

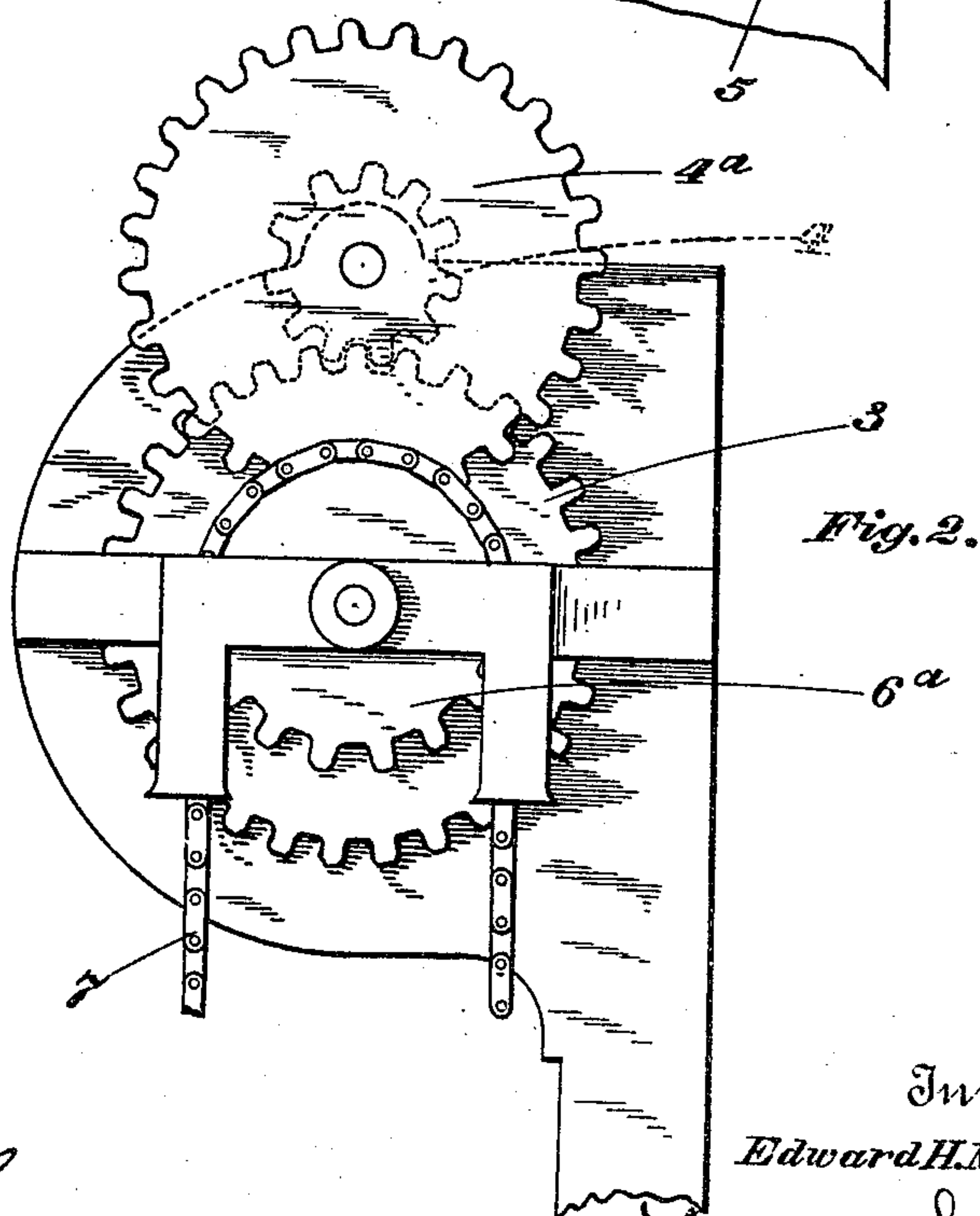
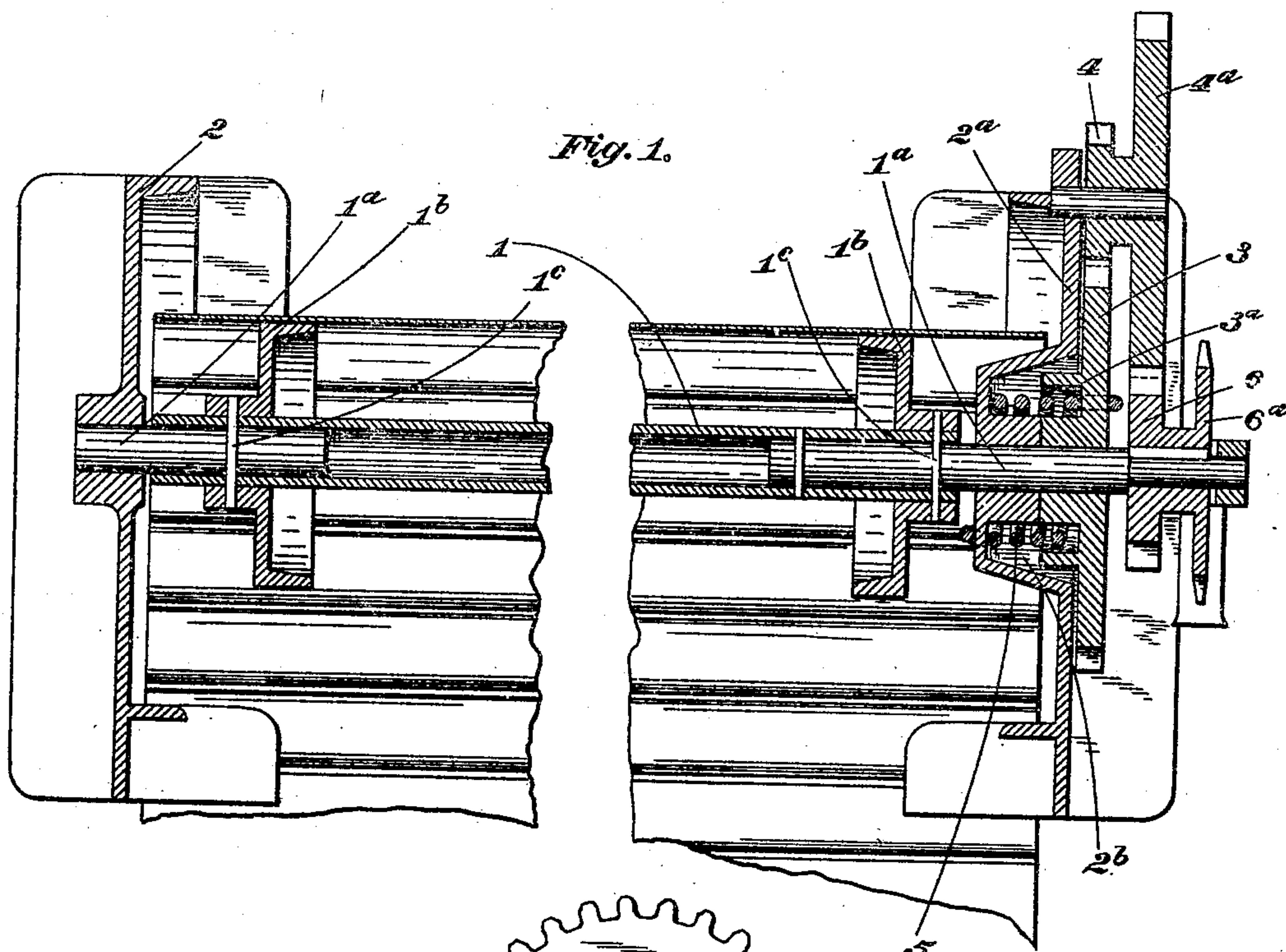
No. 810,966.

PATENTED JAN. 30, 1906.

E. H. McCLOUD.

ROLLER FOR FIREPROOF BLINDS OR CURTAINS.

APPLICATION FILED NOV. 10, 1904. RENEWED NOV. 16, 1905.



Witnesses

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# UNITED STATES PATENT OFFICE.

EDWARD H. McCLOUD, OF COLUMBUS, OHIO.

## ROLLER FOR FIREPROOF BLINDS OR CURTAINS.

No. 810,966.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed November 10, 1904. Renewed November 16, 1905. Serial No. 287,678.

*To all whom it may concern:*

Be it known that I, EDWARD H. McCLOUD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Rollers for Fireproof Blinds or 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.

This invention, while intended more particularly for use in connection with rollers for fireproof curtains or blinds, can be used in other environment.

The object of the invention is to avoid the use of long coiled springs heretofore deemed necessary in such rollers, and consequently to lessen the cost of manufacture.

The invention consists in the construction hereinafter described and claimed.

In the accompanying drawings, illustrating an embodiment of the invention, Figure 1 is a vertical sectional view taken longitudinally of the curtain-roller. Fig. 2 is an end view looking at the hoisting mechanism.

The curtain-roller is of any appropriate construction. In the present instance it is shown to comprise a tube 1, having in and projecting from its ends stud-shafts 1<sup>a</sup> and on its ends collars 1<sup>b</sup>, pins 1<sup>c</sup> being passed through the collars, tube, and shafts to secure them all together. The roller is mounted to turn on the stud-shafts 1<sup>a</sup> in brackets or end casings 2 and 2<sup>a</sup>. The bracket 2<sup>a</sup> is cast with a pocket 2<sup>b</sup> around its bearing. Loose on the right-hand stud-shaft, as seen in Fig. 1, is a spur-gear 3, having a hub and a chamber or pocket 3<sup>a</sup> around its hub. The hub and bearing in the end casing when placed end to end form a cylinder around which a coil-spring 5 is placed, the ends of said spring being connected with the end casing and spur-gear 3.

Mounted on a short shaft above the spur-gear 3 is a pinion 4, that is connected or formed with so as to be driven by a spur-gear 4<sup>a</sup> of larger diameter than the pinion 4, and keyed on the end of the roller-shaft is a pinion 6, engaging the spur-gear 4<sup>a</sup>, said pinion being connected or formed with a sprocket 6<sup>a</sup>, so as to be rotated with the latter. 7 designates a sprocket-chain for operating the sprocket-wheel 6<sup>a</sup>.

The operation is as follows: When the sprocket-wheel is turned, the curtain is raised or lowered, the speed of the roller being the same as that of the sprocket; but because of the proportions of the spur-gear 3, pinion 4, spur-gear 4<sup>a</sup>, and pinion 6 the speed of the spur-gear 3 is much slower than that of the roller-shaft. The proportions of the aforesaid spur-gears and pinions can of course be different, so as to make the relative speed of the roller-shaft and spur-gear 3 greater or less than that which will result from the construction illustrated. This will be determined by the character of work to be done. The spring will be so connected that the unwinding of the curtain will wind up the spring and place it under greater tension, thus counterbalancing or partly counterbalancing the unwound curtain and making it easier to roll up.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a bearing or bracket, a shaft thereon, a gear loose on said shaft, a spring connecting the bearing and said gear, and means for turning the shaft and the gear at different rates of speed.

2. The combination with a bearing or bracket, a shaft thereon, a gear loose on said shaft, a spring connecting the bearing and said gear, a pinion fixed on said shaft and a gear and pinion intermediate the first-mentioned gear and pinion.

3. In combination a curtain-roller, and curtain thereon, a shaft for said roller, a bearing or bracket for said shaft, a gear loose on said shaft, a spring connecting the bearing and said gear, and means for turning the shaft and the gear at different rates of speed.

4. In combination, a bearing or bracket, a curtain and roller therefor having its shaft supported in said bearing, a gear loose on said shaft, a spring connecting the bearing and said gear, a pinion fixed on said shaft, and a gear and pinion intermediate the first-mentioned gear and pinion.

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

EDWARD H. McCLOUD.

Witnesses:

U. R. PETERS,  
GEO. M. FINCKEL.