(No Model.)

# G. W. STEWART.

## AUTOMATIC SHADE ROLLER.

No. 332,299. Patented Dec. 15, 1885.

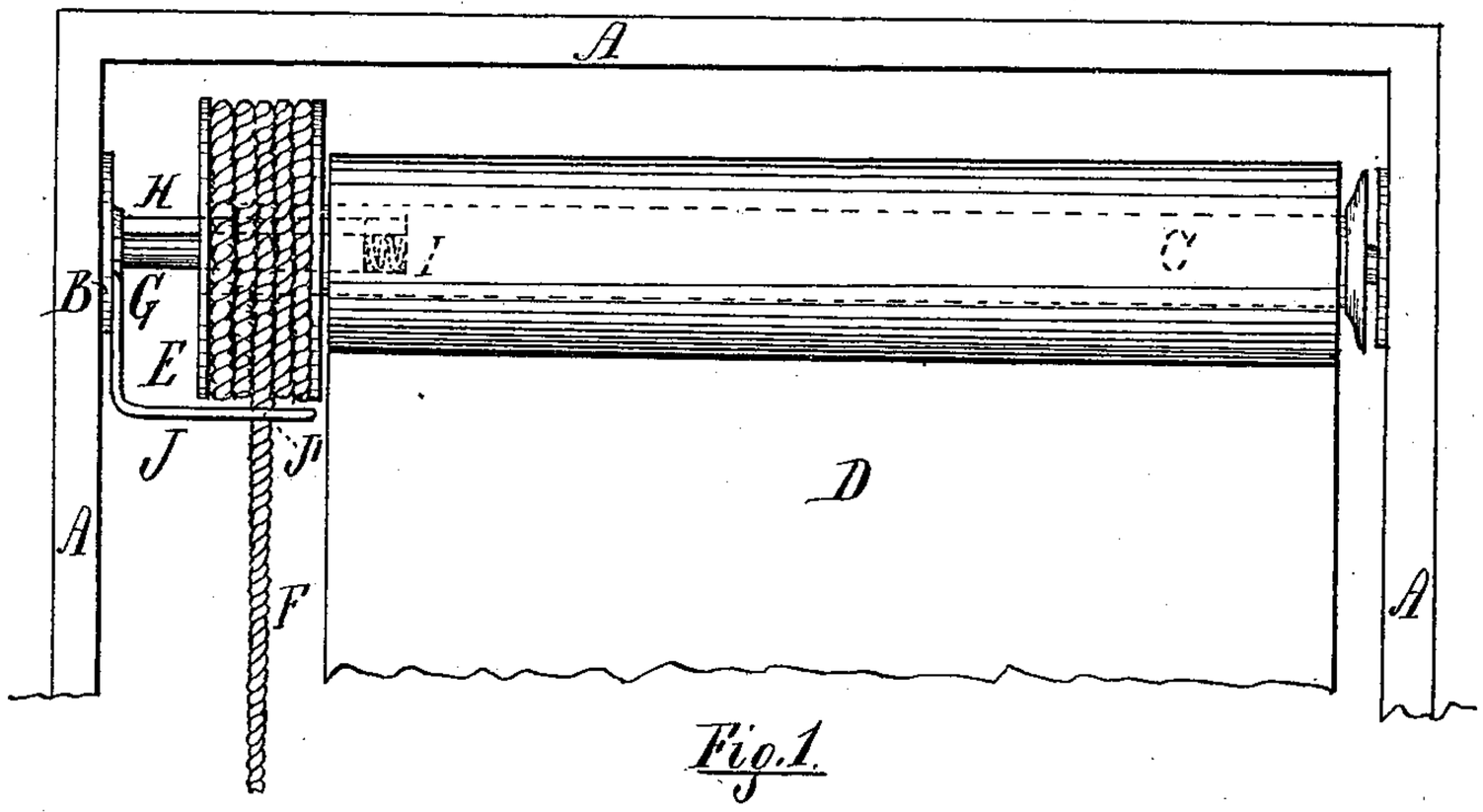


Fig. 1.

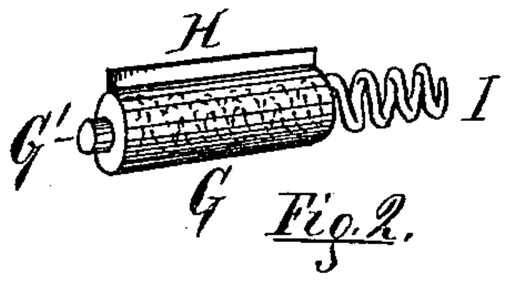


Fig. 2.

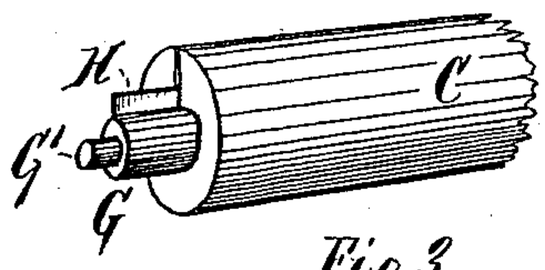


Fig. 3.

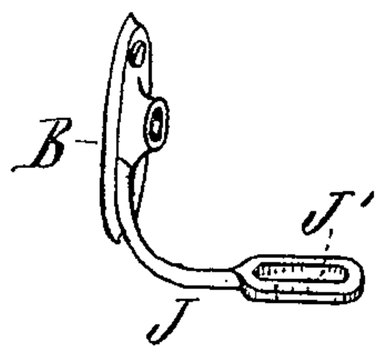


Fig. 4

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# UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON STEWART, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS TO STEPHEN J. COX, OF SAME PLACE.

## AUTOMATIC SHADE-ROLLER.

SPECIFICATION forming part of Letters Patent No. 332,299, dated December 15, 1885.

Application filed December 19, 1884. Serial No. 150,707. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. STEWART, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Automatic Shade-Rollers, of which the following is a specification.

The nature of my invention consists in inserting into one end of the roller an extension device of cylindrical form—hollow—having at its outer end the spindle to connect with the side bracket-support, and contained within its hollow a coiled spring. The roller is perforated endwise a proper distance, and the spring abutting against the solid portion at the inner end of the perforation serves to keep the extension device tight against the side bracket sufficiently to hold the roller at any point to which the shade may be rolled, and thereby also to permit the roller to adjust itself to varying widths of windows. The extension device is provided with a flange, which is inserted with the device itself into the roller, an incision being prepared therein to receive it. This flange holds the extension device so that it must turn with the roller.

It further consists in the combination of a cord guard or protector with the side bracket, extending outward therefrom, covering the cord-pulley, and provided with an eye through which the cord is passed, thus holding the cord to prevent its getting off the pulley.

In the accompanying drawings, Figure 1 shows an elevation of a shade-roller with shade-pulley having cord-extension device with coiled spring dotted therein, side brackets, and cord-guide, as in a window-casing. Fig. 2 shows, in perspective, the extension device with coiled spring. Fig. 3 shows a perspective end of roller with extension device inserted. Fig. 4 shows, in perspective, the side bracket and cord-guide.

A represents a window-casing; B, the side brackets or sockets for the roller.

C represents the roller perforated at its one end lengthwise, so that it is hollow for a proper distance to receive the cylinder for lengthening and holding the roller in any position. A cut or incision is made extending outwardly from the bore of the roller to receive the flange of the extension device.

D represents the shade; E, the pulley or spool for the cord F.

G represents the extension and holding device, formed as a hollow cylinder having at its outer end the spindle G′, for insertion into the socket of the side bracket, B, and provided with flange H, for preventing its turning otherwise than with the roller. Inside of the device G is the coiled spring I, serving to keep it pressing outward against the side bracket, so that its friction will hold the roller, preventing its running when it is desired to keep the shade stationary at any length.

By the extension device G and its coiled spring I the roller adjusts itself to varying widths of windows, the spring always pressing the device G outward, so that it will fit and press against the bracket B, holding by friction the roller whenever desired.

At J is shown the cord guide and protector, attached to or forming part of the side bracket, provided with an eye at J′, through which the cord passes. The guide is extended close to the outer edge of the pulley E to keep the cord from getting off the pulley.

I am aware that a coiled spring has been inserted in the end of a shade-roller, a bore having been made to receive it, and also a cylinder of metal has been used containing a coiled spring and both so inserted.

I am also aware that pulleys have been used at the end of the roller and a cord-guide to keep the cord on the pulley.

I am also aware that a stop has been used at the end of a shade-roller, attached to the roller as a part thereof, its interior end operating in a longitudinal groove formed in the outer surface of a spindle, the spindle working into a bore in the end of the roller, and the pin being used to cause the spindle to turn with the roller and the groove into which it fits to allow the spindle to play longitudinally, the spindle being forced outwardly by a coiled spring within the bore of the roller.

The cylinder of my shade-roller is provided

with a flange as a part of itself, running lengthwise in a groove formed in the roller, the flange extending outwardly from the cylinder, serving not only to prevent the roller turning separately from the cylinder, compelling them both to turn together, but also permitting the cylinder to slide in and out lengthwise the bore as pressed by the coiled spring located inside the cylinder, so that a pressure is exerted all the time between the bearings (at the back of the bore and the bracket) in which the spindle turns without any intermediate devices other than the spring, cylinder, and spindle, the spindle forming a part of the cylinder and constituting its head, and the stop compelling the cylinder and spring to turn with the roller, thereby preventing the wearing away of the parts, and, as the flange forms or is a part of the cylinder, there is no separate stop likely to become loosened and lost out.

Having fully described my invention, what I desire to claim, and secure by Letters Patent, is—

1. The combination of the hollow cylinder-lengthening device G, provided with flange H, and having its outer end closed, and there provided with pivot or spindle G′, the coiled spring I, fitting into cylinder G, its one end abutting against the closed end or head thereof, and the pulley E and roller C, into the center of which the device G is inserted, they being both held by flange H thereto, essentially as shown and described.

2. In combination with roller C, having one end provided with pulley E, the hollow cylinder-lengthening device G, inserted lengthwise through pulley E and into roller C, and provided with flange H outside and coiled spring I inside, its outer end covered and provided with spindle G′, and arranged to operate substantially as shown and described.

Signed at New York, in the county of New York and State of New York, this 31st day of October, A. D. 1884.

GEORGE WASHINGTON STEWART.

Witnesses:
S. W. HYDE, Jr.,
W. M. ANDRUS.