

No. 815,904.

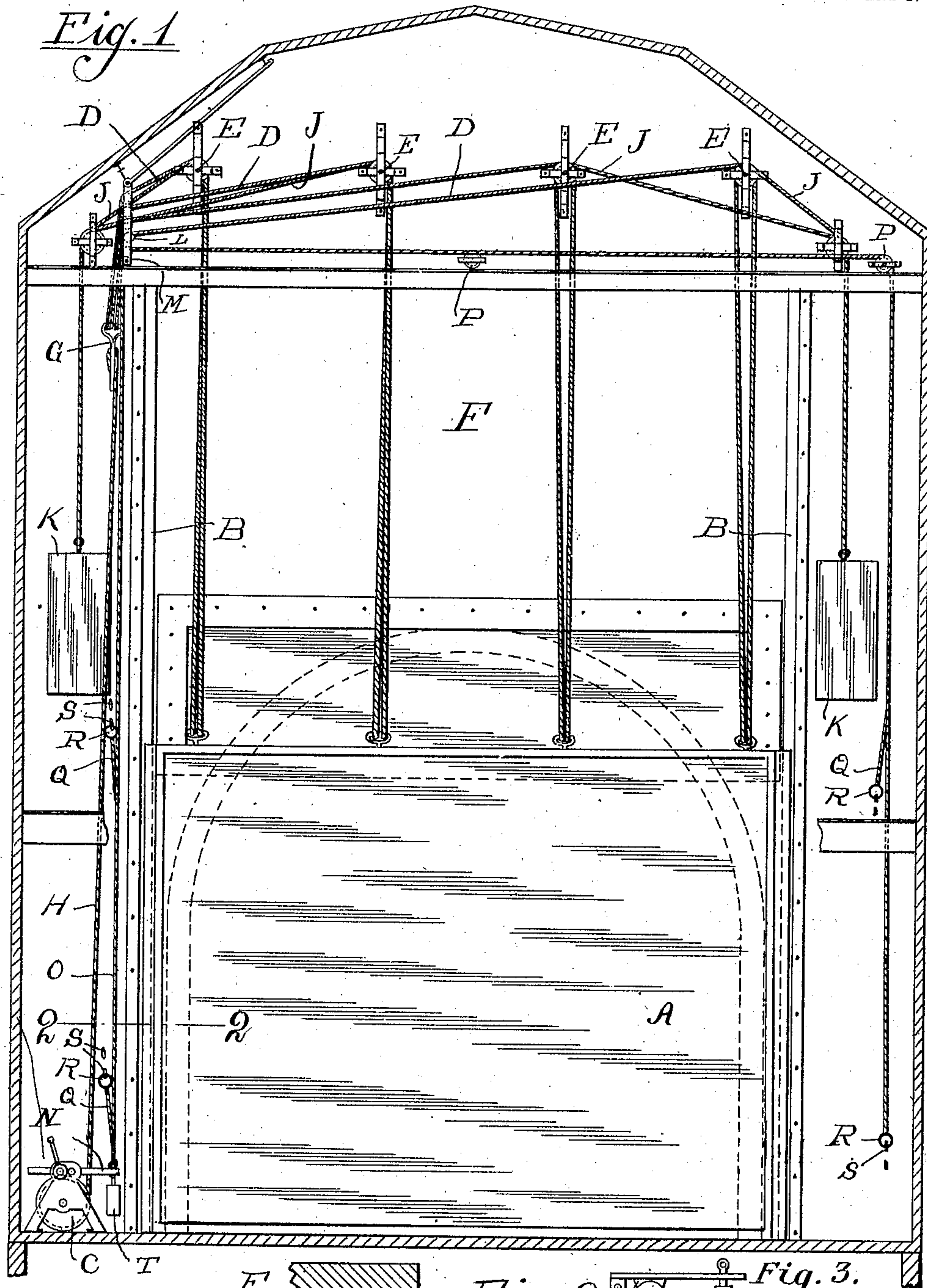
PATENTED MAR. 20, 1906.

J. H. CHANNON.

MEANS FOR HANGING AND OPERATING THEATER CURTAINS.

APPLICATION FILED FEB. 23, 1904.

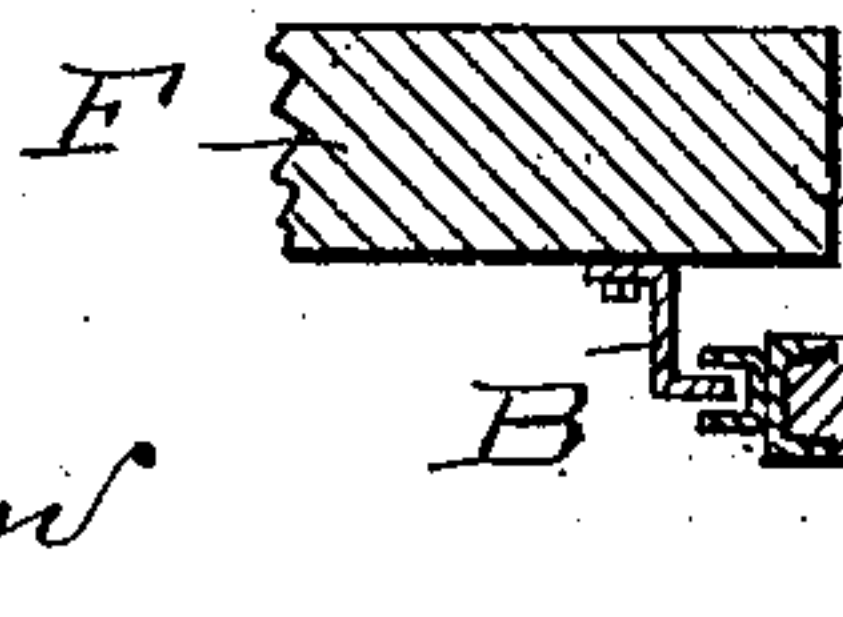
2 SHEETS—SHEET 1.



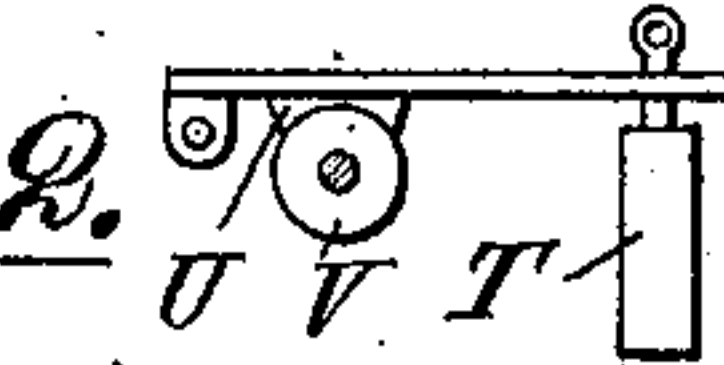
Witnesses:

*E. H. Wilson*

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Inventor:

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2 SHEETS—SHEET 2.

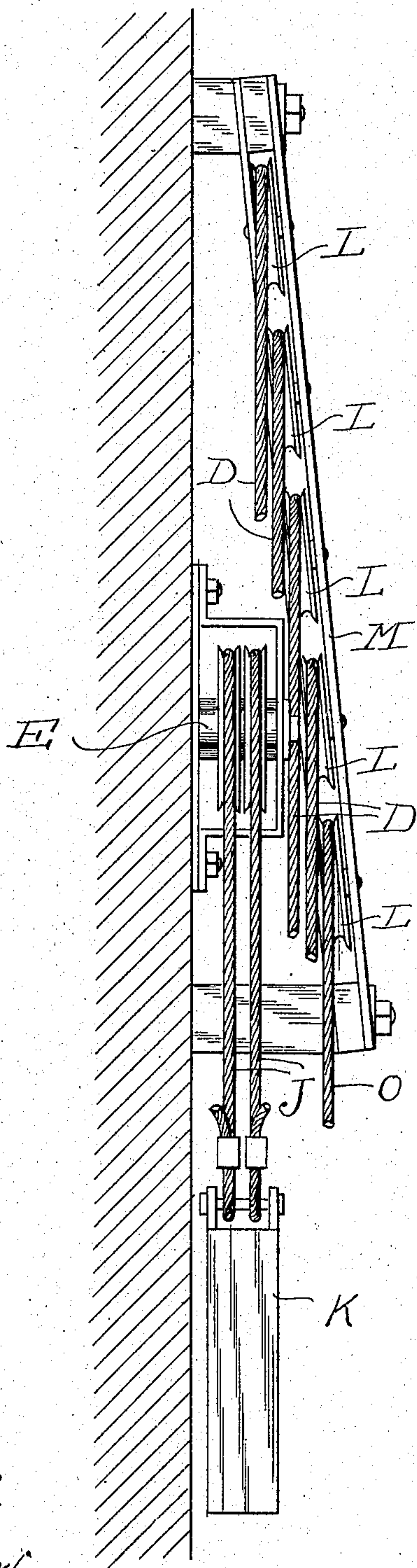


Fig. 4.

Witnesses:

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# UNITED STATES PATENT OFFICE.

JAMES H. CHANNON, OF CHICAGO, ILLINOIS.

## MEANS FOR HANGING AND OPERATING THEATER-CURTAINS.

No. 815,904.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed February 23, 1904. Serial No. 194,847.

*To all whom it may concern:*

Be it known that I, JAMES H. CHANNON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Hanging and Operating Theater-Curtains; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to novel means for hanging steel or other fireproof or heavy drop curtains, the object being to so hang such curtains as to uniformly distribute strains thereon and to relieve the hoisting devices of the greater part of such strains or the weight of such curtain; and it consists in the novel features of construction hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a transverse section of a theater, showing the proscenium-wall and drop-curtain in rear elevation. Fig. 2 is a detail section on the line 2 2 of Fig. 1. Fig. 3 is a detail view of the friction-brake mechanism of the windlass. Fig. 4 is a detail vertical section, on an enlarged scale, through one end of the proscenium-wall, showing the arrangement of the pulleys to keep the various cables clear of each other.

Fireproof theater-curtains must necessarily be of very large area, and being constructed of heavy materials are of great weight. Owing to the fact that such curtains, together with counterweights, must be carried by the proscenium-wall, it is necessary that such curtains should be as light as possible, and to keep such weight within reasonable limits such curtains cannot be cross-braced and otherwise constructed to provide the greatest stability, so that in hanging them care must be exercised to support the same at points intermediate the ends to prevent sagging. It is also desirable that the supporting-cables should not be very heavy, as such heavy cables do not work as easily as smaller sizes and require larger sheaves. To secure the best results in operating these heavy curtains, care must be exercised to balance the strains of the counterweights, so that binding of the curtain in its guides is avoided, thereby enabling the heaviest possible counterweights to be used in proportion to the weight of the curtain, so that the overbalance of the latter shall be just sufficient to

cause same to drop when the windlass is released, without sufficient force, however, to injure such curtain when it strikes the stage-floor or injure the latter.

It is also a feature of my invention to provide means for releasing the windlass which are accessible from all parts of the stage, so that in case of emergency such curtain may be caused to drop from points distant from the windlass.

To these and other ends my invention consists in connecting the fireproof curtain A, which is vertically movable in guides B, with a windlass C by means of the cables D, which are trained over sheaves suitably mounted on shafts E, supported on the proscenium-wall F, said cables D being connected at their ends to a coupling member G, from which a single cable H passes to said windlass C. The said cables D are connected to said curtain at various points intermediate the ends, so that the lifting strains are distributed uniformly over the entire width. On each of said shafts E are two loosely-mounted sheaves, over one of which said cables D are trained and over the other of which the cables J, connecting the said curtain A with counterweights K, are trained. One of said counterweights K is movable in what may be termed a "well" on each side of the said curtain, and each of said counterweights is connected with said curtain at the adjacent end at one-half the number of points of connection with said windlass C. In the instance illustrated said windlass C connects with the curtain A at four points, and each of said counterweights connects with same at two of said points, so that each weight counterbalances one-half of the curtain and balances the strains thereon. The two cables J, connecting each counterweight with the curtain, are preferably connected at their ends directly with said counterweight, it being unnecessary to employ a coupling member, as in the connection with the windlass, for obvious reasons. The said cables D are trained over sheaves L, mounted in a frame M, mounted on the proscenium-wall slightly outwardly from and above the guides B, so that each cable is free and does not interfere or come into contact with another or with the cables J. The said windlass C may be hand or power actuated, as desired, and is locked against rotation when the curtain is at the upper limit of its movement in any convenient man-



ner, such locking device being operable to release the windlass by means of a lever N. The latter is provided at its free end with an opening through which a small cable O passes, said cable O being trained over suitable pulleys P and connected at various suitable points with branch ropes or cables Q, provided at their free ends with rings R to be hung on hooks S, said branch ropes serving to leave said cable free to be operated to raise said lever N from any point, and thus release the curtain A. Said cable O carries a weight T below said lever N, which serves to hold said cable taut and admitting of sufficient free movement to prevent release of the curtain by accidental contact with said cable O. Said lever N is provided between its ends with a friction-block U, adapted to rest upon a pulley V, mounted on one of the shafts of the windlass, the weight T tending to normally hold said lever in frictional contact with said pulley to prevent said windlass from turning. When said weight and lever are raised, said windlass is free to turn or be turned to raise or lower the curtain. In case of emergency the said windlass may obviously be released from any part of the stage. In counterbalancing said curtain the latter must obviously sufficiently overbalance the counterweight to enable it to start downward with ease, but should not so far overbalance as to drop with great force, and thus pos-

sibly injure the curtain or the stage-floor. My means for hanging said curtain is advantageous in this respect, as the friction of the number of pulleys will act as a governor to prevent excessive rapidity of downward movement. 35

I claim as my invention—

The herein-described means for operating theater-curtains comprising a windlass, cables connecting same with the curtain, counterweights connected with said curtains, locking means on said windlass, and releasing means connected with said locking means comprising a cable, a weight carried thereby and adapted to engage said releasing means to operate same when said cable is drawn in one direction, branch cords or cables connected with said cable and extending to various points in the building, devices secured to the walls of the building adapted to coact with devices secured to the free ends of said branch cords or cables for holding same at one limit of their movement, each of said branch cables being adapted when drawn in one direction to raise said weight to release said windlass, substantially as described. 40 45 50 55

In testimony whereof I affix my signature in presence of two witnesses.

JAMES H. CHANNON.

Witnesses:

RUDOLPH WM. LOTZ,  
E. F. WILSON.