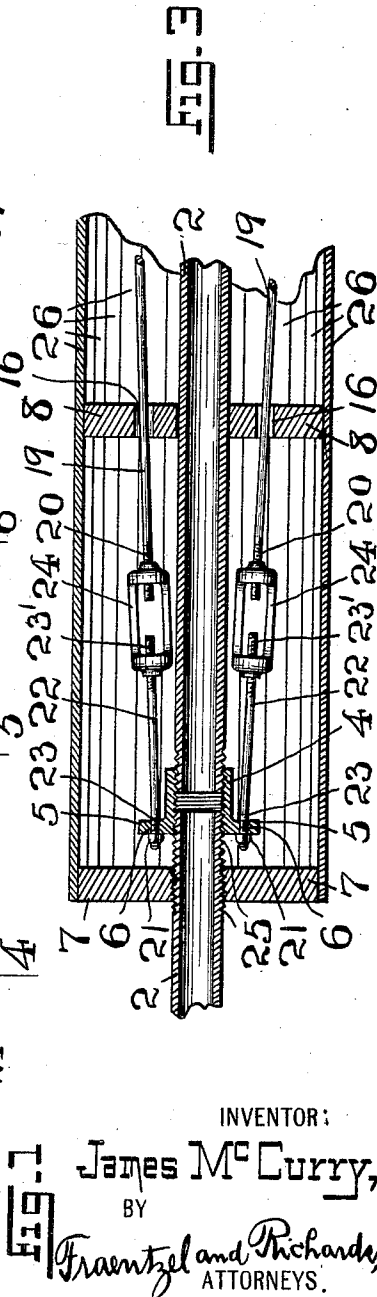
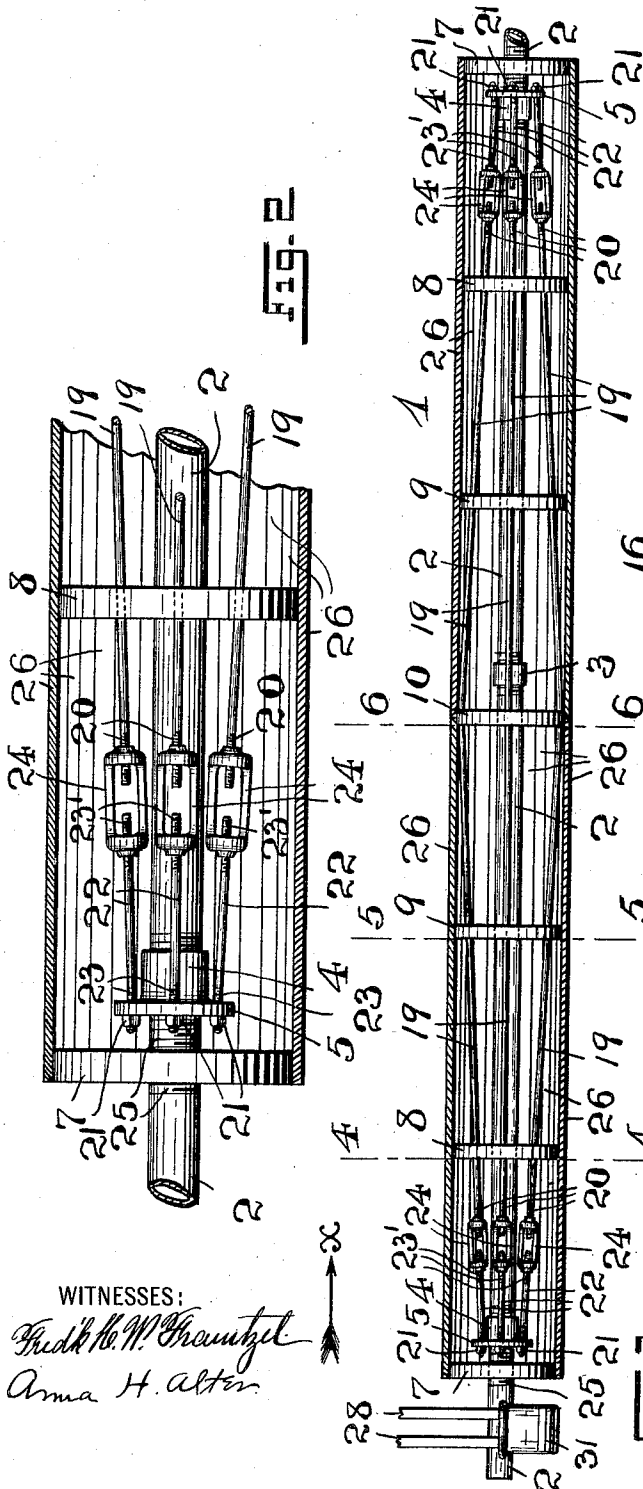


1,019,338.

Patented Mar. 5, 1912.
2 SHEETS—SHEET 1.



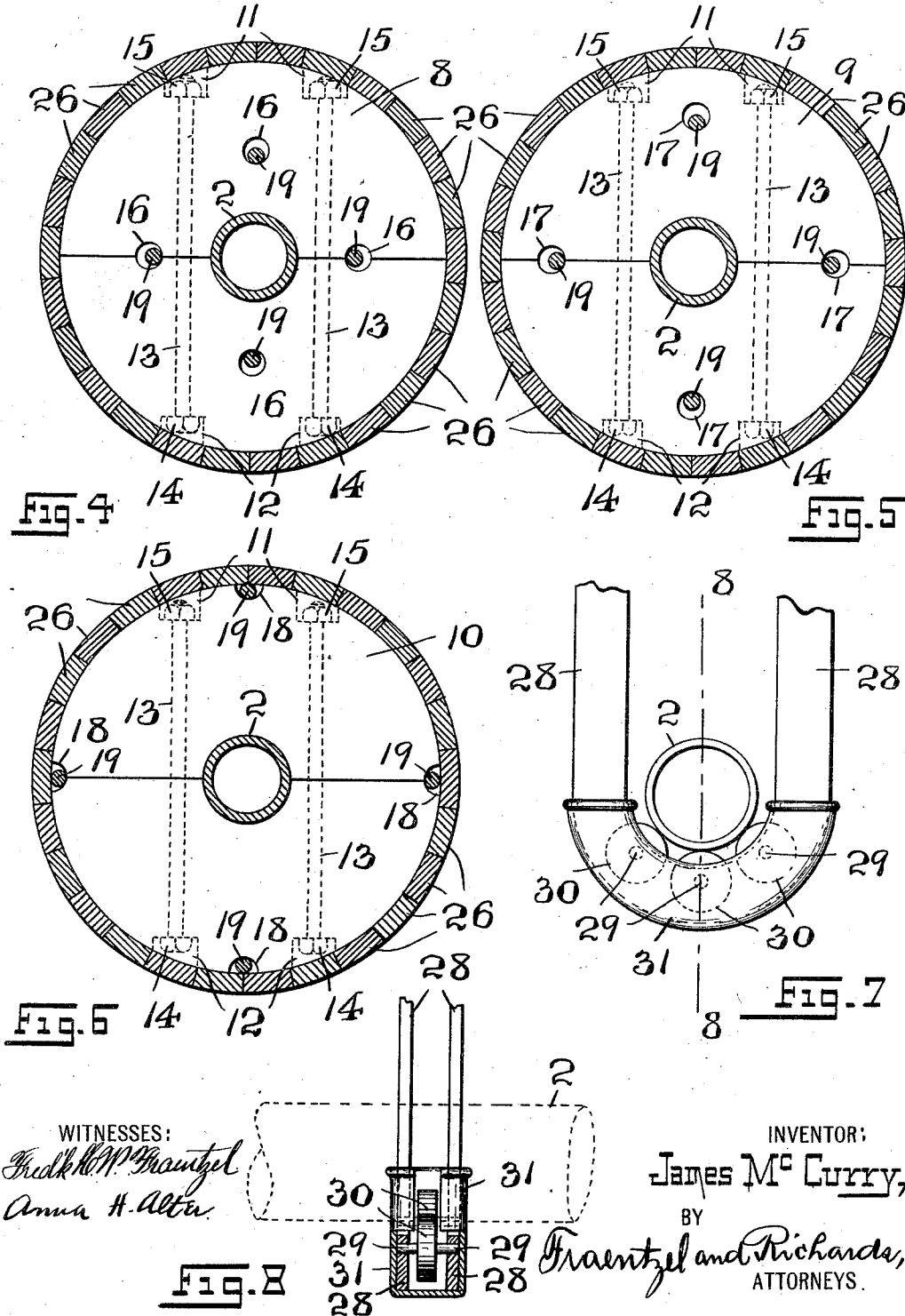
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1,019,338.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JAMES McCURRY, OF KEARNY, NEW JERSEY.

CURTAIN-ROLLER.

1,019,338.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed May 19, 1909. Serial No. 497,006.

To all whom it may concern:

Be it known that I, JAMES McCURRY, a citizen of the United States, residing at Kearny, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Curtain-Rollers; 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 characters of reference marked thereon, which form a part of this specification.

This invention has reference, generally, to improvements in rollers for curtains; and, the invention relates, more particularly, to a novel construction of roller to which may be attached and upon which may be rolled a large and heavy curtain, such as the curtain which is employed to shut off the stage in a theater.

My present invention, therefore, has for its principal object to provide a novel and simply constructed and hollow curtain-roller of a large capacity, and upon which may be rolled a large and heavy curtain, the hollow roller being of a very light and stiff construction, and being suitably braced from within the interior of the roll, so as to provide a long roller upon which a curtain can be wound without any danger of the collapsing or sagging of the roller from the weight carried by it.

Other objects of this invention not at this time more particularly enumerated will be clearly understood from the following detailed description of the same.

The invention consists, primarily, in the novel roller for large curtains hereinafter set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the same, all of which will be more fully described in the following specification, and then finally embodied in the clauses of the claim which are appended to and which form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a longitudinal vertical section and part elevation of a curtain pole made according to and embodying the principles of

the present invention; Fig. 2 is a part longitudinal vertical section and part elevation of the one end-portion of the curtain roller, said view being made on an enlarged scale; and Fig. 3 is a longitudinal vertical section of the parts of the curtain roller represented in said Fig. 2. Fig. 4 is a transverse section taken on line 4—4 in said Fig. 1, looking in the direction of the arrow *a*, Fig. 5 is a similar section taken on line 5—5 in said Fig. 1, looking in the same direction, and Fig. 6 is a transverse section taken on line 6—6 in said Fig. 1, also looking in the direction of the arrow *a*, said three views being all made on an enlarged scale. Fig. 7 is a side elevation of one of the curtain-roller supports, showing in end view the position of the inner supporting rod of the curtain-roller, but the remaining parts of the said roller being omitted from said view; and Fig. 8 is a transverse section of the said support, the said section being taken on line 8—8 in said Fig. 7, and a portion of the said inner supporting rod being indicated in dotted outline.

Similar characters of reference are employed in all of the above described views, to indicate corresponding parts.

Referring now to the several figures of the drawings, the reference-character 1 indicates a complete curtain-roller made according to and embodying the principles of the present invention, the same comprising an inner and preferably tubular supporting rod or shaft which may be a single length of pipe 2, or may be composed of several lengths of pipes suitably connected at their respective screw-threaded end-portions by means of suitably formed unions or sleeves, as 3 and 4, any number of such connected pipe-sections being employed, according to the desired length of the curtain-roller and the size of the curtain which is to be rolled thereon. The unions or sleeves 4 at or near the end-portions of the inner supporting rod or shaft 2 are provided with annular flanges 5 which are made with suitably disposed holes or perforations 6, as clearly illustrated in Figs. 1, 2 and 3 of the drawings. Suitably arranged upon the said inner supporting rod or shaft are any suitable number of circular disks or plates, seven of such disks or plates being used in the present case, although it will be evident that I may employ

a smaller or greater number of such disks, if desired, according to the length of the said center rod or shaft. In the drawings of the construction herein shown, I have indicated the two end-disks or plates by the reference-characters 7, and the intermediately placed disks or plates, reading from each end of the curtain-roller, shown in said Fig. 1 of the drawings, I have designated by the reference-numerals 8, 9 and 10, respectively. As shown more particularly in Figs. 4, 5 and 6 of the drawings, the several disks or plates may be made in halves or semi-circular sections, being formed in their circumferential edge-portions with depressions or cut-away parts 11 and 12, respectively, for the reception of the heads 14 and nuts 15 of suitable bolts 13, by means of which two of such semi-circular sections are tied together, in the manner indicated in dotted outlines in said Figs. 4, 5 and 6, so as to form the said circular disks or plates, as will be clearly evident. From an inspection of said Figs. 4, 5 and 6 of the drawings, it will be seen, that the said disks or plates 8 are made with a series of holes or perforations, as 16, and that the said disks or plates 9 are made with the same number of holes or perforations, as 17; but, that the holes or perforations 17 in the disks or plates 9 are located nearer the circumferential edge-portions of said disks 9, than the holes or perforations 16 in the disks or plates 8, which of course are consequently located nearer the center of said disks or plates 8. The said disk or plate 10 is formed in its marginal edge-portions with suitable depressions or recesses, as 18, the number of said depressions or recesses likewise corresponding to the number of holes or perforations in each disk or plate, and the number of holes or perforations and the depressions or recesses in each individual disk or plate corresponding to the number of holes or perforations in each annular flange 5 of each union or sleeve 4. Thus, it will be evident, that while the respective sets of holes 6, 16 and 17, and the recesses 18 are not in axial alinement, still the said sets of holes and recesses are in alinement with respect to certain longitudinal planes radiating from the central axes of the several disks or plates 8, 9 and 10 and the said unions or sleeves 4, as will be clearly evident.

Referring now to Figs. 1, 2 and 3 of the drawings, it will be seen, that I have provided a number of suitably bowed tie-rods 19, the said rods being arranged in the said holes or perforations 16 and 17 and in the depressions or recesses 18, substantially in the manner shown, and the ends of each tie-rod being provided with a screw-thread 20. Suitably arranged in the holes 6 of the flanges 5 of said unions or sleeves 4 and held therein by means of heads or nuts 21 are

short rods or stems 22, said rods or stems 22 being formed with screw-threads 23 upon which the said nuts 21 are screwed, and upon their opposite ends the said rods are provided with screw-threads 23'. The screw-threads 20 and 23' are respectively right and left-threads, and connected with said screw-threads 20 and 23' of each tie-rod 19 and each rod or stem 22 is a turn-buckle 24 of the usual and well-known construction. By this arrangement of the tie-rods 19 and the short rods or stems 22, with the connecting turn-buckles, it will be clearly evident, that by turning the various turn-buckles, these various parts can be brought into a rigidly assembled relation, so that the inner and perfectly centered tubular supporting rod or shaft 2 will be maintained in a positively rigid condition, so that it is additionally strengthened, and can be used for carrying a large curtain, such as is used upon the stage of a theater, and there will be no possible bending or sagging of the curtain-roll.

To prevent any possibility of the curtain roller, which is very long and is for the purpose of carrying a large and heavy curtain, such as a theater curtain, from sagging, the central portions of the bowed tie-rods 19 are in close and binding contact with the marginal edge-portions of the depressions or recesses 18 of the centrally disposed disk or plate 10, but the other portions of said tie-rods 19 which pass through the holes 16 and 17 in the respective disks or plates 8 and 9 are not in tight binding engagement with the marginal surface-portions forming said holes, said holes 16 and 17 being larger than the cross-sectional areas of said tie-rods. The purpose of this is to permit tightening without any vertical displacement of said disks or plates 8 and 9, which, if done, would throw the curtain roller out of complete alinement, and would thereby render the long roller useless for rolling thereon and unrolling therefrom a large and wide, and a heavy curtain, as will be clearly evident.

The end-disks or plates 7 are preferably fixed upon the said tubular supporting rod or shaft 2 by being screwed upon the screw-threaded portions 25 of the same.

After having in the above manner suitably assembled and rigidly tightened the various devices and parts, suitable cleats or staves, as 26, of wood or any other suitable material, are suitably secured upon the outer marginal edge-portions of the various disks or plates 7, 8, 9 and 10, substantially as shown, so as to provide a drum or roll to which the edge of a curtain can be suitably attached and rolled thereon when the shaft or rod 2 is revolved in the end-bearings or supports 27, by means of any suitably constructed operating mechanism which, however, is not shown in the accom-

panying drawings. One form of such end-bearings or supports is shown more particularly in Figs. 7 and 8 of the drawings, and the same consists, essentially, of suitably formed hangers, as 28, provided with connecting pins 29 and a roller or wheel 30 upon each pin, substantially in the manner illustrated, and upon which are supported in rolling engagement the respective end-portions of the said central tubular supporting rod or shaft 2 of the curtain-roller. A suitably formed shell or reservoir, as 31, adapted to contain a lubricating material, such as oil or grease, may be suitably secured to the lower portions of said hangers in such a manner, that the lower portions of said rollers or wheels 30 will revolve in said lubricating material, and will take up a sufficient quantity of the same, which is applied to the revolving shaft 2, so that any friction between the engaging parts will be reduced to a minimum.

From the foregoing description of my present invention, it will be clearly evident, that I have devised a novel and simple, as well as a very light construction of curtain-roller, which is sufficiently braced, so that a large and a heavy curtain can be hung thereon and rolled upon the drum-portion of the roller without causing the roller to sag or to be thrown out of alinement, whereby the device might easily become useless and inoperative.

I am aware that some changes might be made in the various arrangements and combinations of the devices and parts without departing from the scope of the present invention as described in the foregoing specification and as defined in the claims which are appended to the said specification. Hence I do not limit my invention to the exact arrangements and combinations of the devices and parts as set forth in the said specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

I claim:—

1. A curtain roller comprising a drum which consists of a hollow body having a continuous cylindrical peripheral surface for the unobstructed rolling of a large curtain thereon, a centrally disposed shaft, a series of disks mounted upon said shaft, for carrying said drum, some of said disks being provided with perforations, and one of said disks being formed with marginal depressions, a series of bowed tie-rods arranged in said perforations and said marginal depressions, portions of said tie-rods being in binding engagement with the marginal surface portions of said depressions, in the centrally disposed disk, but said tie-rods being free to move in the perforations of the other

disks, said tie-rods being formed with screw-threaded end-portions, sleeves upon said shaft, each sleeve having an annular flange provided with perforations, stems arranged in said perforations and connected with said flanges, said stems being formed with screw-threaded end-portions, and turn-buckles between the screw-threaded end-portions of said stems and said tie-rods for bracing said shaft and preventing the sagging of the same.

2. A curtain roller comprising a drum which consists of a hollow body having a continuous cylindrical peripheral surface for the unobstructed rolling of a large curtain thereon, a centrally disposed tubular shaft consisting of a number of pipe-sections formed with screw-threaded end-portions, unions for connecting said pipe-sections, a series of disks mounted upon said pipe-sections, for carrying said drum, some of said disks being provided with perforations, and one of said disks being formed with marginal depressions, a series of bowed tie-rods arranged in said perforations and said marginal depressions, portions of said tie-rods being in binding engagement with the marginal surface portions of said depressions, in the centrally disposed disk, but said tie-rods being free to move in the perforations of the other disks, said tie-rods being formed with screw-threaded end-portions, sleeves arranged upon some of said connected pipe-sections, each sleeve having an annular flange provided with perforations, stems arranged in said perforations and connected with said flanges, said stems being formed with screw-threaded end-portions, and turn-buckles between the screw-threaded end-portions of said stems and said tie-rods for bracing said pipe-sections and preventing the sagging of the same.

3. A curtain roller comprising a drum which consists of a hollow body having a continuous cylindrical peripheral surface for the unobstructed rolling of a large curtain thereon, a centrally disposed shaft, a series of circular disks mounted upon said shaft, each disk comprising a pair of semi-circular members, bolts connected with each pair of such members so as to secure them together, for carrying said drum, some of said disks being provided with perforations, and one of said disks being formed with marginal depressions, a series of bowed tie-rods arranged in said perforations and said marginal depressions, portions of said tie-rods being in binding engagement with the marginal surface portions of said depressions, in the centrally disposed disk, but said tie-rods being free to move in the perforations of the other disks, said tie-rods being formed with screw-threaded end-portions, sleeves upon said shaft, each sleeve having an annular flange provided with per-

forations, stems arranged in said perforations and connected with said flanges, said stems being formed with screw-threaded end-portions, and turn-buckles between the screw-threaded end-portions of said stems and said tie-rods for bracing said shaft and preventing the sagging of the same.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 17th day of May 1909.

JAMES McCURRY.

Witnesses:

FREDK. H. W. FRAENTZEL,

FREDK. C. FRAENTZEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."