

(No Model.)

H. P. CASHION.

DEVICE FOR COUNTERBALANCING THEATRICAL SCENERY.

No. 580,770.

Patented Apr. 13, 1897.

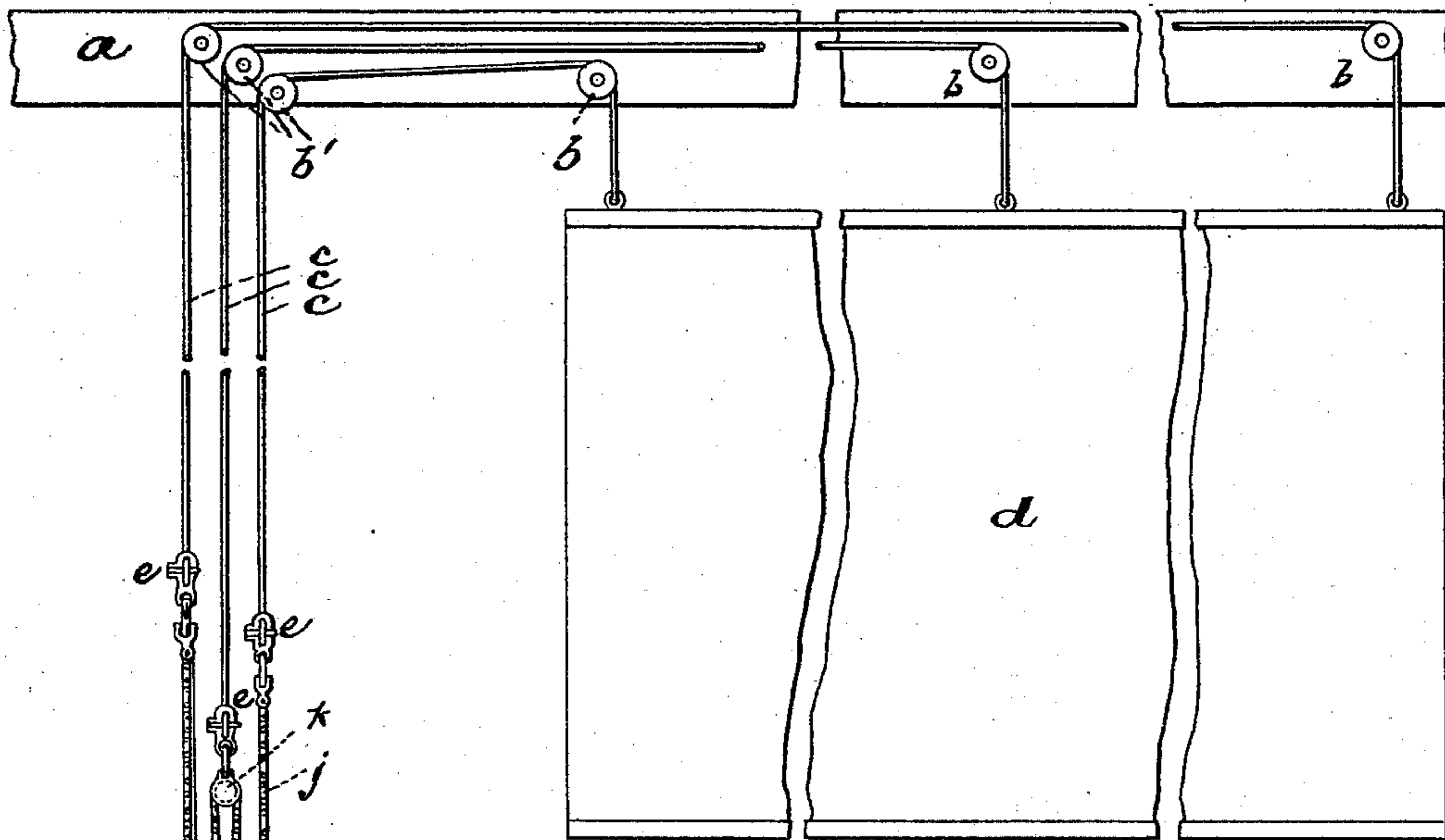


Fig. 1.

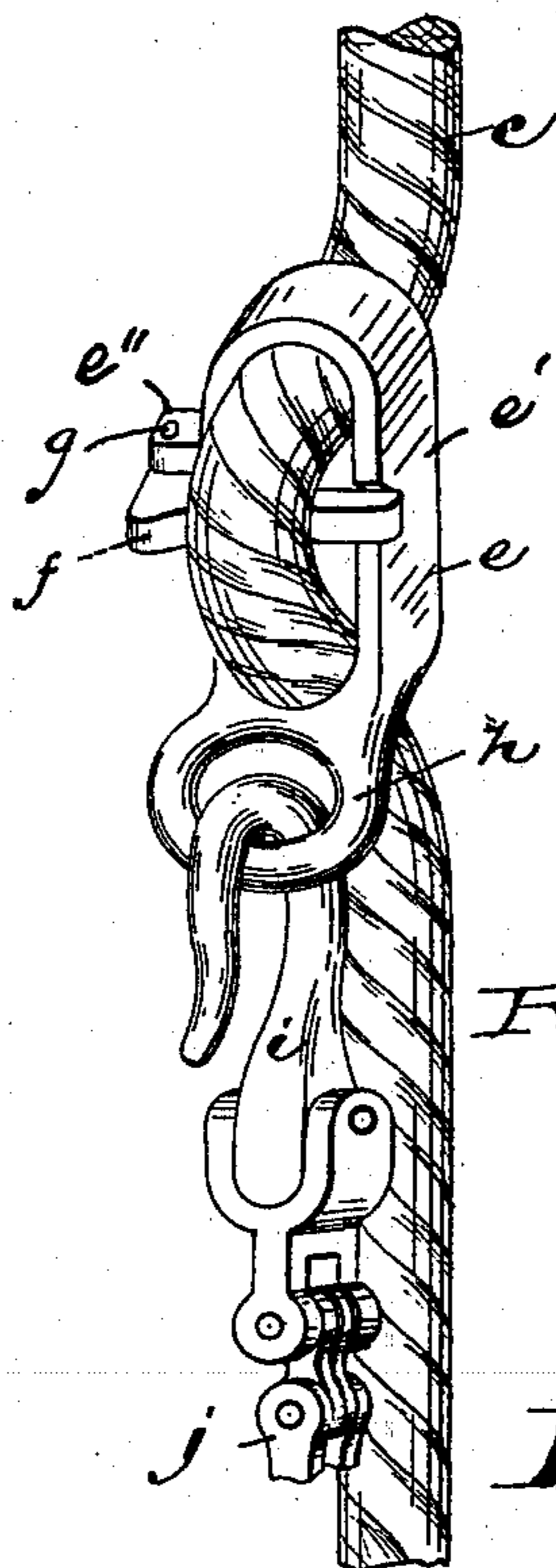


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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TO FREDERICK RICHARDSON, OF SAME PLACE.

## DEVICE FOR COUNTERBALANCING THEATRICAL SCENERY.

SPECIFICATION forming part of Letters Patent No. 580,770, dated April 13, 1897.

Application filed February 7, 1896. Serial No. 578,322. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY P. CASHION, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Devices for Counterbalancing Theatrical Scenery; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to secure a more even and regular adjustment of theatrical drop-curtains or suspended scenery; to prevent the said drop-curtains from getting out of proper "trim" or relation to other scenery because of the contraction or stretching of the suspensory ropes, &c.; to facilitate adjustment, and to secure other advantages and results, some of which will be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved apparatus or device for counterbalancing theatrical drop-curtains or suspended scenery and in the arrangements and combinations of parts, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in both of the views, Figure 1 is a front elevation of a portion of a theater, showing a certain cross-beam of the "rigging-loft" having a drop-curtain and counterbalancing device arranged in connection therewith; and Fig. 2 is a perspective detail showing the method of clamping the counterbalancing device upon the ropes or "lines" used for operating the drop-curtain.

In said drawings, *a* indicates a suitable fixture of the theater, which may be one of the beams of the rigging-loft. Said fixture is properly provided with the usual wheels or sheaves *b* above the curtain and *b' b' b'* at or near one side thereof, or in any suitable position, over which the ropes or lines *c c c* for operating the curtain are arranged. *d*

indicates the drop-curtain or pieces of scenery suspended from said beam or fixture by said ropes or lines in any ordinary manner common in theatrical scenery.

Heretofore the ropes or lines connected with the opposite ends and center of the drop-curtains have been fastened together at or near their ends opposite where they are attached to the said curtains and at the union have been fastened or connected to a third line, by which the curtains have been raised and lowered, and a counterbalancing-weight, usually a bag of sand, has also been attached to the ropes at the place of union.

By the improved construction, should the lines become differentially lengthened because of changes in hygroscopic conditions the ropes become automatically adjustable and the drop-curtain will not be allowed to fall at one side or the other out of proper relation to the other scenery or be drawn up at one side, so as to give to the scenery a distorted effect to the eye and render it less realistic.

In the present construction I do not unite the three or more lines of the drop-curtain where it receives the weight, but each line or rope remains separate and distinct, as indicated in Fig. 1, so that I can pull on one or the other at will and bring the curtain where it receives said line or rope to the desired level. After the drop is once adjusted and the ropes or lines are fastened at a point below the weight, should one of the ropes expand or contract unduly the contraction or expansion is taken up or provided for by the other ropes, so that the drop-curtain is maintained in its proper relation. To this end I have attached to each of the ropes a clamp *e*, which is adjustable in its relation to its respective rope or line, so as to be raised or lowered thereon with convenience and ease. Said clamps consist of centrally open oval or oblong frames *e'*, the slots or openings in which are of about the width of the rope and an inch and a half, more or less, in length. The slot thus formed is adapted to receive the rope *c* when doubled, and the doubled portion thrust through the opening, as shown in Fig. 2. At one side of the oblong frame are bearings *e''* for a tongue *f*, said tongue being pivoted on said

bearings and adapted to extend across the rope-opening and bear on the frame at opposite sides thereof. Thus by thrusting the doubled rope through the opening and then  
 5 passing the tongue between a third bearing for the rope is formed, so that the bend in the rope is maintained, and where tension or strain is brought upon the rope the parts are held rigidly in relative position, as will be  
 10 understood.

The lower end of the clamp is provided with an eye *h*, adapted to receive a hook *i* or other connection for the tackling or chain *j*. One of such clamps is provided on each of the  
 15 ropes or lines *c* at points above, where the ropes are to be fastened by the stage attendant after adjusting the drop-curtain.

To the clamp of the center rope or the rope connected with the center of the drop I arrange a pulley *k*, and to the outside or end rope-clamps I hook the ends of the chain *j*. I pass the center of the chain between pulley-sheaves *n* of a weight-carrier *m* and over the sheaves *k* of the center rope. The chain is  
 20 thus hooked at its opposite ends to the end rope-clamps and at its center is turned with a  $\cap$ -bend over the pulley *k* of the intermediate rope, and on said chain is suspended the weight-carrier *m*, the two pulley-sheaves of  
 30 which are seated on two  $\cup$ -shaped bends of the chain at opposite sides of the  $\cap$ -shaped bend before referred to.

The carrier or pulley *m* is provided at its lower end with an eye *m'*, from which the  
 35 weight or collection of weights *l* may be removably suspended.

The weighted carrier, with its chain and connections, equalizes the downdraft on the ropes and admits of an easy and quick adjust-  
 40 ment of the drop-curtain.

After the drop-curtain, the three or more ropes *c*, and their counterbalancing and equalizing attachments are properly adjusted with relation to the stage the said ropes are fas-  
 45 tened below the carrier or pulley *m* to a pin or other fixture in the rigging-loft or elsewhere adjacent to the stage and within the reach of the attendant, and should there be any differential expansion or contraction of  
 50 one of the ropes, such as above referred to, the same will be taken up automatically by the other ropes and the proper level maintained. Should this expansion or contraction

be sufficient to throw the drop-curtain as a whole above or below the proper level, then  
 55 the ropes may together be quickly untied and the curtain readjusted with ease and convenience, the operation requiring no material time.

Having thus described the invention, what  
 I claim as new is—

1. The improved theatrical curtain and fixtures in which is combined with the fixture *a*, having sheaves or wheels *b, b, b, b', b', b'*, a curtain *d*, to the upper part of which a series  
 65 of ropes or lines *c, c, c*, are attached, said ropes extending from said curtain upward, oversaid sheaves *b*, and thence to the sheaves *b'*, thence downward, an equalizing-chain attached at its ends to the suspended portions  
 70 of the end ropes of those referred to, a pulley *k*, attached to the center or intermediate rope or line, over which pulley the said equalizing-chain is turned, a carrier arranged on the equalizing-chain and a weight suspended  
 75 from said carrier, all substantially as set forth.

2. The improved theatrical drop-curtain and fixtures in which is combined with the fixture *a*, having sheaves *b, b, b*, and *b', b', b'*, the curtain *d*, ropes or lines *c, c, c*, attached  
 80 to said curtain, a pulley removably attached to the center or intermediate rope, an equalizing tackling or chain arranged oversaid pulley and at its opposite ends removably at-  
 85 tached to the other lines or ropes, a carrier having sheaves arranged on said chain or tackling and a weight, all arranged and operating, substantially as set forth.

3. In a theatrical drop-curtain appliance, the combination of a pulley *k*, having a rope-  
 90 clamp admitting a ready attachment and removal of said pulley to and from a curtain-operating rope, a tackling or chain having rope-clamps at its opposite ends admitting an  
 95 attachment to and removal from other curtain-operating ropes, a carrier having a plurality of sheaves for said chain or tackling, and a weight attached to the carrier and removable therefrom, substantially as set forth.

In testimony that I claim the foregoing I  
 have hereunto set my hand this 29th day of  
 January, 1896.

HENRY P. CASHION.

Witnesses:

CHARLES H. PELL,  
 C. B. PITNEY.