

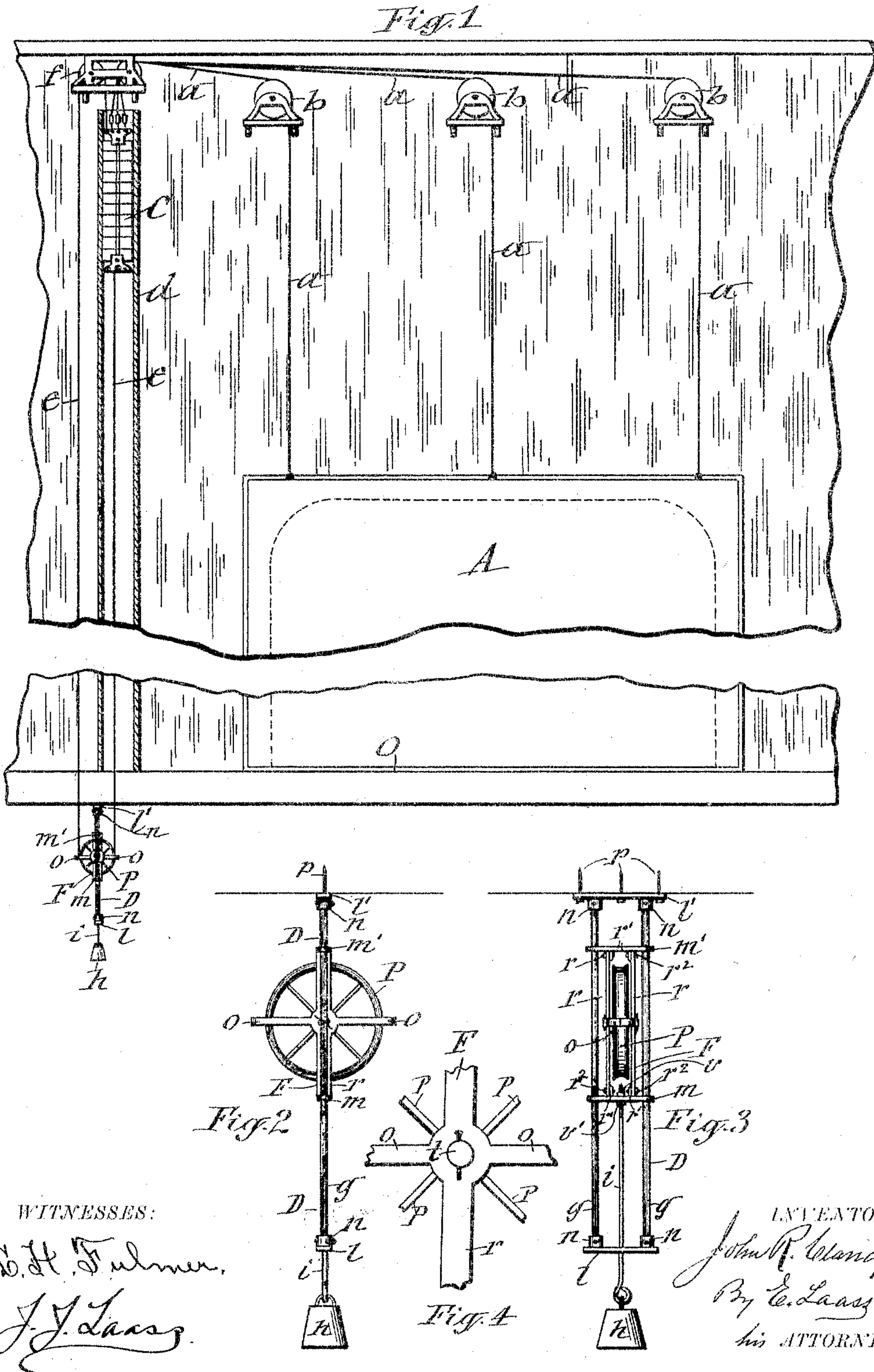
No. 776,774.

PATENTED DEC. 6, 1904.

J. R. CLANCY.
THEATER DROP CURTAIN TENSIONING DEVICE.

APPLICATION FILED SEPT. 26, 1904.

NO MODEL.



UNITED STATES PATENT OFFICE.

JOHN R. CLANCY, OF SYRACUSE, NEW YORK.

THEATER-DROP-CURTAIN-TENSIONING DEVICE.

SPECIFICATION forming part of Letters Patent No. 776,774, dated December 6, 1904.

Application filed September 26, 1904. Serial No. 225,885. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. CLANCY, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Theater-Drop-Curtain-Tensioning Devices, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention is designed to be applied to the rope by means of which the drop-curtain of a theater is operated.

The purpose of the invention is to automatically maintain the aforesaid rope at a uniform tension while allowing it to expand and contract under the influence of varying humidity in the atmosphere; and to that end the invention consists in the combination, with the curtain-suspending lines, of a compensating rope collectively connected at both ends to the said lines, a stationary frame formed with vertical guides, a movable frame sliding on said guides, and a pulley pivoted to the movable frame and riding on the loop of the suspended portion of the compensating rope, and the invention also consists in novel features of the detail construction and combination of the component parts of the invention, as hereinafter described, and set forth in the annexed claims.

In the accompanying drawings, Figure 1 is an elevation of a drop-curtain, showing my invention applied to the lines or ropes by means of which the drop-curtain is suspended. Figs. 2 and 3 are enlarged side views in planes at right angles to each other of the tension-pulley and its guide-frame, and Fig. 4 is a further-enlarged side view of the center portions of the tension-pulley and movable frame.

Similar letters of reference indicate corresponding parts.

A represents the drop-curtain, which is suspended by lines or ropes *a a a*, running on overhead sheaves *b b b* to a counterweight C, to which they are collectively attached.

d denotes a vertically-erected box in which the counterweight is guided.

e represents the rope, by means of which the flyman operates the drop-curtain. This operating-rope is made to serve as the com-

pensating rope of the automatic tensioning device, and for this purpose the compensating rope is attached at one end to the top of the counterweight C, from whence it passes over a sheave *f*, located above the counterweight, and is thence extended down below the stage-floor O and up to the bottom of the counterweight and fastened thereto. The said compensating rope is thus attached at both ends to the counterweight and suspended therefrom.

Under the stage-floor O is a stationary vertical frame D, preferably fastened to the joists of the aforesaid floor. The frame D is provided with vertical guides *g g*, extending from top to bottom of said frame. On the said guides slides a frame F, to which is pivoted a pulley P, which rides with the bottom of its periphery on the loop of the suspended portion of the compensating rope *e*.

h represents a weight which is attached to the lower end of a rod *i*, passing freely through a hole in the center of the bottom cross-plate *l* of the stationary frame D and connected to the cross-bar *m* of the movable frame F.

o o designate guards which extend radially from the center of the frame and beyond and across the periphery of the pulley P to prevent the compensating rope *e* from slipping laterally from said pulley. Said guards are preferably formed integral with the movable frame.

The weight *h* exerts a downward draft on the movable frame F and causes the pulley P to exert a corresponding draft on the compensating rope *e* and maintains it at a uniform tension.

The vertically-movable frame F, to which the pulley P is pivoted, allows said pulley to rise and descend, according to the contraction and expansion of the compensating rope *e*, and thus said rope is maintained at a uniform tension during the variations in its length, due to the variations of the humidity of the atmosphere.

I prefer to construct the stationary frame D and movable frame F as follows: The stationary frame D is composed of two parallel rods, which constitute the guides *g g*. These

rods are attached at their ends to transverse plates l and l' , which are formed with sockets n n , into which the ends of the rods are inserted and fastened in any suitable manner, preferably by pins passing transversely through said sockets and inserted portions of the rods. The said frame is fastened in a suspended position by means of screws or nails p , inserted in holes in the upper cross-plate l' and driven into the joist of the stage-floor C, as represented in Figs. 2 and 3 of the drawings. The movable frame F consists of two transverse bars m m' , which are perforated at their ends to receive through them the guide-rods g g . Between these transverse bars are vertical bars r r , which are rigidly attached at their ends to perforated lugs r' r' , formed on the bars m m' . The attachment is effected by means of bolts r^2 r^2 , passing through the lugs and end portions of the vertical bars r r , as shown in Fig. 3 of the drawings. Each of the said vertical bars r r is provided at the center of its length with a hole for the reception of the axle E of the pulley P, which is disposed between the bars r r . The bottom cross-plate of the stationary frame D is perforated at its center and receives through it the rod i , which is attached to the center of the lower cross-bar of the movable frame and carries the weight h h on the lower end. The upper end of the rod is screw-threaded and provided with nuts v v' at the top and bottom of the bar m to allow the said rod i to be readily and properly attached to said bar.

What I claim is—

1. The combination, with the curtain-suspending lines, of a compensating rope collectively connected at both ends to the said lines, a stationary frame formed with vertical guides, a movable frame sliding on said guides, and a pulley pivoted to the movable frame and riding on the loop of the suspended portion of the compensating rope as set forth.

2. In combination with the curtain-suspending lines, a counterweight attached to said

lines, a compensating rope attached at opposite ends to the top and bottom of the counterweight and suspended therefrom, a stationary frame formed with vertical guides, a movable frame sliding on said guides, a pulley pivoted to the movable frame and riding on the loop of the suspended portion of the compensating rope, guards extending radially from the center of the movable frame and across the periphery of the pulley, and a weight connected to the pulley, as set forth and shown.

3. In combination with the curtain-suspending lines, a compensating rope connected at both ends to said lines, and a pulley riding on the suspended portion of said rope, of a stationary frame composed of two horizontal plates formed with sockets and the lower end of said plates perforated at its center, two vertical rods fastened at their ends in the said sockets, and a movable frame composed of transverse bars perforated at their ends and receiving through their perforations the vertical rods of the stationary frame, and formed with perforated lugs; the lower of said transverse bars perforated at its center, vertical bars perforated at their ends and bolted to the aforesaid lugs and perforated at the center of the length of each bar, an axle supported in said central perforations, a pulley mounted on said axle, guards extending radially from the center of the vertical bars and beyond the periphery of the pulley, a rod passing through the central perforations of the lower transverse bars of the stationary and movable frames, and screw-threaded at its upper ends and provided with attaching-nuts on said end, and a weight connected to the lower end of said rod, all constructed and combined as set forth.

JOHN R. CLANCY.

Witnesses:

J. J. LAASS,
L. H. FULMER.