No. 687,870. Patented Dec. 3, 1901.

F. J. WATKINSON.

SELF ACTING ROLLER BLIND.

(Application filed May 23, 1901.)

(No Model.)

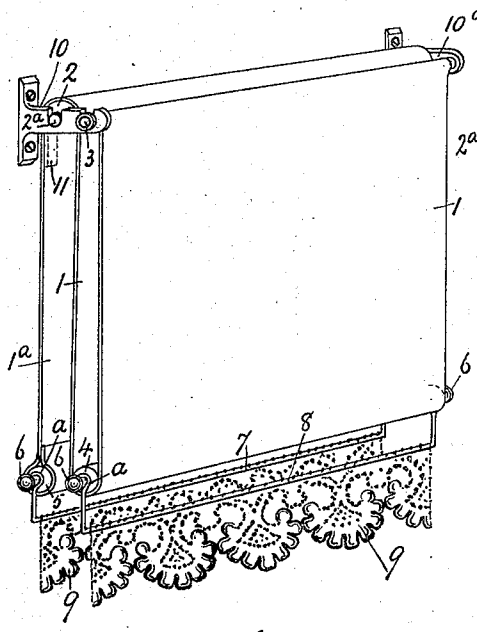


Fig. 1.

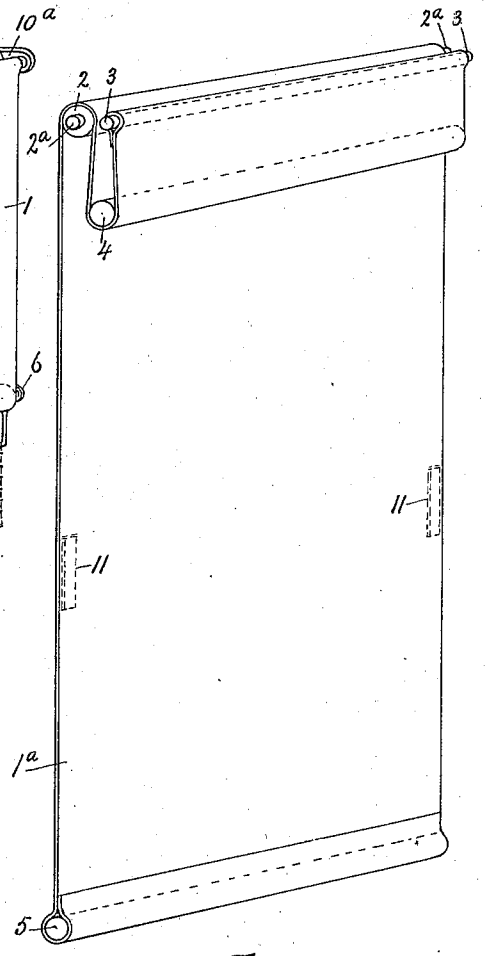


Fig. 2.

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UNITED STATES PATENT OFFICE.

FREDERICK J. WATKINSON, OF STRATHROY, CANADA, ASSIGNOR OF ONE-HALF TO CHARLES W. SMITH, OF LONDON, CANADA.

SELF-ACTING ROLLER-BLIND.

SPECIFICATION forming part of Letters Patent No. 687,870, dated December 3, 1901.

Application filed May 23, 1901. Serial No. 61,616. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. WATKINSON, a subject of the King of Great Britain, and a resident of the town of Strathroy, in the county of Middlesex, in the Province of Ontario, Canada, have invented a certain new and useful Self-Acting Roller-Blind, of which the following is a specification.

This invention relates to a screen of cloth or other material placed before a window to exclude light or prevent observation from the outside; and this invention consists of a balanced blind or one so constructed that it may be instantly raised or lowered by very little upward pressure or downward pull, and it also consists of the improved construction and novel combination of parts, as will be hereinafter first fully set forth and described and then pointed out in the claim, reference being had to the accompanying drawings, wherein—

Figure 1 is a perspective view of a roller-blind embodying my invention. In this view the blind is shown raised. Fig. 2 is another perspective view of same, showing the blind lowered. In this view the bracket-supports and fringe attachments are removed in order to more clearly illustrate this invention.

In the accompanying drawings the numeral 1 designates a blind shade or screen of cloth or other suitable material, and 2 a stationary roller over which said blind is folded and on which it is supported, the center of gravity of said blind coinciding with the center of said roller on which it is supported. 3 designates a rod to which one end of said blind is secured, 4 a roller supported in a fold of the blind, and 5 a bar secured to the other end of the blind, which acts as a counterbalance to the roller 4.

6 6 designate knobs, one of which is secured to each end of the roller 4 and bar 5.

7 and 8 designate hangers, each carrying a fringe 9, and said hangers are provided with hooked ends *a*, which hook on and engage loosely with the knobs 6 6. This forms one convenient means of attaching or detaching the fringe 9 from the blind 1. At the same time the hooked ends *a* of the hanger 8 resting loosely on the knobs 6 of the roller 4 the latter may rotate perfectly free while the hangers remain stationary, and two or more of said rollers 2 and 4 may be used, as desired. The more of said rollers 2 and 4 used the narrower would be the depth of the fold of the blind, and less number of rollers 2 and 4 used the greater would be the depth of the fold of a blind of the same length.

The roller 2 is provided with trunnions 2^a, which are supported by, held in place, and rotate perfectly free in brackets 10 and 10^a, secured to the window case or frame or other suitable adjacent support, and the ends of rod 3 are also supported in said brackets, and in one of said brackets 10^a holes or openings are formed to receive and support the adjacent ends of said roller 2 and rod 3, and in the bracket 10 at the other end similar openings are formed, but cut through to one side of the bracket in order that said roller 2 and rod 3 may be readily, easily, and instantly placed in or removed from said brackets, the ends of the roller 2 and shoulders on the rod 3 preventing the accidental displacement of said roller and rod lengthwise and their own weight and their insertion in the openings in the bracket 10^a preventing their accidental displacement vertically.

The numeral 11 designates strips of metal or other suitable stiff material secured to one or both edges of the blind, as shown particularly in Fig. 2, so that when the blind is adjusted to the position shown in Fig. 1 the strips 11 will not pass over the roller 2. This will form a stop to arrest the movement of the portion 1^a of the blind and prevent it from moving farther upward.

The weight of the roller 4 and the portion of the blind 1 on the adjacent side of the roller 2 to the roller 4 is arranged to balance the weight of the bar 5 and the portion of the blind 1 on the adjacent side of the roller 2 to the bar 5, so that very little pressure upward or pull downward will be all that will be necessary to adjust the portion 1^a of the blind more or less over the window, and by adjusting said blind to the position shown in Fig. 2 said blind will be lowered or closed and by adjusting it to position shown in Fig. 1 the blind will be raised or opened.

The space between the roller 2 and rod 3 is less than the diameter of the roller 4. Consequently as the latter is raised the depth of

the fold in which the roller 4 is supported, as well as the space between the folded portions of the blind, will be reduced by lowering the blind to the position shown in Fig. 2, and by adjusting said roller 4 from the position shown in Fig. 1 to the position shown in Fig. 2 the frictional contact of the blind with the rollers 2 and 4 will be gradually increased to correspond with and counterbalance the gradually-increasing length of blind on the side of the roller adjacent to the bar 5, so that said blind will be balanced when at any elevation, and when balanced it may be readily, easily, and instantly raised or lowered, as desired.

This blind being balanced and all springs, holding-pawls, or other like devices which are usually required to be used with roller-blinds and which are so liable to get out of order being dispensed with, a simple, strong, durable, inexpensive, and efficient device of the class described is provided, and another advantage of the blind being balanced is that if the operator should let go of the blind at any place or position it will remain stationary, and consequently all danger of the blind running up to the top of the window, which would tear or injure it or drag off the window-blind stick, would be avoided and completely prevented.

The roller 4 and the bar 5, either or both, may be formed hollow and filled or loaded with buckshot or other material to vary the weight of said roller and bar to balance one another, and stiffening-strips may be secured to the blind and extend upward from the bottom in order to facilitate the raising of the blind from the position shown in Fig. 2 to the position shown in Fig. 1.

This invention has been described as applied to a window-blind; but it may be applied with equal advantage to a drop-curtain in a theater or to an adjustable shade or screen in any place or position required.

I have found by experiment that the construction herein shown and described gives the best results. At the same time, while I prefer said construction, I do not wish to limit myself to the details thereof, as they may be modified in various ways without departing from the spirit of my invention.

Having thus described my invention, I claim—

A stationary roller, a rod, and means for supporting said roller and rod, in combination with a blind folded over and supported by said stationary roller, one end of said blind being secured to said rod, a vertically-moving roller supported by said blind between said stationary roller and said rod, and a counterbalance-bar secured to the free end of said blind, substantially as and for the purpose set forth.

In testimony whereof I have signed in the presence of the two undersigned witnesses.

FREDERICK J. WATKINSON.

Witnesses:
P. J. EDMUNDS,
E. J. GAULD.