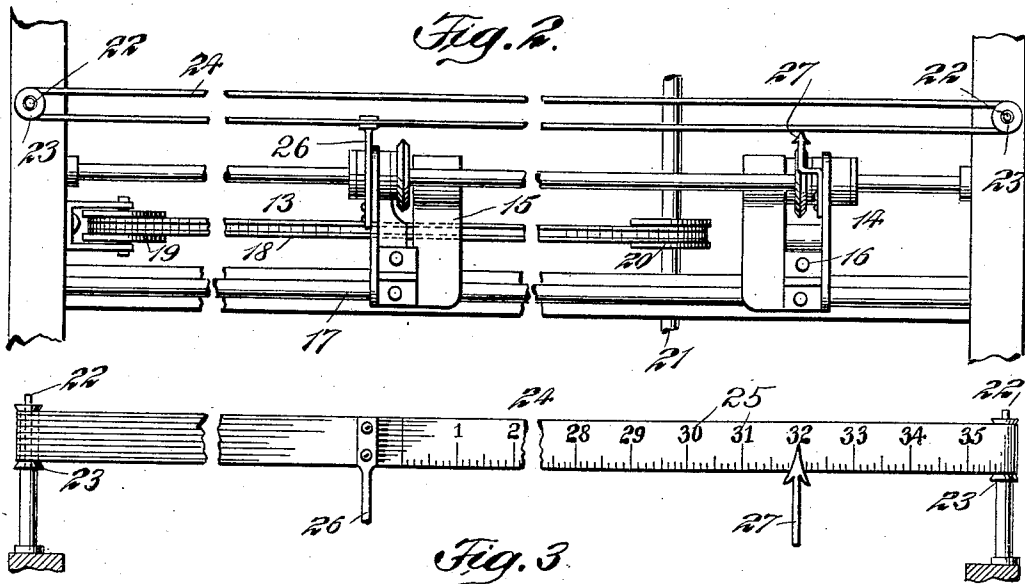


936,103.



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EPHRAIM O. ENGBERG, OF SALT LAKE CITY, UTAH, ASSIGNOR TO JOHN BEECHER PATTON, OF KENT, OHIO.

MEASURING DEVICE FOR WINDOW-SHADE MACHINES.

936,103.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed February 19, 1908. Serial No. 416,773.

To all whom it may concern:

Be it known that I, EPHRAIM O. ENGBERG, a citizen of the United States, and a resident of Salt Lake City, county of Salt Lake, and State of Utah, have invented certain new and useful Improvements in Measuring Devices for Window-Shade Machines, of which the following is a full, clear, and exact description.

This invention relates more particularly to measuring means for window shade machines such as disclosed in my pending application, Serial No. 388,868, filed August 16th, 1907.

The primary object of the invention is to provide an attachment which may be readily applied to a machine of the class described, and in which a tape or member may be made to move with one of the knives or cutters that trim the shade material lengthwise thereof, and which is adapted to indicate the width of the shade to be made by means of a device located convenient to the normally fixed trimming knives or cutters in such a way that the exact width of the shade may be quickly and easily ascertained.

A further object of the invention is to provide a simple and efficient measuring attachment for determining the width of the shade to be made, which is of the form of an endless tape adapted to move past a fixed pointer or indicator, and which is so arranged that the said attachment may be readily applied to various machines.

The invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings, Figure 1 is a fragmentary longitudinal section of one form of machine embodying my invention. Fig. 2 is a fragmentary plan view; and Fig. 3 is a fragmentary front view of the attachment.

The shade machine to which the attachment is applied may be of any suitable form. As shown the fabric 10 is adapted to pass around and between the feed roll 11 and tension roll 12, and from there between the sets of cutters 13 and 14 which trim the material lengthwise thereof, the fabric being attached at its forward edge to a shade roller in the usual manner or handled in any other pre-

ferred way. The sets of knives or cutters 13 are supported by a bracket 15, and the sets of cutters 14 are supported by a bracket 16, and both brackets may be adjusted along a transverse bar 17. The bracket 16 after being once adjusted remains normally fixed; while the bracket 15 with the cutters 13 is adapted to be moved along the rod 17 to cut the shade material the proper width. This movement of the bracket 15 and cutters 13 may be obtained by a chain 18 which is secured to the bracket 15 and passes around the sprockets 19 and 20, the latter sprocket being secured to a shaft 21 to which may be secured a handle, not shown, and by which the set of cutters 13 may be readily moved transversely of the machine as the said shaft 21 is rotated. The parts of the machine thus described are substantially the same as in my pending application hereinbefore referred to.

While I have not shown means for forming the shade-slat loop and also means for measuring the length of the shade, these features usually form a part of the machine as manufactured, but such features form a part of other applications, and are, therefore, not claimed herein.

To measure the fabric transversely in order to quickly ascertain the width of the shade to be made, I provide upon the machine frame at each side thereof, a post 22, and on each post is arranged a rotatable spool 23. Around the spools and supported thereby is an endless tape or member 24 on the outer vertical face of which may be arranged suitable characters 25 to indicate inches, feet or part of the same, or any desired means which would adapt the device to measure the width of shade to be cut. A bracket 26 is fixed to one side of the tape, and this bracket is carried by the movable bracket 15, and is so arranged relatively to the knives or cutters 13 that the starting point of the measuring characters will be in alinement with said cutters, and as will be seen, when the cutters are moved by the chain 18 or otherwise, the tape 24 will be moved therewith. The bracket 16 of the cutters 14 has a pointer 27 secured thereto, and this pointer is arranged in alinement with the cutters 14, and has its end arranged adjacent to the tape 24. By this means no matter what the position of the

bracket 16 and the cutters 14 may be, the exact measurement of the width of the shade will be indicated, as the tape with the measuring characters are moved with the movable cutters, and the pointer 27 will thereby indicate the exact measurement, and in a much better way than if the tape were stationary and the pointer itself movable.

From the foregoing it will be seen that a very exact measuring attachment is provided for measuring the width of window shades as they are trimmed lengthwise thereof, and that said attachment may be readily applied to machines of different constructions.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a window shade machine, the combination with means for supporting shade material, of cutters for trimming the material lengthwise thereof, and a measuring de-

vice movable transversely of the machine with said cutters.

2. In a window shade machine, the combination with means for supporting shade material, of means for trimming the material lengthwise thereof, and measuring means movable transversely of the machine with said trimming means.

3. In a measuring attachment, the combination with an endless measuring tape, of a movable bracket fixed to the tape at one part thereof, cutting means movable with the bracket, and a fixed pointer past which the tape is adapted to move.

This specification signed and witnessed this 12th day of February A. D. 1908.

EPHRAIM O. ENGBERG.

Witnesses:

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