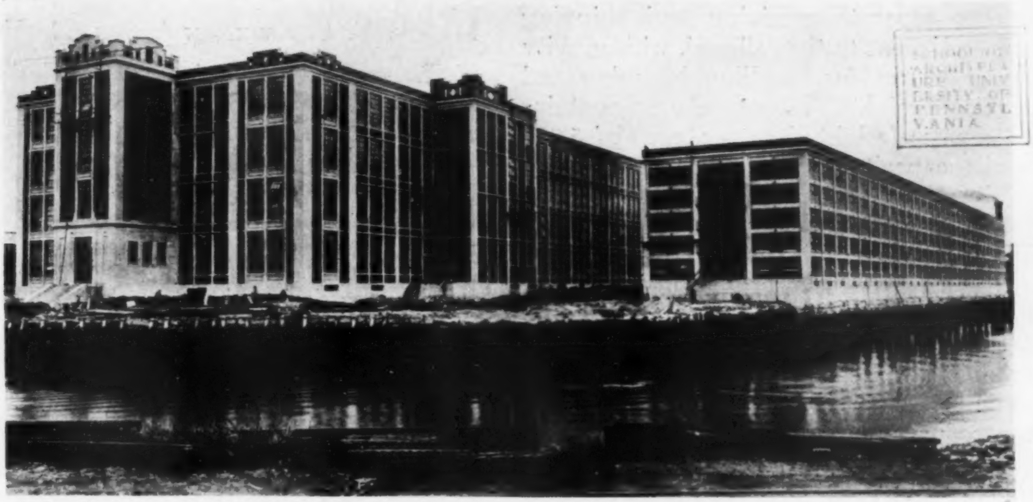
All walls, columns and ceilings on the interior are painted with gloss white.

Counter-balanced steel window sash are used throughout, affording 50 per cent. opening in the summer time if desired.

The air washer plant in connection with the heating system is of such a character that it can be used if desired to cool the temperature in the building several degrees in the summer time, although it is the usual experience, that workers want the windows wide open rather than to have the windows closed and a mechanical ventilating system operated.

NIGHT ILLUMINATON, DAYTON ENGINEERING LABORATORIES, DAYTON, O.

MESSRS. SCHENCK & WILLIAMS, *ARCHITECTS*



NAUMKEAG STEAM COTTON CO., SALEM, MASS.
MESSRS. LOCKWOOD, GREEN & CO., *ARCHITECTS*

BRIEF DESCRIPTIONS OF MAIN STRUCTURAL FEATURES OF BUILDINGS ILLUSTRATED IN THIS ISSUE

Warehouse and Office Building, Rochester, N. Y.

WALKER, LIVINGSTON & BRACKETT,
Architects

THE building was designed and erected under the personal supervision of Clarence A. Livingston, of the firm of Walker, Livingston & Brackett, architects, of Rochester. It is of skeleton steel frame construction with enclosing walls of brick, the frame containing about 700 tons of steel. The building has a frontage of 100 feet on Exchange street and a depth of 153 feet, and embodies all the latest improvements in fireproof construction and operating efficiency. The floors and roof are reinforced concrete of very heavy load bearing qualities, the average floor load being 275 pounds per square foot and the average ceiling height 11½ feet.

The front facade of the structure is brick in varying shades of color from light brown and red to black, laid in pattern, with trimmings and base course of cut cast granite. All window openings are fitted with heavy steel sash and wire glass, those in the office portion being specially designed casement windows of steel with heavy plate glazing.

Access to the offices on the second floor extending entirely across the front of the building, is had through a bronze entrance leading into a pressed brick lined entry from which wrought iron stairs lead to the offices through a fireproof stair tower. The building is provided with shipping and receiving facilities designed to produce at the utmost speed the highest grade of service. A recessed shipping court on the Exchange street front extends into the building with doors capable of loading and unloading four motor trucks at once. These trucks are fitted with detachable bodies with an overhead monorail track and hoists to remove empty bodies into the shipping room, while a similar body, loaded in readiness can be immediately run out and placed in position on the truck, keeping all trucks in constant service, with delays incidental to loading and unloading reduced to a minimum.

The company has its private railroad siding in the rear of its property and the building has separate receiving and shipping rooms adjacent to the railroad, with gravity rolling devices for handling incoming and outgoing freight. The warehouse contains two electric freight elevators, each of 5,000 pounds capacity, one in each end of the building, two fireproof stair towers from basement to roof, automatic sprinkler system, inter-communicating telephone systems and a gravity lowerator from top floor to shipping room floor capable of handling packages from one to five hundred pounds in weight at the same time and speed.

The coffee roasting plant is located in a fireproof room on the top floor, well lighted and ventilated, and automatic sanitary weighing and packing devices have been installed.

On account of the close proximity of the building to the Genesee river, the basement floor being below normal water level, unusual precautions have been taken to protect the building and contents from hydrostatic pressure and floodwater. The five floors have a total area of 60,000 square feet and the building in its entirety contains 800,536 cubic feet. The cost of the building was twelve cents per cubic foot.

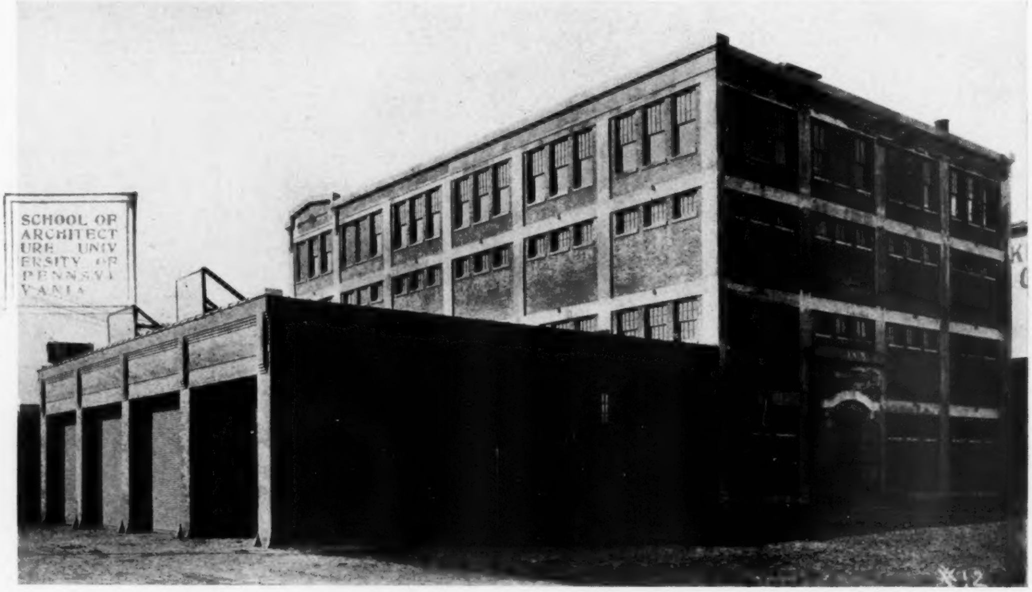
Gardner Building, Providence, R. I.

Messrs. F. P. Sheldon & Son, *Architects*

The general dimensions of the building are approximately 82 ft. by 82 ft. There are five stories and a basement. The foundation and superstructure are so designed that the building can be carried two stories higher whenever desired. When this extension is made, the present cornice will serve for a belt course. Having this in mind, the cornice was designed for the belt course of the future building, seven stories high, and, consequently, it is not as prominent as it will be in the finished structure.

The ground floor is used for various offices and display room, shipping room and garage. The basement and stories above the first are used exclusively for the storage of paper.

The framework and floors are of reinforced concrete, beam and girder construction, designed to carry a live load on each floor of 250 lbs. per sq. ft. The exterior walls are covered with a brick veneer on the columns and panels under the windows, leaving the lower belt course, window lintels and sills, and cornice of exposed concrete. The exterior bricks are buff in color, rough texture, and in the panels are laid up with bas-



WAREHOUSE OF WILKINSON, GADDIS & CO., NEWARK, N. J.

MR. FRED A. PHELPS, *ARCHITECT*

BUILDING FOR ACME TEA CO., PHILADELPHIA, PA.

MESSRS. BALLINGER & PERROT, *ARCHITECTS*

ketwork effect, raked-out joints, with a few blue tiles inserted on the main street elevation only. The exposed concrete surfaces were painted with a light cream color. Steel sash are used in all stories above the first. The building is equipped with a low pressure steam heating system and a complete system of sprinklers for fire protection.

Liquid Carbonic Company's Plant

NIMMONS & FELLOWS, *Architects*

The Liquid Carbonic Company's plant is a place where soda water fountains are manufactured. The main part of this building forming the two street sides of the site is a building over 1,000 feet long. The shops and other buildings shown inside of the court so formed are shops for marble, metal work, etc. The building is of reinforced concrete and has a rather unusual form of sawtooth skylights. In one part of the building there is one sawtooth skylight running longitudinally with the building for a distance of some 400 feet, while on the other wing there are cross sawtooth skylights that are formed in the shape of small gables which are formed so that the glass diminishes where the skylights approach the outside windows. One account of the large area covered by the buildings, one of the chief problems in its plan, was to secure an arrangement whereby all of the various manufactured materials in the process of manufacture would move to a central point for the finished product.

Warehouse B. J. Johnson Soap Co. Milwaukee, Wis.

MESSRS. LOCKWOOD, GREEN & CO., *Architects*

A new building of reinforced concrete throughout, used for the storage of raw materials and finished products. Spur track runs through building, with provision for unloading tank cars. Building contains storage tanks of two million pounds capacity, weighing tank, loading court for teams, dial scale, electric elevator, barrel conveyor, etc.

Building for Paramount Knitting Co. Kankakee, Ill.

MESSRS. LOCKWOOD, GREEN & CO., *Architects*

This is a combination manufacturing and warehouse building, 145 ft. x 50 ft. Upper stories hold 5,000 bales of cotton used in the adjoining yarn mill. A pleasing exterior was obtained at little cost, by careful study. Building of reinforced concrete throughout. The building occupies a prominent corner near the center of the city.

Building of Hyatt Roller Bearing Co. Harrison, N. J.

MR. C. J. SHIRLEY, *Engineer*

Hyatt Roller Bearing Company, at Harrison, N. J. This building is 75 ft. wide by 200 ft. long, six stories and basement. The elevator tower is 48 ft. 10 in. x 16 ft. 4 in. The building is entirely of reinforced concrete, with brick veneer. All of the reinforced concrete wall beams are exposed.

Sears, Roebuck & Company's Grocery Bldg.

GEORGE C. NIMMONS, *Architect*

This is a reinforced concrete building devoted exclusively to the grocery business of Sears, Roebuck & Company and forms a part of a group of buildings extending almost one-half mile in length along Sears, Roebuck & Company's property. The building is used for the filling of orders received by mail in the mail order business of Sears, Roebuck & Company.

Adam Schaaf Piano Factory

GEORGE C. NIMMONS, *Architect*

This building is also a reinforced concrete building devoted to the purpose of manufacturing pianos. The use of the building for the last two years has proven that concrete is also an appropriate material for a piano factory. There have been no objections found from moisture or unfavorable action of sound in the tuning and testing of pianos and its fireproof qualities are greatly to be recommended for a manufacturing business involving the use of materials so inflammable as those used in the piano business. The building illustrated is only the first unit of a much more extensive plant to be completed in the future.

Railway Terminal Warehouse Bldg.

GEORGE C. NIMMONS, *Architect*

This is a design for an improvement contemplated for the property of the Railway Terminal Co. The central portion of the building consists of a cold storage warehouse and the two wings for the storage and handling of all sorts of merchandise. The left wing is already completed. The building is to have extensive wharves along the river which flows in the rear of the building for boat shipments in addition to the railway tunnel underneath the structure and the railroad tracks shown in the foreground. The old part of the building is a very heavy, laminated floor, mill constructed building while the new part is to be of reinforced concrete.

BUILDING FOR WESCOTT CHOCOLATE CO., CAMDEN, N. J.
MESSRS. BALLINGER & PERROT, *ARCHITECTS*

Building for The Detroit News, Detroit, Mich.

MR. ALBERT KAHN, *Architect;* MR. ERNEST WILBY, *Associate.*

THE new building for ***The Detroit News*** will be 150′ x 280′, and three stories and basement in height.

Notwithstanding the fact that forty foot (40′) spans are used throughout the press room, the building is practically entirely of reinforced concrete construction. The exterior is of a Buff Bedford limestone, with a gray granite base. All the windows are of steel, and the entrance doors of bronze.

The lobby is wainscoted with Buff Bedford limestone, while its floor is of a gray Knoxville marble. The main stairs, leading off the main lobby, are to be of the same marble, with stone wainscot similar to that of the main lobby. The newsboys' room has a terazza floor and a light Kittanning brick wainscot. The press and mailing rooms have a composition floor, and walls and columns covered with Kittanning brick. The great length of the building is required on account of the unusual printing press it houses on this floor. This machine is 196 feet long.

The basement contains a large play room for the newsboys, a paper storage space, reels from which the paper is fed to the press above, boiler room, coal room, etc.

The rear portion of the mezzanine, between the first and second floors, contains the mailing and press room lockers, lavatories, etc., while the front portion contains the library.

The finish of the offices in general is fumed quartered oak. The third floor working rooms are lighted not only by large side windows, but also by means of a large monitor, which extends down through the middle of the building.

CURRENT NEWS AND COMMENT

Architects Meet in Albany

The New York State Association of the American Institute of Architects held its annual convention in Albany, February 24th. Delegates representing the various Chapters throughout the State were present.

The following officers were elected for the ensuing year:

President, Frank H. Quinby, of Brooklyn; Vice-President, E. S. Gordon, of Rochester; Secretary, Edward L. Tilton, of New York.

The Convention adopted resolutions in part as follows:

"The New York State Association of Architects, comprising the four Chapters of the American Institute of Architects, within the State of New York, hereby registers an emphatic protest against the proposed erection of a power station on the selected site near the Potomac River in the City of Washington, and recommends that before the work further proceeds, the National Art Commission should make a thorough investigation into the matter, obtaining competent advice and give adequate consideration to the sites more appropriately located which will avoid offending the artistic sense of the people of the nation.

Be it further resolved that: Copies of this protest be sent to the Legislative Committees now having the matter under consideration, and to the press, and that the constituent members of this Association employ every reasonable effort to emphasize the importance of radical action to bring about the selection of a more appropriate site."

The association will keep in close touch with the situation and send a delegation to Washington to protest against the site as selected for the power station.

A committee was appointed to prepare a basic building code for New York State covering the construction of buildings other than factories.

The association declared against the construction of any State or city institution upon land draining in such a way as to pollute the potable water of any city or incorporated village of the State. A number of the delegates attended the hearing on the Wagner bills providing for the removal of the Training School for Boys and the Mohansic State Hospital for the Insane from the Croton water shed.

A committee was appointed to draft a bill creating a State Art Commission having the same jurisdiction over the designs of the States public buildings, monuments, etc., that the Municipal Art Commission now has in New York City.

Members of the State Board of Examiners for the Registration of Architects were present and reported the work of the board fully organized and a large number of applications for registration received.

Washington State Chapter, A. I. A. Minutes of February Meeting

Meeting was called to order on the evening of February 14, by President Loveless.

A letter was read from Mr. E. C. Kemper, Executive Secretary of the Institute, regarding a series of lectures to be given by Mr. Frank B. Williams, of the City Club, New York, on the City Planning of the United States. The Secretary was instructed to write Mr. Williams asking for further particulars regarding subject matter, price, etc.

Mr. Willcox then spoke in a very interesting manner about the proceedings of the Board of Directors of the Institute, at their recent meeting in Washington. He explained in detail the action of the Board relative to the expenses of delegates to the annual conventions, showing that the Chapters which are farthest removed from the convention city will receive the largest sums toward their expenses, and that hereafter there would be no valid excuse for a lack of representation from these distant bodies.

He also spoke of a scheme which the Board of Directors had under consideration and which was being formulated to arrange for a measure of publicity for the Institute and its work, and also that a scheme was being worked out whereby the Institute might possibly stand sponsor to a series of plans for small houses, which would be available all over the United States and would be under the control of the Chapters.

During the course of his remarks Mr. Willcox referred to the influence which the Institute had on the Government architecture, citing the instance of the new building for the Department of the Interior, which was planned to be faced with brick, and which, owing to the efforts of the Institute and the pressure exerted by the various Chapters, was changed to a stone-faced building.

A telegram from the President of the Institute to the President of this Chapter was read, asking our President to wire Congress at once protesting against the erection on the Mall at the foot of the Washington Monument of a power house with four large smokestacks; this President Loveless immediately did, and he then received a second telegram asking for a reply to Congress from those familiar with the City of Washington. This the Chapter ordered sent and the President was delegated to see that same was done.

After some discussion as to the desirability of adopting a Chapter emblem, the concensus of opinion seemed to be that the Institute emblem was sufficient and that a Chapter emblem would be superfluous.

A discussion as to what constituted eligibility to membership then took place. Mr. Willatzen suggested that the out-of-town members' dues be made less than resident members, as they were debarred from any very active participation in the meetings. This suggestion met with very general approval, but no definite action was taken.

The Secretary read an extract from an unknown source entitled "A Professional Doctrine." This was ordered copied and a copy to be sent to each member.

Upon motion, the meeting then adjourned.

New York State Board for Registration of Architects Meets

A meeting held by the State Board for Registration of Architects in Albany on February 24 was attended by all members of the board except the president, D. Everett Waid. The principal business transacted consisted of the consideration of more than one hundred applications for registration already received. So many and complex were the questions raised by applicants, regarding the interpretation of the new law, that it was found expedient to refer the matter of construing certain of its provisions to

CHURCH OF S. NICOLA (SOUTH SIDE), BARI, ITALY (1087-1139 A. D.)