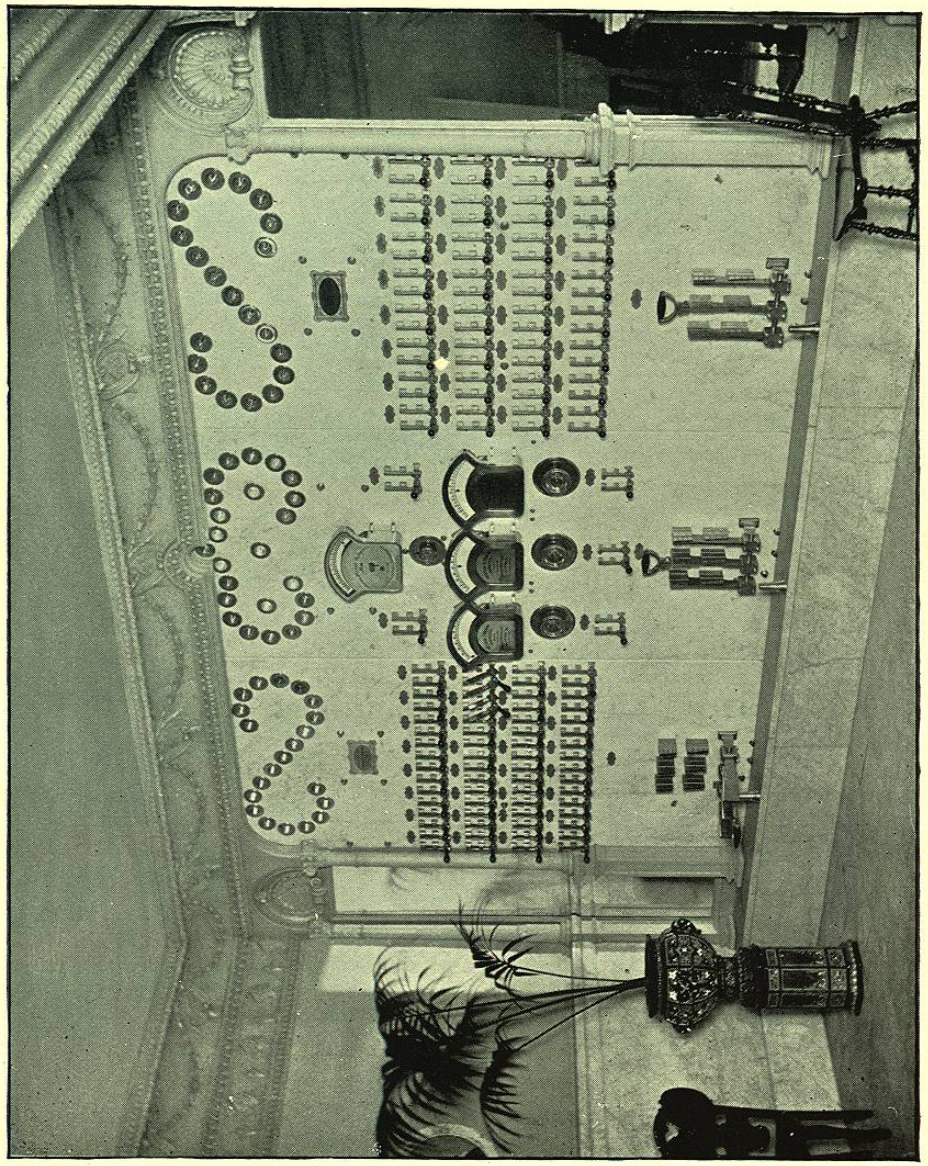


SWITCHBOARD, GAIETY THEATRE.

THE ABBEY THEATRE.

The Abbey Theatre, corner of Broadway and Thirty-eighth Street, the newest of the places of amusement for which New York is noted, combines in its planning and decorations all the comforts and beauties required by the theatre-going public.

The seating capacity is 1450.

The work of demolishing the old buildings upon which the new structure stands was commenced May 1, 1893; in the short space of 6 months and 8 days the new theatre was opened by Henry Irving and Ellen Terry in Lord Tennyson's play *Becket*.

This theatre is one of the first to be completed since the enactment of the new law relating to the building of theatres. The law is stricter than any of its predecessors, and in the case of the Abbey Theatre has been rigidly enforced. The exterior of the theatre presents a six-story office building of light stone.

A new feature in regard to the exits has been introduced. All the doors are controlled by electric openers; by pressing a button on the stage, or from either of two stations on each tier, in the manager's office or box-office, all the doors will fly open.

It is calculated that a large audience can get out of the theatre in a minute and a half by using the various exits.

To prevent fire that might arise on the stage from extending into the auditorium the *asbestos* curtain demanded by law has been provided, and as a further precaution two large windows or skylights have been placed on the roof over the stage, and so built that when not pressed down they will fly open.

A light rope has been attached to each and carried down to the stage. By applying a match or using a penknife these ropes are loosened, whereupon the windows will fly open. In case of fire upon the stage—the asbestos curtain being down—the draught would all be directly through the windows, and it would be impossible for the flames to go in any other direction than upward. Every precaution has been taken to guard against fire, and the entire building is as nearly fire-proof as possible. The heating is by an indirect-blower apparatus, and the lighting is by electricity furnished by a special plant under the sidewalk.

The lights can be absolutely controlled, and can be raised or lowered as perfectly as gas. The wires are insulated, and carried through the building in brass tubes.

For a modern theatre a suitable site is the most important. If on the inside lots of a city block between streets, 10 to 12 feet should separate a theatre from contiguous buildings. The corner site is to be preferred. To successfully design a plan, a general knowledge of the internal workings of such buildings must be first acquired. The representative of each department should be consulted.

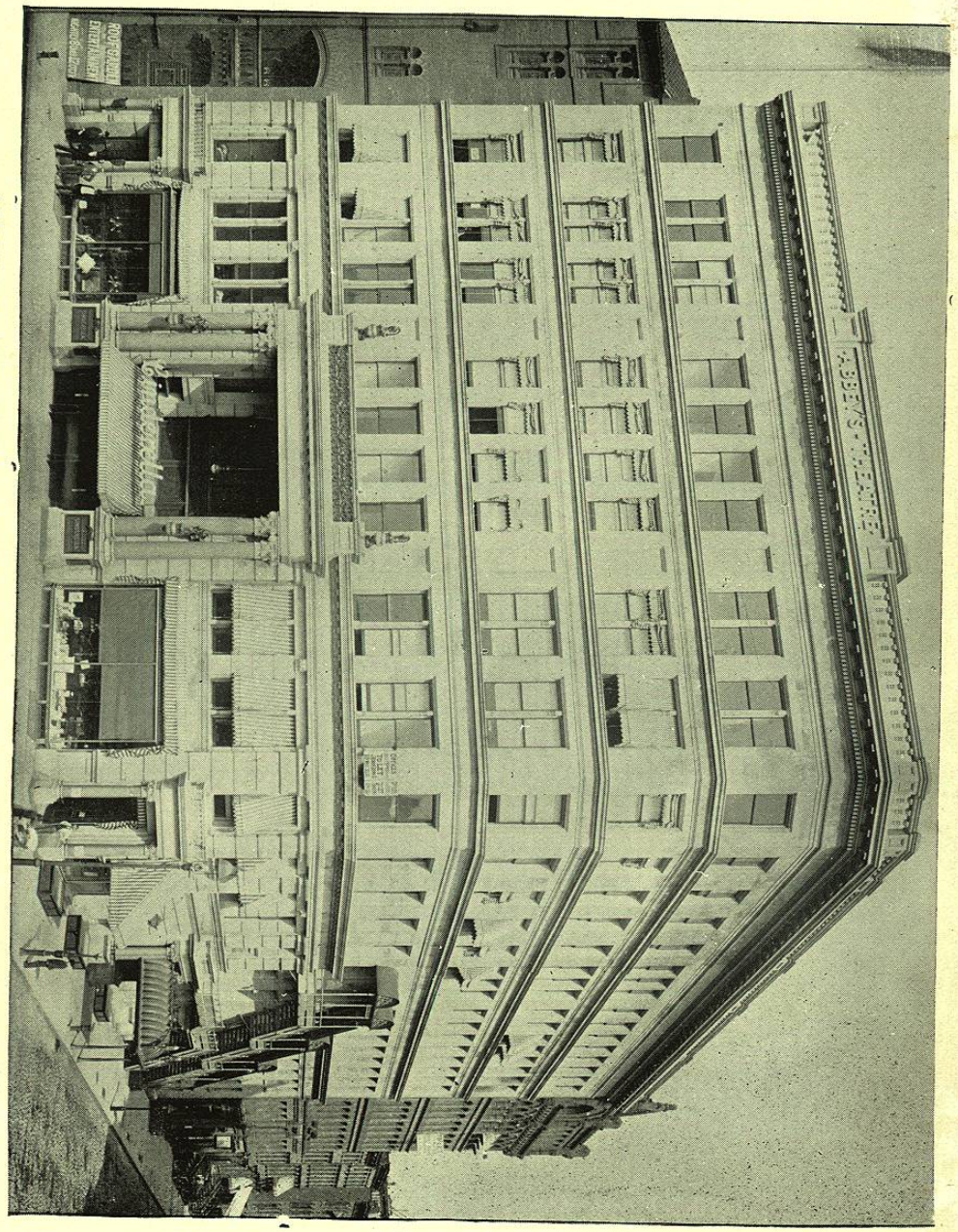
The plans should be such that masonry walls separate the auditorium, entrances, staircases, stage workshops, and dress ing-rooms, and when practicable these walls should be carried up through the roof. In the case of the proscenium wall this is imperative.

Construct all roofs as flat as possible, connected with flights of iron platforms and stairways. The most approved plan should be lighted by means of windows in every part.

The auditorium, stage, and dressing-rooms should be sufficiently lighted from the outer air to conduce to ventilation and cleanliness.

Entrances and exits are all-important.

The safety of an audience depends more upon judiciously



ABBEY'S THEATRE, THIRTY-EIGHTH STREET AND BROADWAY, N. Y.

arranged means of egress than upon any precautionary system of fire-appliances or fire-resisting construction.

Panic may develop itself at any moment without adequate cause; consequently there should be means of escape from the building sufficient to withstand the sudden and extraordinary pressure of a stampede without the exits becoming congested. With this in view it seems that the present New York Building Law has been well considered.

Next to making proper provision for the audience the stage and its appurtenances should be made as fire-proof as possible. If it were possible to construct all the scenery and its workings of iron, we would have our present theatres as near perfection as it is possible to make them.

To provide a system of fire-proofing for the stage a new substance called the "Martin Process"—a paint containing salts and a pure zinc-white properly ground in oil—is frequently applied. It is a discovery of the French chemist Prof. Abel Jean Martin of Paris, and secured by letters patent in the United States. We are informed that the French Government has adopted the use of the Martin process, and its use has been made compulsory in all theatres, opera houses, and public places of amusement in France.

Prof. L. M. Norton of the Massachusetts Institute of Technology made some experiments of the above process, and from his report we find that three-quarter-inch kiln-dried pine was used in every experiment. He applied three coats of the solution; after drying thoroughly, he tested the board, and was unable to ignite it by a burner until the outer part was thoroughly carbonized. Treated with naphtha and set on fire, the naphtha burned completely away without setting the board on fire.

Prof. R. Ogden Doremus also made a few experiments, and found that after liquid No. 1 was applied to lace curtains, calicoes, muslins, and mosquito netting of different colors, the

goods retained their characteristic properties and colors. When dried they were not inflammable. Various papers, plain, printed, and engraved, also written documents, were immersed in solution No. 2 without altering their appearance; when dried they were not inflammable.

Pieces of wood were soaked with liquid No. 3; others were placed in the liquid, and the air in the pores of the wood was removed by means of an air-pump; the pressure of the atmosphere was then restored, thus forcing the saline solution to impregnate the wood more thoroughly. The specimens were then dried, when the wood was found to be almost incombustible.

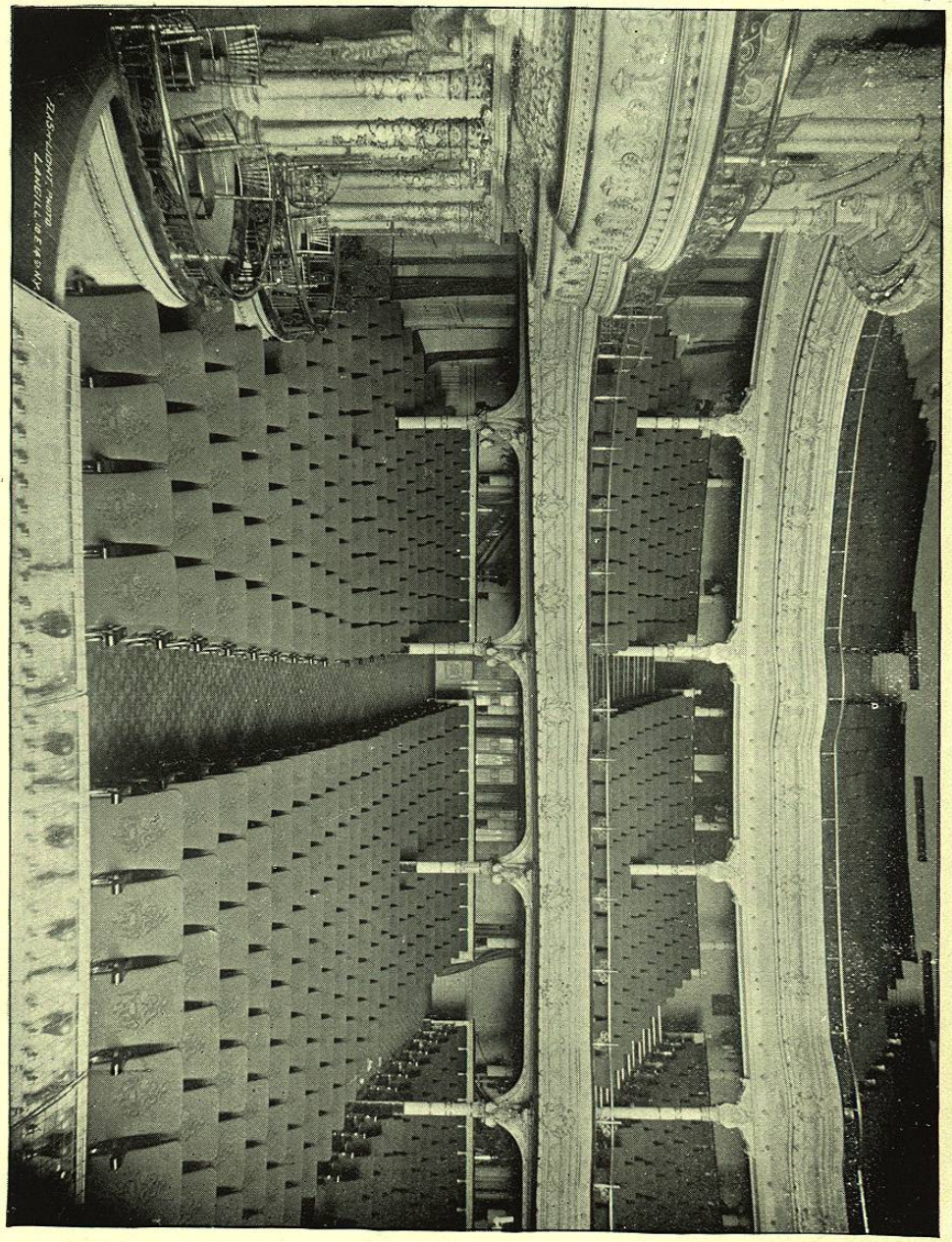
It does not come within the scope of this volume to enter upon a disquisition as to the style of architecture or decoration suitable for theatres, but one matter calling for improvement is the "act-drop," or substitute for a curtain. When these curtains are drawn up, the actors are discovered legs first and decapitated at the first descent. Neither landscapes, men, nor animals are admissible for purposes of decoration.

For the gradual, pleasing, and artistic development of the stage picture "tableau curtains" add considerably to the effectiveness of the interior, when made with rich material, harmonizing in color with the auditorium decorations.

PARQUETTE AND PARQUETTE-CIRCLE.

While managers regard the lower floor the "backbone" of the theatre, it is not consistent with public comfort that the seats in the circle should recede to any great extent under the overhanging balcony. Those occupying these back seats are subjected to inconveniences not experienced by the occupants of those in any other part of the house.

The usual method of planning the lower floor is to extend the parquette from the orchestra to the rail-line of the balcony above, on an upward pitch of about 10 to 15 inches at the



INTERIOR VIEW OF ABBEY'S THEATRE.

centre, and pitching toward the sides from the orchestra one half the same number of inches.

This inclination should take up about one half the lower floor from orchestra-rail to the rear of the parquette, then the stepping of the circle the other half.

If these steppings are excessive, the upper tiers will have to be correspondingly raised, for otherwise the occupants of the back seats would have their view of the stage considerably curtailed by the soffit of the tier above.

It should be possible for those standing at the extreme limit to see a height of not less than 16 feet at the curtain-line, although 12 feet is sometimes allowable.

For dramatic purposes the orchestra-pit may be partly, if not entirely, under the stage. For opera, burlesque, and musical plays it is necessary to place it within the auditorium, slightly below the parquette floor-level.

The orchestra of the Madison Square Theatre is placed upon a platform directly above the stage and upon the stage side of the curtain—a peculiar arrangement which, so far as we are aware, is unique.

The revised New York Building Law expressly provides against this mode of construction, in that, "If above the stage, it shall be placed upon the auditorium side." This will, no doubt, prevent its being attempted in this city in the future.

To fittingly describe the planning of the various floors, examples have been taken from the very best existing theatres; and by referring to the various plans in this chapter we are enabled to arrive at a much clearer idea of the subject. The Empire Theatre, Fortieth Street and Broadway, New York, and others will also be referred to. The Empire proper is 100 feet square and seats 1050 persons. It is in the style of the First Empire. The top story on Broadway is of terra cotta, the next lower of pressed Roman brick, and the two

lower stories of Indiana limestone. The auditorium is frescoed in crimson and gold and lighted by clusters of electric lights.

The interior is rich, quiet, and restful. All calculations for measurements, etc., will be taken from the curtain-line or back line of the proscenium opening.

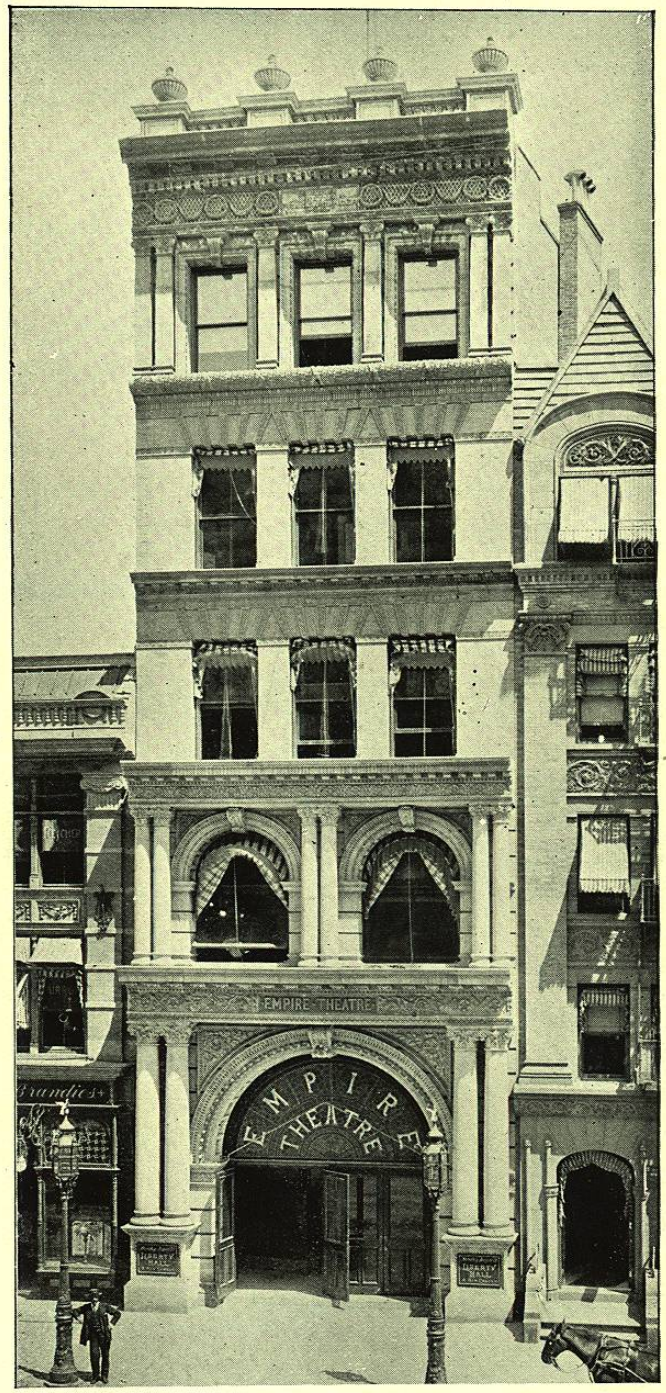
In the Empire this opening is 34 feet wide by 34 feet high, and about one half the width of the auditorium. The outer line of the footlights from the curtain-line is 5 feet, and is drawn from a point upon the centre-line of opening, extending backward 53 feet. From the same point a radius of 58 feet describes the orchestra-rail, then 2 feet 8 inches for the first row of seats, and continuing 2 feet 7 inches each for the remaining seats of the parquette.

The parquette circle, it will be seen by referring to the plan, is arranged in steps, which are described by a line drawn through the same centre from a point 4 feet from the curtain.

There is a gradual ascent given to the floor of the parquette at its centre, from the orchestra to the circle, of about 16½ inches; and from its centre to the sides of the auditorium at the widest part the same height is adopted. By referring to the longitudinal section it will be seen that the first stepping is 3 inches, then 3½ inches for the second, and continually increasing by half an inch for each successive step.

An additional row of seats is placed upon a raised platform at the back and above the foyer-level, as shown—omitted at the aisles.

The foyer-level, or the level of vestibule-entrance, is 6 inches above the stage. The auditorium is 66 feet in depth from the curtain-line and 69 feet wide, from which four aisles have been deducted, and about 8 feet from the depth for a promenade and stairway to balcony. The aisles are 3 feet wide nearest the orchestra, increasing to 4 feet at the circle-railing. An additional passage is also deducted from the



EMPIRE THEATRE, BROADWAY, NEAR FORTIETH STREET.
J. B. McElfatrick & Son, Architects.

width to give entrance to the boxes and their stairways. It will be seen at once that there is very little, if any, space but what is actually required for seating, ingress and egress.

Before and after the regular performance the main or Broadway entrance is used entirely for the lower floor and balcony. In case of fire, or for any other cause, there are provided four exits, two upon the right of the auditorium, leading to an open court, and two upon the left, leading to Fortieth Street through the ladies' parlor.

The entrance to the open court is also upon Fortieth Street, reached through a brick passage or tunnel under the foyer and entirely fire-proof. This subway or passage is not a desirable exit, but under the circumstances it was the best, no doubt, that could have been done, unless it were possible to procure passage to Broadway. In the first stage of a fire or panic it will answer its purpose, but when the constructive work of the interior is being consumed, falling beams, girders, etc., will no doubt crush the roof of any subway unless protected by a special heavily constructed frame.

The New York Building Law requires at least one street-front, and for an emergency an open court or space on the side not bordering on the street when the theatre is situated upon the corner, and courts upon each side when the building is in the interior of a block or inside lots.

The sizes of courts are determined by the seating capacity; for instance, for a theatre seating 1000 persons a court 7 feet in width will be required; above 1000 and not over 1800, 8 feet; and above 1800, 10 feet. The courts are to begin at the proscenium wall, as shown upon the plan, and extend the length of the auditorium, with a separate and distinct corridor extending to the street from each open court.

The law also requires that there shall not be less than two exits on each side in each tier from and including the parquette and each and every gallery, and each exit to be not less than