

R. H. ISBELL.

Mechanism for Ornamenting Buttons.

No. 169,268.

Patented Oct. 26, 1875.

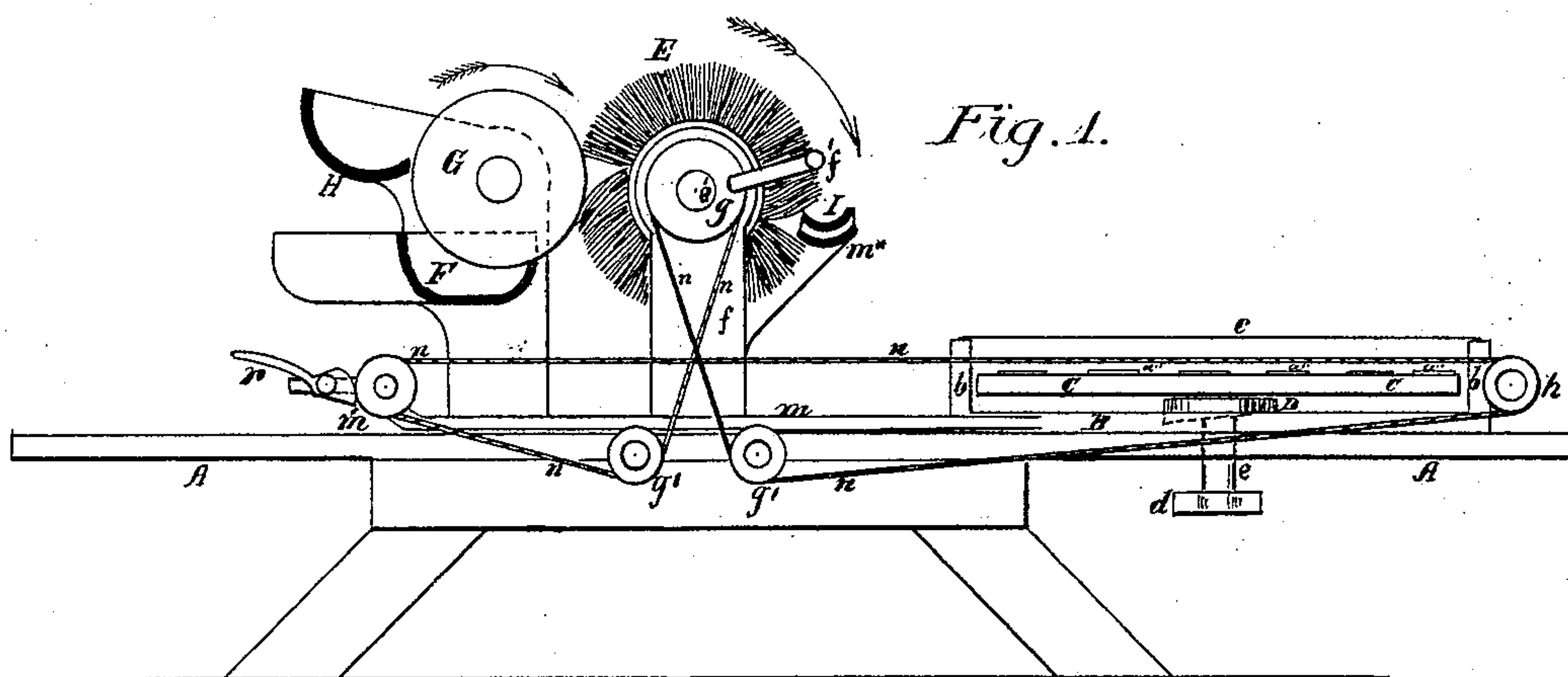
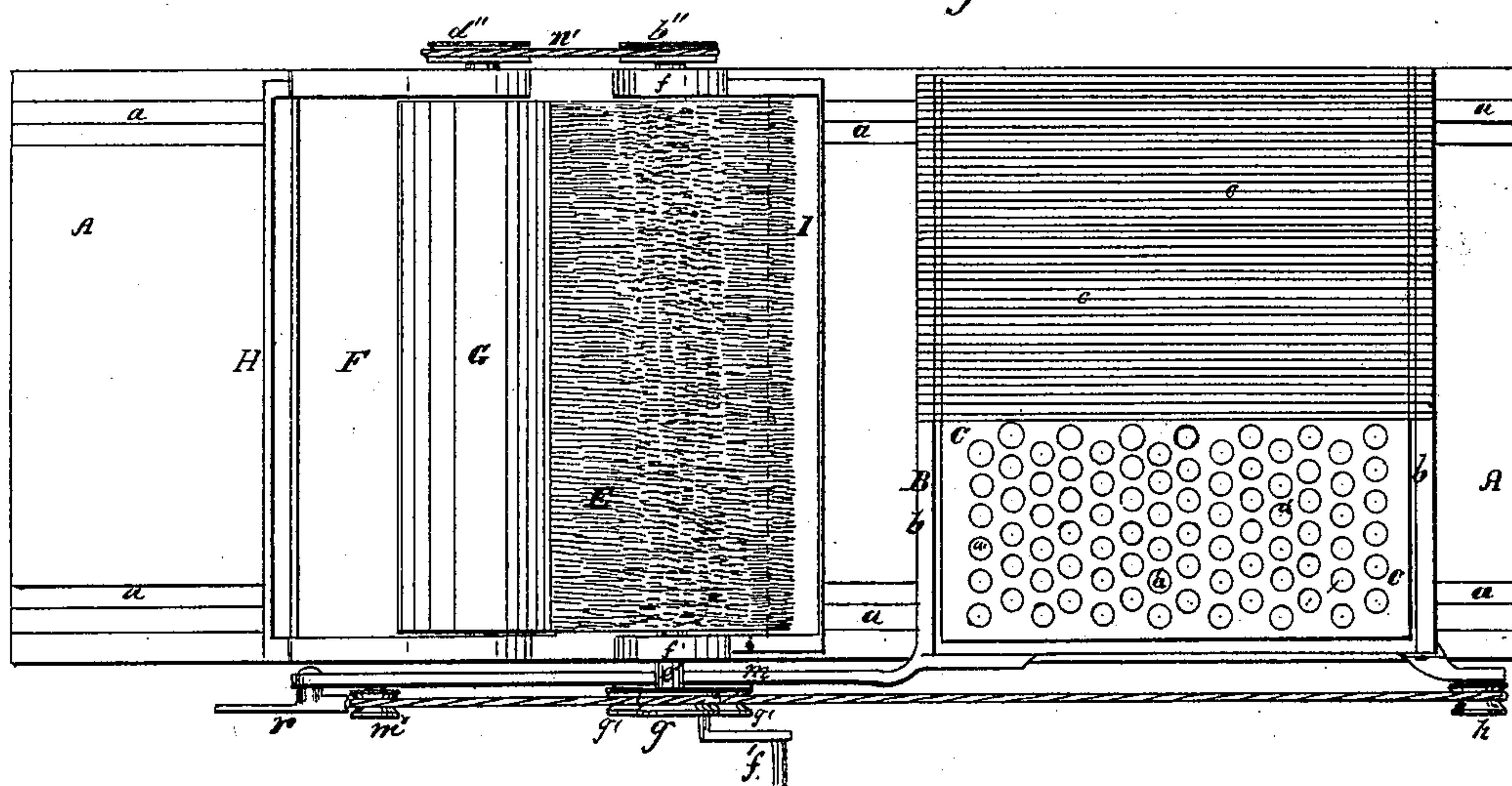


Fig. 2.



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IMPROVEMENT IN MECHANISMS FOR ORNAMENTING BUTTONS.

Specification forming part of Letters Patent No. **169,268**, dated October 26, 1875; application filed October 27, 1873.

To all whom it may concern:

Be it known that I, ROBERT H. ISBELL, of New Milford, in the county of Litchfield and State of Connecticut, have invented certain Improvements in Means of Ornamenting Buttons, of which the following is a specification:

This invention comprises the ornamentation in color of buttons and similar articles, by covering a portion of the surfaces of such articles with threads, and then distributing the color, by suitable mechanical means, upon the unprotected portions of such surfaces. The invention also comprises certain novel combinations of mechanical devices, whereby the aforesaid feature of the invention is successfully carried into practice.

Figure 1 is a side view and partial vertical section of the apparatus, and Fig. 2 is a plan view and partial horizontal section of the same.

A is the supporting frame-work of the machine, furnished on its upper side with two horizontal guides, *a*, upon which runs a carriage, B. This carriage has at each end an upright cleat, *b*. From one to the other of these cleats is extended a series of parallel threads, *c*, the threads being at a distance apart corresponding to the space desired between the color-marking on the ornamented button, or the like. These threads are drawn to a moderate tightness or tension by any suitable or desired means. In the bottom of the carriage B is a disk, flat on top, but spiral on the under side, and fitting into a seat in the carriage-bottom, in such manner that when turned by rotating the thumb-piece *d* of its shaft *e*, it will rise or lift up, the aforesaid disk constituting a cam, D, for lifting the board, C, placed upon it, as shown in Fig. 1. This board is indented in its upper surface with numerous cavities, *a'*, which receive the buttons, *a''*, to be ornamented, and retain them with their upper surfaces projecting somewhat above the corresponding surface of the board C. By turning the disk or cam D, as just hereinbefore explained, the board is lifted until the buttons are brought up snugly against the threads *c*. Sustained by suitable bearings in the standards *f* is the shaft *e'* of the cylindrical brush E, upon the outer end of which shaft is a pulley, *g*, furnished with a crank, *f'*. Upon the frame A, below, are two pulleys, *g'* *g'*. At the

outer end of the carriage B is a pulley, *h*, and at the inner or opposite end a horizontal arm, *m*, which carries a pulley, *m'*. An endless band, *n*, passes over these pulleys, as shown in Fig. 1; and upon the extremity of the arm *m* is a cam-lever, *r*, by which, on occasion, the band may be gripped against the pulley *m'*, thereby attaching, for the time being, the carriage to a definite point or portion of the band. Under this condition the rotation of the crank in the direction indicated by the arrows causes the carriage to be drawn inward, passing underneath the brush, and at a speed bearing a proper proportion to that of the rotation of the latter. Provided behind the brush is a trough, F, containing, in liquid form, the coloring matter to be applied to the buttons; and revolving in this trough is a feed-roller, G, working in contact with the brush, and supplying color thereto. H is a scraper, arranged behind the feed-roller, and regulating the thickness of the film or coating of color thereon as it comes in contact with the brush. The roller is rotated by a band, *n'*, running on pulleys *d''* *b''*, provided on the shafts of the roller and the brush. Provided in front of the brush, parallel and in snug or forcible contact therewith, is a trough-shaped check-bar, I, below which, with its edge projecting somewhat farther back, is a trough, *m**.

In the operation of the machine the carriage is drawn back toward and under the brush simultaneous with the rotation of the latter, as hereinbefore explained. The brush being charged with liquid color from the feed-roller, and its bristles striking forcibly against the check-bar I, the color spatters in fine drops upon the surface of the buttons (carried on the board, as hereinbefore set forth) not protected by the threads *c*, lying upon or in snug contact therewith. As a consequence, (after the carriage has been run back to the rear of the frame A,) when the buttons are removed from beneath the threads *c*, the portions of their surfaces protected by the threads retain their original or primitive color, while the intervening portions are colored by the material distributed upon them by the spattering from the brush, as aforesaid. By turning the board one-half way around, and repeating the operation, the pattern may be made in checks upon

the buttons, instead of in parallel lines, and by modifying, in other ways, the position of the buttons with reference to the threads, a variety of modified patterns may be produced.

In order to change the position of the board in the carriage, or to permit its removal therefrom, it is only necessary to turn the cam D to lower the aforesaid board.

The function of the trough m^* is to catch from the brush, after its contact with the check-bar, any larger drops or accretions of liquid that might otherwise fall upon the carriage during its movement, and thereby mar the work.

By loosening the cam-lever r after the carriage has been brought to the rear of the frame A, the carriage may be run forward to its original position without the intervention of the system of pulleys connected with the band n .

What I claim as my invention is—

1. The carriage B, provided with the threads, and constructed for the reception of the buttons, substantially as described, in combination with the spattering-brush E, substantially as and for the purpose set forth.

2. The combination, with the spattering-brush E and carriage B, of the check-bar I, provided substantially as and for the purpose set forth.

3. The combination, with the check-bar I, the spattering-brush E, and the carriage carrying the threads c , of the trough m^* , substantially as and for the purpose set forth.

4. The combination, with the carriage B, carrying the threads c , of the button-board C, substantially as and for the purpose set forth.

5. The combination, with the carriage B, carrying the system of threads c and the button-board C, of a lifting device, substantially as and for the purpose set forth.

6. The combination, with the carriage B and the brush E, of the pulleys $g m' g' h$ and the band n , arranged for operation substantially as set forth.

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