

M. LACHMAN.
 MACHINE FOR MAKING WINDOW-SHADES.
 No. 172,634. Patented Jan. 25, 1876.

Fig. 1.

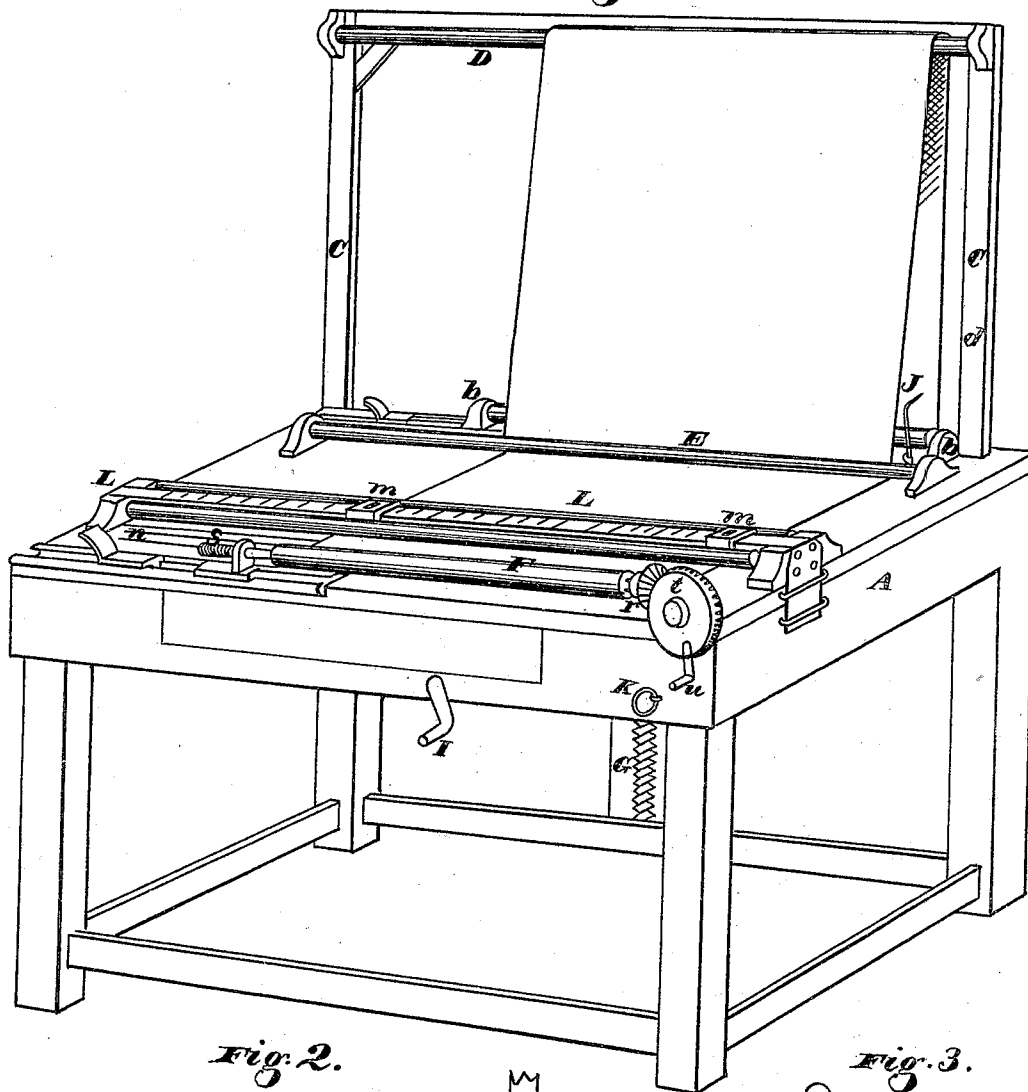


Fig. 2.

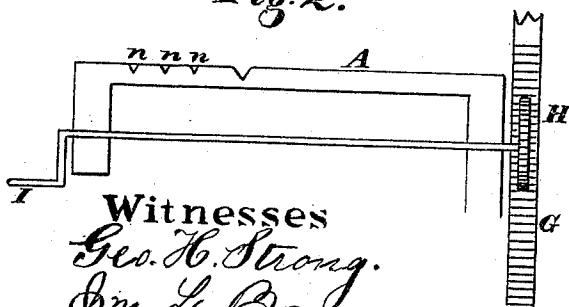
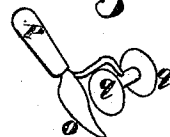


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

MORRIS LACHMAN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN MACHINES FOR MAKING WINDOW-SHADES.

Specification forming part of Letters Patent No. **172,634**, dated January 25, 1876; application filed September 15, 1875.

To all whom it may concern :

Be it known that I, MORRIS LACHMAN, of San Francisco city and county, State of California, have invented a Window-Shade-Making Machine; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to a novel machine for the rapid manufacture of window-shades, such as are made of linen; and it consists in a table having upon it means for supporting a roll of the material, and adjustable standards, with suitable rollers, by which the length of the shade is determined. A cutting-gage is also so placed that, as the material is drawn through, it will be trimmed to the proper width. A suitable cutter is arranged to cut off the shade, and at the same time mark the hem for it. Each shade is tacked to its permanent roller, which is supported between pivots, and by means of gearing and a crank the material is drawn through and wound upon its roller, all ready to be removed, and give place to the next.

Referring to the accompanying drawing for a more complete explanation of my invention, Figure 1 is a perspective view of my machine. Fig. 2 shows a section of the table, and the cutting and working grooves. Fig. 3 is a view of the cutter.

A is a table of sufficient length to receive the widest rolls of linen, and a device at each end for supporting them. This linen usually comes in rolls, and the stick upon which it is rolled is supported by a pivot, *b*, at each end. One of these pivots is made adjustable to accommodate rolls of different length. At the back of the table is a vertically-moving frame, C, which has a roller, D, at the top. The linen passes over this roller E upon the back of the table, and from this roller it extends to the front edge of the table, where the permanent shade-rollers F are supported, so as to be turned to wind up the shade. The frame C has a rack, G, upon it, and a pinion, H, serves to operate this rack, its shaft terminating in a crank, I, at the front of the table. By means of this, or a similar mechanism, the

upper roller D may be raised or depressed, and thus the length from the original roll to the point where the linen is attached to the roller F may be varied so as to make a shade of any desired length, a scale, *d*, upon the side of the frame indicating the different lengths. A marker, J, is arranged so as to be operated by a handle, K, at the front of the table, and when the mark has been brought to the cutter another mark is made, thus giving all the shades an equal length, as each mark will be brought successively to the cutter. Above the linen, and just back of the point where it is to be cut, I fix a transverse bar, L, which has a scale marked upon it. Slides *m* move upon this bar, each slide carrying a knife or cutter, and by means of these cutters the edges of the linen can be trimmed of the selvage, and cut to the proper width. At the point where the shade is to be cut off, and just in front of the trimming-knives, two or three grooves, *n*, are made lengthwise of the table and transversely to the material. The cutter O is fixed to a handle, P, and markers *q* are secured to this handle by the side of the cutter, so that as the cutter passes along one of the grooves *n* the marker will move in the other groove, and thus indicate the point for turning the hem.

The operation of my machine will then be as follows: The roll of shade material being placed in position between the pivots *b*, the material is drawn over the roller D beneath the roller E and the trimming-knives, and its end is tacked to the permanent roller F. This roller is held at one end by three prongs, which project from the axle or end of the pinion *r*, and can be easily forced into the soft wood used for these rollers. The opposite end turns upon a pivot, which is actuated and held in place by a spring, S, this pivot being also adjustable like the pivot *b'* for different length of shade. A gear-wheel, *t*, meshes with the pinion *r*, and by means of its crank *u* the roller F is turned and the shade is rolled upon it, being trimmed, as before described, by the cutters upon the slides *m*. Before the shade is rolled up, however, the frame C is set by means of its rack and pinion, so that the distance from the roll over the roller D and down to the groove *n* will be equal to the

length desired for the shade. The marker J is then used, and when the shade has been rolled up until the mark is brought to the groove it is cut off and removed, another roller, F, is substituted, another mark made, and the next shade rolled up.

By this device I am enabled to economize space, as my table is quite narrow, and the adjustable frame C takes up all the length of material vertically. The material is always brought squarely to the roller, and, as a consequence, will always be rolled up evenly, while the adjusting, trimming, and cutting will be expeditiously effected.

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

1. The holders *b b* for the roll of material, in combination with the vertically adjustable roller D, roller E, and cutting board or table A, for regulating the length of shade, substantially as herein described.

2. In combination with the frame C, provided with the scale *d*, and the roller D, the rack G, pinion H, and the operating crank I, for the purpose of raising or depressing the roller D and adjusting the length of shade, substantially as herein described.

3. The graduated bar L, placed transversely above the material, and in combination with the slides *m* and their cutters, for the purpose of trimming the edges of the shades, substantially as described.

4. The cutter *o* and markers *q*, in combination with the table A, having the grooves *n* for cutting and marking the hem, substantially as described.

5. The marker J with its operating handle K, in combination with the adjustable graduated frame C, and rollers D and E, and the table A, provided with the groove *n*, for indicating the length of shade, substantially as herein described.

6. The adjustably-supported shade-roller F, operated by the pinion *r* and gear *t*, in combination with the cutting-table A, permanent roller E, adjustable roller D, and the trimming and cutting devices, the whole arranged to operate substantially as herein described.

MORRIS LACHMAN.

Witnesses:

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