

NEW THEATRE

CONSTRUCTION & EQUIPMENT

PROJECTION DEPARTMENT CAMERA

P. M. ABBOTT - - - - - TECHNICAL EDITOR

Installation and Proper Care of the Theatre Organ

Exhibitor Should Study Needs Before Selection

BY H. J. WERNER

FROM a close observation of the difficulties in properly conducting a motion picture house the ideal exhibitor must possess the qualifications of an extensive education in the liberal arts, finances and diplomacy in addition to considerable executive ability.

Theatre patrons are determined that everything presented to them must be worthy of their consideration including music, photo-drama, decorations, lighting and other necessities essential to their physical comfort.

Unlike Caesar's Gaul the motion picture public are divided into three unequal parts. First there is the plain "fan" who goes to the theatre because he thoroughly enjoys it; second there is the patron whose interest is served by pictures and music and third is a more sophisticated class who take a keener delight in the concert and the musical interpretation of the photo-drama. In view of the fact that the latter classes are assuming greater proportion, it is well for the progressive exhibitor to give greater consideration to the quality of music he is offering his patronage.

Economic conditions throughout the country have affected the motion picture industry to an appreciable extent and theatre overheads have necessarily dropped. However, the fundamentals of rent, light, heat and film expense are being maintained so that the orchestra pit alone bears the brunt of lower overhead. Orchestras have been curtailed or entirely eliminated and the organ has come into its own not alone from its economic and adequate artistic results but because of the disquietude resulting from temperamental and labor difficulties proportionally incidental to the number of musicians employed.

The majority of picture patrons will concede that the organ for picture purposes seems to be the instrument that furnishes the music most of the time in the greater number of medium and high class theatres. It is therefore necessary that the condition in which the organ is maintained should be of vital importance to the management and finally to the public.

Ordinarily when Mr. Exhibitor purchased his organ he did not hesitate to inform the world that it was the "largest and grandest" and probably boosted the price over its actual cost. However, the regular patrons will lack enthusiastic appreciation of the music if an inferior organist is retained at the console or the instrument itself fails to live up to expectations.

The selection of specifications suitable in size and design for the house or the purchase of the instrument from a reputable manufacturer is only a start in the right direction. The continued success of the instrument requires proper chambers for its reception, ex-

Valuable Information for Exhibitors

Ignorance of the proper care necessary to keep a large organ in good condition, has cost many exhibitors large sums. The NEWS has received many inquiries concerning this phase of theatre management. We have made effort to answer the inquiries at various times. We asked Mr. W. J. Werner, president of the American Photo Player Co. to prepare an article on the installation and care of the organ. His article is presented here. The American Photo Player Co. manufacture the Robert-Morton Organ.

pert installation men and an operator properly trained for organ playing.

The instrument itself must be a theatre organ and not a church organ. The church organ has its mechanism and various sets of pipes arranged and voiced so that a composition of pure organ literature can be adequately rendered. The church organ has its various tonal divisions arranged so that each one is complete in itself and measures up to a standard that tradition has imposed upon organ builder and composer alike. The church organ contains the dignified diapasons and sufficient reed tone to make the effect homogeneous; has certain solo voices, a brilliant ensemble and a few extra fancy stops. The

church organ has certain mechanical features for combining stops and "coupling" manuals rendering conditions which make it impossible for the organist to use stops on the different manuals simultaneously.

A theatre organ is designed so that the organist can play anything that has ever been written for the organ and in fact any music that it is physically possible to play. The tonal character of the manuals on the theatre organ are arranged differently. One keyboard should contain all the suitable accompanimental voices and certain rhythmic traps or effects which are used in conjunction with the accompaniment.

The next most important manual should contain all the solo as well as the accompanimental voices so that every possible voice may be blended together by the organist in order that he may vary the tone quality of his melodies as much as possible. By this arrangement the organist's work is greatly simplified as he does not have to continually change the position of his hands from one keyboard to another to blend solo voices which unfortunately are not placed on the same keyboard.

The tone of the church organ is of course dignified and sonorous and of a quality suitable for ecclesiastical use and for polyphonic music. The theatre requires not only certain tones which are fitted for church use but also every shade of tone found in a symphony orchestra that the organ builder can reproduce.

In addition to the proper arrangement of the various stops and pipes to render everything as available and convenient as possible to the organist, we must consider such matters as the speed and rapidity of the organ action; the depth and weight of the manual and pedal touch, the wind pressure used and the resulting tone, scale and diameters of the various pipes, reliability of the action and a thousand and one other details which go to make up a good theatrical instrument.

Space will not permit our going into these very vital points



Note comparison in size of this pipe. Its tone is very deep and is used only in large organs

as exhaustively as they deserve. Very brief thought will show how absolutely essential each and every point is to a successful organ. The question has often been asked, which is the more important in an organ, the action work or the tone. Some say one and some the other, but the fact remains that they are both equally essential. Good tone is useless if the action is so imperfect that the pipes fail to respond properly and a perfect action is of little use if the tone that it presents to the ears of the audience is crude or unpleasant. Thus everything has to be right and working efficiently all the time if Mr. Exhibitor is going to enjoy the best music that his organist can offer to his patrons. The health of the organ is as necessary as is the health to the organist—both must be in the pink of condition to do their best work.

CHAMBERS AND INSTALLATION

Properly designed organ chambers should be built of hollow tile or concrete coated inside with hard, smooth finish plaster, which will properly confine the tone when the swell shades are closed and efficiently reflect it out into the auditorium when the shades are opened. Not

only should the wells, floors and ceiling be strong enough to withstand the very considerable bombardment of sound waves without tone leakage, but the shades or fronts must be instantaneous in operation and of sufficient area to allow the unobstructed egress of the tone. These chambers should be absolutely dry and clean and if the organ is placed in more than one room, the chambers should be of the same height if possible so that the temperature is even, which results in the organ staying in tune much longer and a consequent reduction in maintenance costs.

Organ chambers can generally be planned in one of several locations in a theatre, according to the particular house. The plan most frequently adopted is to use the space usually occupied by the boxes on a level with the first balcony. Frequently one or both sides of the wings are used with the tone either speaking on to the stage itself or being projected through grilles on either side of the proscenium arch. In the former plan the tone usually mixes better and has a chance to blend before reaching the audience, but is sadly dampened if the curtains be lowered. In the latter plan, obviously,

curtains do not interfere and the brilliancy of the tone is not impaired, but the effect would possibly be unpleasant to members of the audience seated close to the sound outlets in the event of the balcony running right up to the sides of the proscenium.

Probably the very best place and the one least frequently used is what is known as a proscenium installation,—the organ being bracketted on either side of and over the arch, a grille being built, which has the effect of making a very massive and handsome proscenium. The organ is entirely screened,—is easy of access and in large theatres can be practically on one level,—and with possibly a small work shop and entrance from one of the upper lobbies.

A word to architects might not be amiss. Consultation with an organ expert *before* the building is actually in construction may be the means of easily obtaining a good installation which will redound to the credit of everyone concerned. An undersized grille or a sound pocket may reduce the organ's efficiency as much as 50%. Most organ builders will be glad to cooperate in the design of the theatre and are really interested in having things right.

A case is quoted wherein the sound opening was placed close to a large ventilator which worked on the exhaust system with the result that a large percent of the tone went not only over the heads of the people but clear out of doors.

MAINTENANCE

The action of the modern organ consists of an enormous multiplication of a few very simple parts, contacts, cables, magnets, primaries, relays, etc. While the component parts are in themselves very simple and not liable to derangement, the fact remains that the simplest mechanism if multiplied a thousand fold is certain to require some adjustment and regulation.

The blower and motors must be regularly oiled and the bearings and commutators attended to. The blower room kept neat and free from dirt and dust, which would blow into the organ and might possibly cause ciphers by lodging on the armatures or valves. In any event the dirt will pass into the pipes themselves and lodge in the nicks and windways or even get beaten into the metal of the rapidly vibrating brass tongues.

In addition to the motors, the low voltage electrical system which controls the action has also to receive attention. A moderate sized modern theatre organ contains probably upwards of ten thousand separate make and break contacts. It is true that great thought and care have been exercised in their design and manufacture but still it is only to be expected that some attention is required.

Again there is the tonal side of the organ. The pipes must be kept in tune and in proper regulation regarding power, promptness of speech and pitch. Dirt from the blower and ordinary dust affect the power and promptness and also indirectly the pitch, and differences of temperature change the pitch of the pipes in varying degrees.

The actual functioning of the different kinds of pipes is a subject worthy of deep study and one which cannot possibly be treated in an even partially comprehensive manner in a brief article such as this.

Suffice it to say that the tone of a given pipe has three attributes, quality, quantity and pitch. These attributes are present as a result of the use of certain scales, i. e., lengths and diameters of the various pipes in a set. The height and width of the mouth, treatment of the windway or, in the case of a reed pipe, the thickness and treatment of the tongues and also the quantity of wind admitted to the pipe all affect the tone. A change in any one of the above quantities

(Continued on page 314)



Typical Robert-Morton five manual console

Have Optimistic Outlook For 1922

Evidence of the fact that the Bell & Howell Company are optimistic of the future is reflected in the large capital outlay which has been made for increased factory facilities, and for new experiments and development work embracing machines and appliances for all branches of the industry. Contrary to the accepted belief that most manufacturing establishments have had to contend with idleness in the recent depression, the Bell & Howell Company have been unusually busy, and have welcomed an opportunity of getting even with production, which has been heretofore retarded, making only long time deliveries possible. In the near future deliveries of major equipment will be made from stock. The slump in business has really been a welcomed period to the Bell & Howell Company, if for nothing more than what it has enabled them to accomplish in the perfection of tooling methods. It has resulted in their being able to manufacture parts cheaper, and with methods which tend to make possible the interchangeability of all parts and with consequent improved precision and accuracy.

The new developments projected for the coming year—models for which are now completed, or in course of construction—include a new super-step Printer, entirely dissimilar from anything heretofore attempted; it is fully automatic, with provision for any number of light changes from one to infinity. A full line for the amateur and semi-professional—including Camera, Projector, Printers, and other laboratory equipment—has also been perfected, and will be well into production in the early part of 1922.

P. M. Abbott Now with News

Starting this week P. M. Abbott assumes the technical editorship of Motion Picture News. Mr. Abbott is a graduate engineer who has devoted a number of years to the study of the projectionists' problems and to the construction and equipment of motion picture theatres.

A. G. Cruikshank will take over the advertising and service end of the Construction and Equipment section.

Installation and Care of the Organ

(Continued from page 303)

always results in a consequent change in the remainder. It must not be supposed for a moment that the action of organ pipes is mysterious and can only be comprehended by a few. Any one who has the necessary musical ear and mechanical brain and hand can quickly learn to make the requisite tonal adjustments which may become necessary. Obviously the chambers should be clean, dry and of an even temperature so as to prevent things going wrong.

A good organ mechanic keeps things right and does not allow things to go wrong and so the organ is always efficient, the organist is enabled to do good work and the public gets its money's worth at a minimum maintenance cost to the owner. A large organ should be inspected at least every two days,—a medium instrument once a week and every theatre organ at least once a month.

Every large city has several independent

organ mechanics who are capable of rendering such services, and usually the cost of making frequent short visits to an organ is little more than would be the case were the visits further apart and each one longer. The former plan keeps the organ right and prevents things going wrong and the latter corrects things after they have gone wrong.

First, purchase a good organ.

Second, install it right.

Third, keep it right.



Voicing 32 foot pipes on the exterior of Robert-Morton factory

Open Oxford at St. Paul Diamond Theatre

The New Oxford, the largest single floor house in the middle west, was recently opened at St. Paul, Minn. Tom Burke, manager of Midland Films, Inc., and George Grandstrom are associated in the ownership of the theatre. Construction work on the Oxford was started last July.

The house is of red pressed brick and harmonizes with the architectural style of the neighborhood. The building is of fireproof construction and has 10 fire exits. All of its 1,200 seats are on the ground floor, which simplifies greatly the handling of the crowds, and also eliminates the necessity of patrons climbing stairs.

The box office is constructed of Tennessee marble and dark wood. Artistic display windows are provided on either side. A handsomely decorated arch extends the entire length of the front of the building above the ticket office.

The beautiful foyer is separated from the auditorium by a partition curtained with silk. The modern Italian decorative style has been followed throughout the entire house. Amber, mauve and peacock relieved by gold are the colors used in the decorative scheme.

Large dome-like spaces filled with filagree work are to be found at the top on either side of the screen. Cherubs, symbolizing music and art adorn the corners with silken curtains at the sides to emphasize the rich beauty of the interior.

A richly decorated ladies' room is situated over the ticket office on the second floor. The men's smoking room is on the first floor. A large orchestra pit is provided. A Barton organ is one of the features of the house. The organ is at the left of the pit. The console is fitted with three manuals finished in mahogany. Two large rooms over the proscenium grill houses the pipes. Special sound shutters have been installed to regulate the volume of the music. This organ is the second of its type in the Twin Cities. The other was installed in the new Tower theatre, which recently opened. WISE.

La Vine's Riviera Simplex Equipped

Every now and then, we hear of someone who does something in an unusual way, and which reflects much credit and causes favorable comment on their ability. This is what happened, when on December first, S. C. La Vine opened the beautiful Riviera theatre, St. Johns Place and Kingston avenue, Brooklyn, N. Y., and gave to the Bedford section of Brooklyn a new and finely appointed theatre. The name Riviera was suggested, Mr. La Vine states in his program, by the garden spot of the world—the Riviera—and as one views the theatre he finds that every effort has been put forth to realize the ideal behind it.

The policy among the modern theatres of today of installing three projectors, to insure an uninterrupted performance at all times, has been adopted by the Riviera management. Three of the latest type "S" Simplex motor driven projectors, two soft lights and a generator are part of the splendid equipment installed in the projection room.

Several organizations of merit—The Famous Players-Lasky Corporation and B. F. Keith Vaudeville Circuit have been selected to provide the entertainment that will be presented at the Riviera Theatre.



BARTON ORGAN FIVE POINTS THEATRE, CLEVELAND, OHIO

Mr. John Kalafat, Owner Five Points Theatre, Cleveland, Says—

The Barton Organ has beautiful tone quality, the new musical combinations from the divided manual are beautiful almost beyond belief. It certainly is an attraction in the theatre which many of my patrons speak about.



The Barton Organ will be an attraction in your theatre.

The Barton Organ

BARTOLA MUSICAL INSTRUMENT CO.

313-316 Mallery Building

Chicago, Ill.

You Owe Yourself An Investigation