To all whom it may concern:

Be it known that I, SELDEN R. HOPKINS, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Shade or Map Rolls; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an improved construction of rolling shade, map or display sheet wherein the sheet is rolled upon a suitable roller, which is adjustable so that by proper adjustment and positioning of the roller, different parts of the sheet may be exposed and different lengths thereof as desired for any purpose whatsoever. Particularly in the roller type of maps, it is often desirable to bring a certain portion of the map to an easily accessible point of view, and this is not possible where the map roll is in a fixed position, and may necessitate unrolling of the entire map for the purpose, and as a consequence, the portion desired for inspection is generally in an inaccessible position. Of course, the construction is adaptable for any use wherein a roller adjustment of a display sheet or surface is desired, but for the purposes of illustration, I have shown my construction used as a window shade so as to illustrate the possibilities of operation thereof.

It is an object therefore of this invention to provide a roller construction wherein the roller is adjustable to different positions, and from any position thereof the sheet or surface wound thereon may be unrolled therefrom and to any height or position desired to expose a predetermined area of surface.

It is also an object of this invention to construct a shade roller or other mechanism wherein a roller is mounted between suitable upright guides, and at its ends is provided with thimble or drum members around which cables are wound to effect a rotational adjustment of the roller, and with certain cables connected to the sheet which is wound on the roller to effect adjustment thereof independent of adjustment of the roller by said cables.

It is also an object of this invention to construct a roller or other mechanism wherein a roller is provided adapted to be rotated by cables wound around drums formed at the end thereof whereby rotation of the roller serves to effect adjustment of a sheet wound thereon or in the event of said sheet being held stationary, serves to effect adjustment or change the position of the roller, so that any portion of the sheet on the roller may be unwound therefrom and placed at any desired position by bodily adjustment of the roller and sheet, or by adjustment of the sheet from the roller when held at a fixed position.

It is a further object of this invention to construct a roller mechanism wherein a roller is adjustable according to rotational movements imparted thereto, and with a sheet wound about said roller adjustable bodily with said roller or adjustable from said roller when said roller is held in fixed position.

Other and further important objects of the invention will be evident from the disclosures in the drawings and specification.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a fragmentary elevation of a window with a shade mechanism embodying the principles of my invention.

Fig. 2 is a fragmentary detail section taken on line 2—2 of Fig. 1.

Fig. 3, is a fragmentary detail section taken on line 3—3 of Fig. 1, with parts in elevation and parts omitted.

Fig. 4, is an enlarged fragmentary rear view with parts in section, of the roller mechanism mounted in its guides and with parts omitted.

Fig. 5, is a fragmentary detail section of one end of the roller.

Fig. 6 is a detail view partly in section of one end of the stick of the sheet wound upon the roller.

Fig. 7 is a sectional detail through one of the guides at the upper end thereof.

Fig. 8 is a detail section on line 8—8 of Fig. 3.
Fig. 9 is a sectional detail on line 9—9 of Fig. 8.

Fig. 10 is a top plan view of the mechanism shown in Fig. 9.

As shown on the drawings:

The window frame shown in Fig. 1, consists of upright side members 1, a sill 2, and a top cross member 3, and slideable in the frame is an upper sash 4, and a lower sash 5. Secured to the respective side frame uprights 1, on each side of the window frame, are channel guides 6. Mounted transversely of the window frame and adjustable therein, is a roller 7, and on each end thereof secured by a screw 8, as shown in Fig. 5, are double thimble members 9. As clearly shown in Fig. 4, the inner groove of each of the double thimbles 9, engages with the intumined flanges of the guides 6.

and the outer grooved portion of said thimbles each have wound thereon cables 10, which, when unwound from said thimbles, serve to impart a rotational movement to the roller 7. Secured to the upper end of each of the channel guides 6, are cord or cable guide plates 11, each provided with apertures 12 and 13, therethrough, respectively. Said cables 10, are led upwardly and through the apertures 13, and then over and around a cross-pin or roller 14, mounted in the upper end of one of the guide channels 6, and downwardly to the lower end of the channel.

Also extending transversely of the window frame is a stick 15, provided with gudgeons 16, at its ends, which project through the vertical slots of the channel guides 6, whereby said stick is guided in its movement, and secured to said gudgeons 16, at each end of the stick, are cables 17. Said cables 17, are led upwardly through the apertures 12, of the cable or cord guide plates, and the cable 17, at one side, is led from its aperture 12, of one guide plate over and across the window frame at the upper end thereof, as clearly shown in Fig. 4, and through the aperture 12, of the other guide plate at the other side of the window. Both of said cables 17, are then led upwardly and around a roller or pin 18, mounted in the upper end of one of the channel guides 6, and then downwardly and within the channel guide to the lower end thereof.

A sheet of any material 19 such as a window shade, map, or display surface, may be secured to and wound around the roller 7, and the outer edge of said sheet or shade surface 19, is attached to the stick 15. Mounted upon each of the upright channel guides 6, near the lower end thereof, at its opening in the outer edge of each are projecting plates or lugs 20, between each pair of which is journaled a roller 21, having serrations or teeth 22, along a portion of the periphery thereof, and said respective cables 10 and 17, are led downwardly and outwardly from the guides between said plates and beneath said serrated rollers at each side of the window frame, as clearly shown in detail in Fig. 9.

The operation is as follows:

The cables 10, the ends of which are fastened to and are wound within the outer groove of the thimbles 9, of the roller 7, when pulled outwardly through the aperture provided therefor at the lower end of one of the guides 6, unwind from the thimbles and serve to impart a rotational movement to the roller 7, to cause said roller to wind the shade material 19, therefrom. Thus, if the stick 15, is in a fixed position such winding of the shade material 19, on the roll, will cause the roll to elevate itself toward the stick 15. On the other hand, if the cables 10, are released, the roll 7, will move downwardly by gravity, thereby unwinding the shade material 19, therefrom, provided the stick 15, is held stationary, and at the same time winding the cable or cords 10, upon the thimbles 9.

Both of said cords or cables 10, are accessible at the right hand side of the window at the lower end of one of the guides 6, referring to Figs. 1 and 2. The cable 10, which is wound on the thimble at the left hand end of the roller 7, is led across at the upper end of the window frame, as shown in Fig. 4, and through the apertures 13, of the cable guide plates, together with the cable 10, which is wound upon the thimble at the right hand end of the roller.

Inasmuch as the stick 15, is supported by the cables 17, at each of its ends, the cable 17, at the right hand side of the stick, referring to Figs. 1 and 2, is led from the aperture 12 of one guide plate across the upper end of the window frame and through the aperture 12, of the other guide plate, together with the other cable 17, for the left end of the stick. Said cables are trained upwardly over the roller 18, and then downwardly in the guide so that both are accessible at the same point at the lower end of the guide 6. The stick may be adjusted to any fixed position desired, that is, permitted to move downwardly by gravity, and moved upwardly by the cables 17, and then the roller 7, may be manipulated by the cables 10, to unroll any desired portion of the shade or map 19. When used as a shade construction, it is obvious that any portion of the window may be shaded by proper positioning of the stick and roller under the control of the cables or cords 17 and 10, respectively. The serrated rollers 21, mounted at the lower end of each of the channel guides 6, serve as means to clamp the respective cables 10 and 17, to hold said cords from movement, and thereby hold said stick 15, and roller 7, in any desired adjusted position.
position. Release from said serrated rollers is readily gained by pulling outwardly upon the cable, and then holding the same closely inwardly to the guides as the cables are to be fed inwardly within the channels for an adjustment movement of the stick or roller.

I am aware that the details of construction may be varied through a wide range without departing from the principles of my invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. In a device of the class described, upright channel guides, a roller, thimbles secured to each end thereof and disposed in the channels of said guides, cables wound upon each of said thimbles with one of said cables led from the channel of one of said guides to the channel of the other guide whereby said cables both are accessible at the same point, a sheet wound upon said roller, a stick secured at the edge of said sheet, and cables attached to each end of said stick with one of said cables led from one of said channel guides through its apertured guide plate into the other thereof and through its apertured guide plate, whereby said cables both are accessible at the same point, a sheet wound upon said roller, a stick secured at the edge of said sheet, and cables attached to each end of said stick with one of said cables led from one of said channel guides through its apertured guide plate into the other thereof and through its apertured guide plate, whereby said cables both are accessible at the same point.

3. In a device of the class described, upright channel guides, a roller, thimbles secured to each end thereof and disposed in the channels of said guides, apertured guide plates in the upper ends of said channel guides, cables wound upon each of said thimbles with one of said cables led from the channel to one of said guides through its apertured guide plate to the channel of the other guide and through its apertured guide plate, whereby said cables both are accessible at the same point, a sheet wound upon said roller, a stick secured at the edge of said sheet, cables attached to each end of said stick with one of said cables led from one of said channel guides through its apertured guide plate into the other thereof and through its apertured guide plate, whereby said cables both are accessible at the same point, said roller cables passing down the channel guide at one side and said stick cables passing down the channel guide at the other side, and clamps fixed to said channel guides near their lower ends for engaging cables detachably to retain them in any adjusted position.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

SELDEN R. HOPKINS.

Witnesses:
CHARLES W. HILLS, JR.
EARL M. HARDINE.

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