No. 883,290. PATENTED MAR. 31, 1908.

N. BURGESS.

STAGE APPARATUS.

APPLICATION FILED JULY 16, 1902.

2 SHEETS—SHEET 1.

Fig. 1.

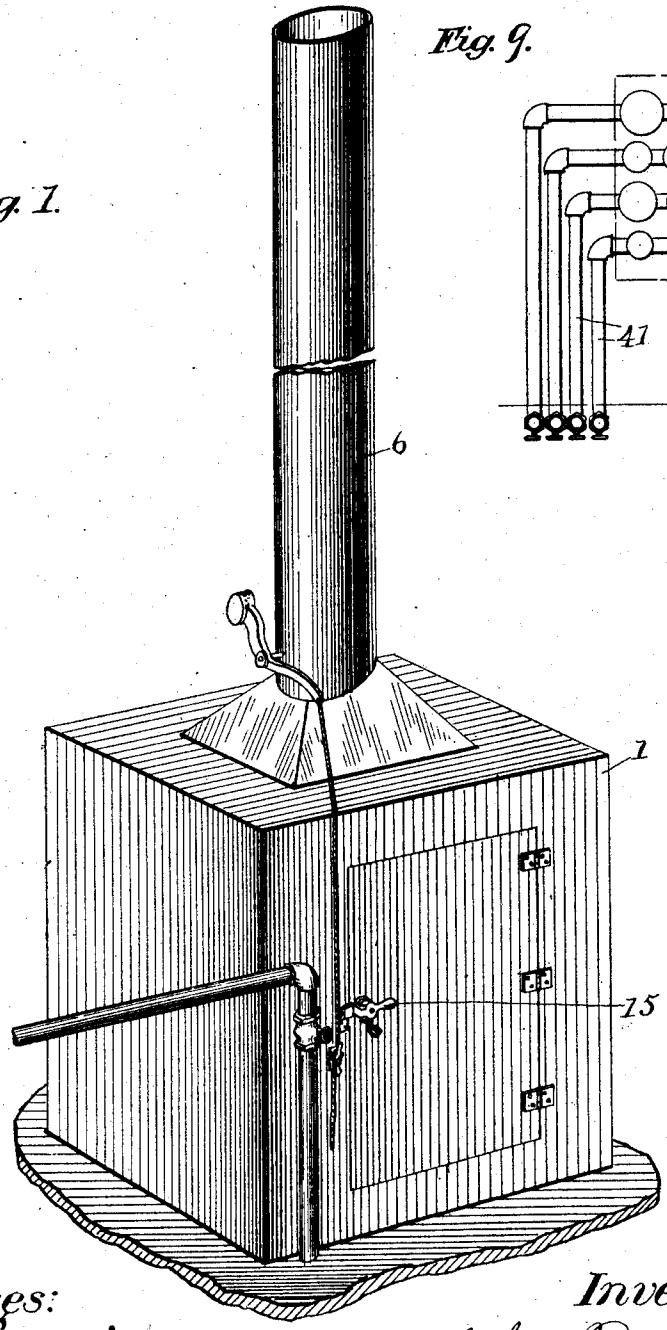


Fig. 9.

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2 SHEETS—SHEET 2.

Fig. 2.

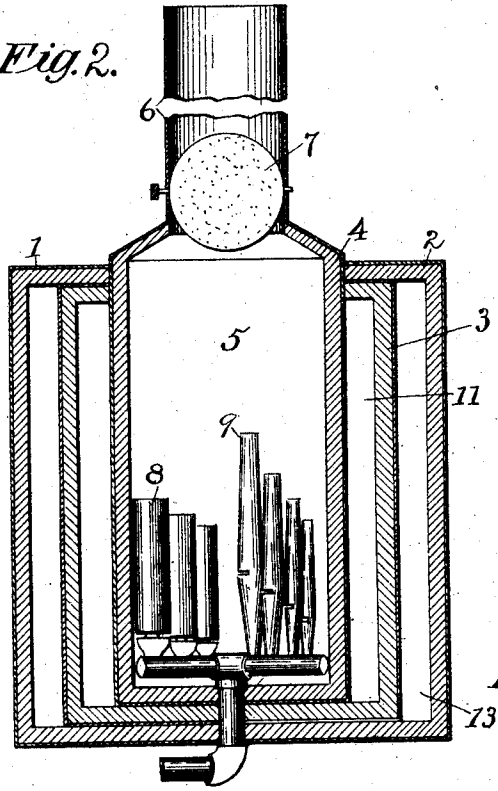


Fig. 3.

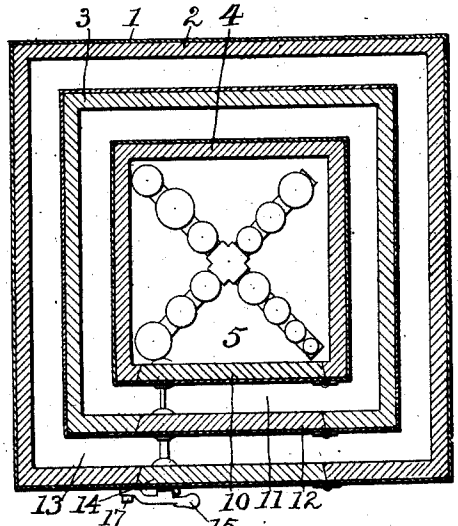


Fig. 5.



Fig. 6.

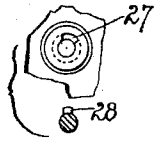


Fig. 4.

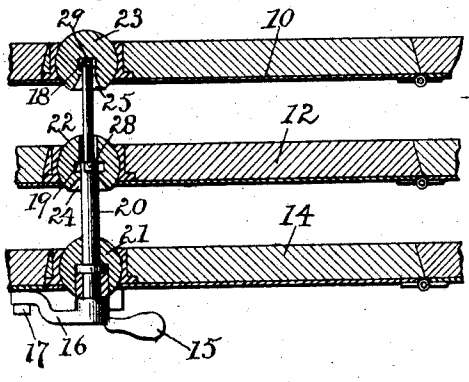


Fig. 7.

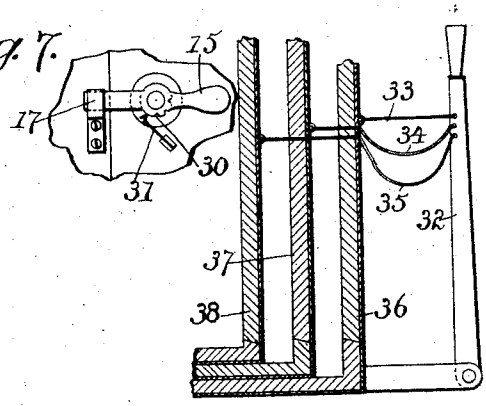


Fig. 8.

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STAGE APPARATUS.

No. 883,290. Specification of Letters Patent. Patented March 31, 1908.

Application filed July 16, 1902. Serial No. 115,787.

To all whom it may concern:

Be it known that I, NEILSON BURGESS, a citizen of the United States, and a resident of Highlands, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Stage Apparatus, of which the following is a specification.

The invention relates to certain stage apparatus designed for creating sounds to simulate applause or approval, or the rumble and roar of a promiscuous aggregation or mob.

The object of the invention is to produce a mechanism by which the sounds of a multitude of people may be simulated when expressing approbation, appreciation or delight, or the incoherent, rule and disorderly sounds which usually accompany mobs and mob violence.

Referring to the drawings:—Figure 1 is a perspective view of the case inclosing the sounding mechanism. Fig. 2 is a detail view in vertical section through the parts shown in Fig. 1. Fig. 3 is a cross sectional view in a plane substantially at right angles to that of Fig. 2. Fig. 4 is a detail view, on enlarged scale, in section through a portion of the devices howing the doors and operating mechanism. Figs. 5, 6 and 7 are detail views of the controlling latch and appurtenant parts for the several doors. Fig. 8 is a modified form of device for controlling the several doors. Fig. 9 is a detail plan view showing a means for controlling the various whistles and pipes.

After a very careful study of the sounds of approbation or anger created by a multitude of people it has been found that these sounds are emitted with no particular regularity and that there is not a distinct and coherent tone or note from them, but that there are certain modulations and changes in volume which occur almost with precision. For instance a great assemblage of people applauding and showing approval in any particular instance break forth spasmodically and almost instantly emitting a tremendous volume of sound which can only be likened to the rolling sounds emitted from organ pipes and the shrill shriek of whistles of various tones coalesced and merged into a single tone of almost infinite volume. The roar thus occasioned is not stopped instantly, but gradually dies down and from various sections of such an assemblage there will arise intermittent rolling and swelling sounds which successively lessen in volume and eventually die out. In the same manner where a mob is congregated and show either pleasure or displeasure by sounds there is a certain rolling and swelling of the multitude of voices which approach nearly to a roar or shriek as the case may be and intermittently these sounds die down giving as an effect a rolling swell to the greatest magnitude and a gradual dying out of all sounds except the murmur and grumble which remains almost constant.

It has been found most necessary and desirable to simulate as nearly as possible the sounds of mobs and great assemblages of people showing appreciation, delight or encouragement in the case of applause or roar and grumble and shrieks of a rude and disorderly crowd, as in the case of a mob.

The mechanism hereinafter described and shown in the drawings simulates as nearly as possible these various conditions and is so designed that the volume and general tones of the sounds emitted may be made to correspond in any degree as desired to the conditions which it is wished to simulate and portray.

Referring to the drawings the numeral 1 denotes a box-like structure which may be of any desired dimensions and is preferably lined with a non-vibratory substance 2 which may be felt or any other desired material. Within this outer structure 1 is a like box or structure 3 and a third compartment is formed within an interior box-like structure 4. With this arrangement it will be seen that there are actually three rooms one arranged within the other and each insulated by certain sound deadening materials from the other.

The inner compartment designated 5 is connected with a long tube 6 controlled by a suitable damper 7, and this tube adds or detracts from the volume of the sound and dependent upon the position of the damper will vary the character of the sounds emitted. The long tube thus projects upward from the sound chamber and in fact extends into the flies nearly to the roof. It provides a chamber of extreme length which, while not impeding action of the sound waves, produces such an effect as to prevent the distinct tone of any of the sounding mechanisms from be-

ing distinguished. The damper is used for controlling the emission of sound from the tube.

Within the inner chamber 5 are a system of whistles 8 and organ pipes 9 each arranged to give forth certain sounds varying in intensity and dependent upon the amount of fluid and its pressure which is passed through them. These sounds are different in kind, that is, the organ pipes give forth a sound of one kind and the whistles produce another kind of a sound, all within the same chamber, which when released therefrom in the manner described can not readily be distinguished one from the other. This sounding mechanism as shown with whistles and pipes is connected through suitable piping controlled by valves as illustrated in Fig. 9 of the drawing and obviously each of the whistles may be controlled by a separate pipe and valve. Whether the pipes and whistles are used in a mass as illustrated in Figs. 2 and 3 or a series is individually supplied with actuating fluid, as in Fig. 9, their connecting pipes are, of course, connected with a source of supply which may be steam, compressed air or other suitable fluid having sufficient pressure to actuate the sounding mechanism.

The inner chamber 5 is provided with a door 10, the chamber 11 has a door 12 and the outer chamber 13 has a door 14. These three doors are arranged in co-incident relative positions and are controlled by a single handle 15. This hand lever is provided at one end with a bolt 16 which coöperates with a latch 17 and secures the outer door in place. Each of the doors 10 and 12 are provided with latch sockets 18, 19 which form suitable connections with the latch bar 20 which is connected with and controlled by the hand lever 15.

The latch bar 20 passes through a ball 21 mounted in a suitable socket in the door 14 and similar balls 22, 23 are arranged in sockets in the doors 12 and 10 respectively. These balls 21, 22 and 23 provide universal connections between the doors and latch bar 20 and the balls 22, 23 each have tapered openings 24, 25 to insure the proper entry of the latch bar 20. The front walls of the recesses 18, 19 are cut away as at 26, 27 (see Figs. 5 and 6) and by turning the bar 20 to a greater or less extent the lugs 28, 29 may be brought into registering positions with the openings 26, 27 and thus one or more of the doors may be opened at will. The controlling handle 15 at or near its end is provided with notches 30 which serve as an index and coöperate with a spring detent 31 and by moving the handle 15 into one of the several indexing positions one or the other of the doors may be engaged and opened by the bar 20.

The object of providing a series of doors and a means for opening one or two, or all of the doors by the same operating handle is apparent, for by this means the volume of the sound emitted from the inner chamber may be varied at will and the object of providing doors is equally apparent, for by swinging the doors backward and forward the roaring and rolling sounds above described may be simulated to a nicety. When a muffled sound is desired the outer door is moved and by varying the timing of its opening and the swinging of the door various changes and gradations may be secured, and by combining the various manipulations possible with the doors and the volume of the sound by controlling the several whistles and pipes in the inner chamber almost any desired tone may be secured. In addition to these means there is the damper in the vibrating tube, this damper serving to stop certain sound vibrations.

It is to be noted that in the above described arrangement there is practically a sound chamber and means for creating notes within the chamber and a series of coöperating sound chambers adapted to control the volume of sound emitted by the sounding apparatus.

In Fig. 8 of the drawings there is shown a modified arrangement for controlling the several doors which includes a pivoted lever 32 connected by a cord or bar 33 with the outer door and also connected by cords 34, 35 with the sound chamber door and door of the intermediate chamber. It is apparent that by moving the lever 32 to a greater or less extent the three doors 36, 37 and 38 may be controlled, although when this form of the device is used it is, of course, necessary to use a spring for returning the doors to their closed position.

It is apparent that many changes and modifications might be made in the details and numerous means might be used for controlling the positions of the doors as well as the operation of the whistles and pipes or gongs without materially departing from the purposes and intent of the invention which contemplates means by which the volume, gradations and effect of a sounding apparatus may be varied to simulate certain desired sounds.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In combination in a stage apparatus for producing certain audible, illusory effects, a sound chamber, means for producing sound vibrations within the chamber, exterior sound impeding chambers having doors for controlling the emission of said vibrations from the sound chamber and having insulated walls, and means for varying the tone produced by the vibrations within the chamber.

2. In a stage apparatus for producing audible, illusory effects, a sound producing mechanism, a plurality of chambers surrounding

said mechanism, and means for controlling the passage of the sound from the innermost to the outermost chamber, and from either of said chambers to the exterior of the apparatus, whereby certain audible, illusory effects are produced.

3. In combination in a stage apparatus for producing audible, illusory effects, a sound producing mechanism, means for actuating the said mechanism, and means for controlling said actuating means, a plurality of chambers surrounding said sound producing mechanism, each provided with an opening, and means for controlling said openings whereby one or more of said chambers may be opened to the exterior of the apparatus whereby certain illusory, audible effects are produced.

4. In a device of the class specified comprising a sounding mechanism and a plurality of sounding chambers, doors arranged in the walls of each of said chambers, and an operating handle arranged upon the outermost door and provided with connections for engaging or disengaging either of the other doors.

5. In a device of the class specified, comprising a sounding mechanism and a plurality of sounding chambers, doors arranged in the walls of each of said chambers, an operating handle arranged upon the outermost door and provided with connections for engaging or disengaging either of the other doors, and a tube projecting from the sounding mechanism.

6. In a device of the class specified, comprising a sounding mechanism and a plurality of sounding chambers, doors arranged in the walls of each of said chambers, an operating handle arranged upon the outermost door and provided with connections for engaging or disengaging either of the other doors, a tube projecting from the sounding mechanism, and means for controlling the passage of sounds through said resonant tube.

7. In an apparatus of the class specified, inner and outer sound chambers, sound deadening means inclosing said chambers, a tube connected with the inner chamber, means for controlling the passage of sound through said tube, and means for varying the volume of the sounds emitted from the outer chambers.

8. In an apparatus of the class specified, a plurality of sound chambers arranged one without the other, doors for controlling the passage of sounds from said chambers, an operating mechanism for controlling the several doors comprising an operating handle, said handle including means whereby upon a predetermined movement of the handle one or more of the doors may be engaged and opened.

9. In an apparatus of the class specified, a sound producing mechanism arranged within a chamber and a series of sound chambers operatively arranged exterior to the sound producing mechanism, a door arranged in the adjacent wall of each of the sound chambers, an operating handle and latch bar, and universal connections intermediate the latch bar and several doors.

10. In a device of the class specified, a plurality of chambers, a door for each chamber arranged in the adjacent walls of said chambers, a socket formed in each door, a latch bar intermediate the several doors, and universal connections intermediate the latch bar and doors.

11. In a stage apparatus for producing audible illusory effects, a plurality of sound chambers arranged one within the other, means for producing sound within said chambers, means for insulating the walls of the chambers against the passage of sound, doors for controlling the passage of sound from said chambers, and operating mechanism for controlling the several doors and comprising an operating handle having means whereby upon a predetermined movement of the handle one or more of the doors may be engaged and opened.

12. In a stage apparatus for producing illusory audible effects, a chamber, sound-producing mechanism arranged therein, a number of chambers surrounding the chamber having the sound-producing mechanism, means for insulating the walls of said chambers against the passage of sound, a plurality of doors arranged in the adjacent walls of the sound chambers, an operating handle and latch bar, and connections between the latch bar and the several doors.

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