G. S. BEERS.

Machines for Ornamenting Buttons.

No. 220,115. Patented Sept. 30, 1879.

Fig. 1.

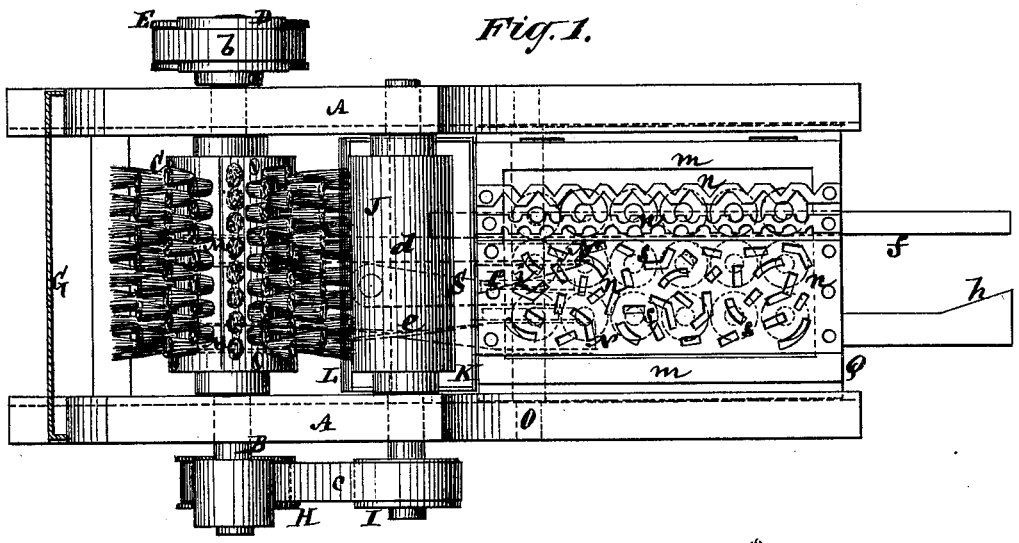
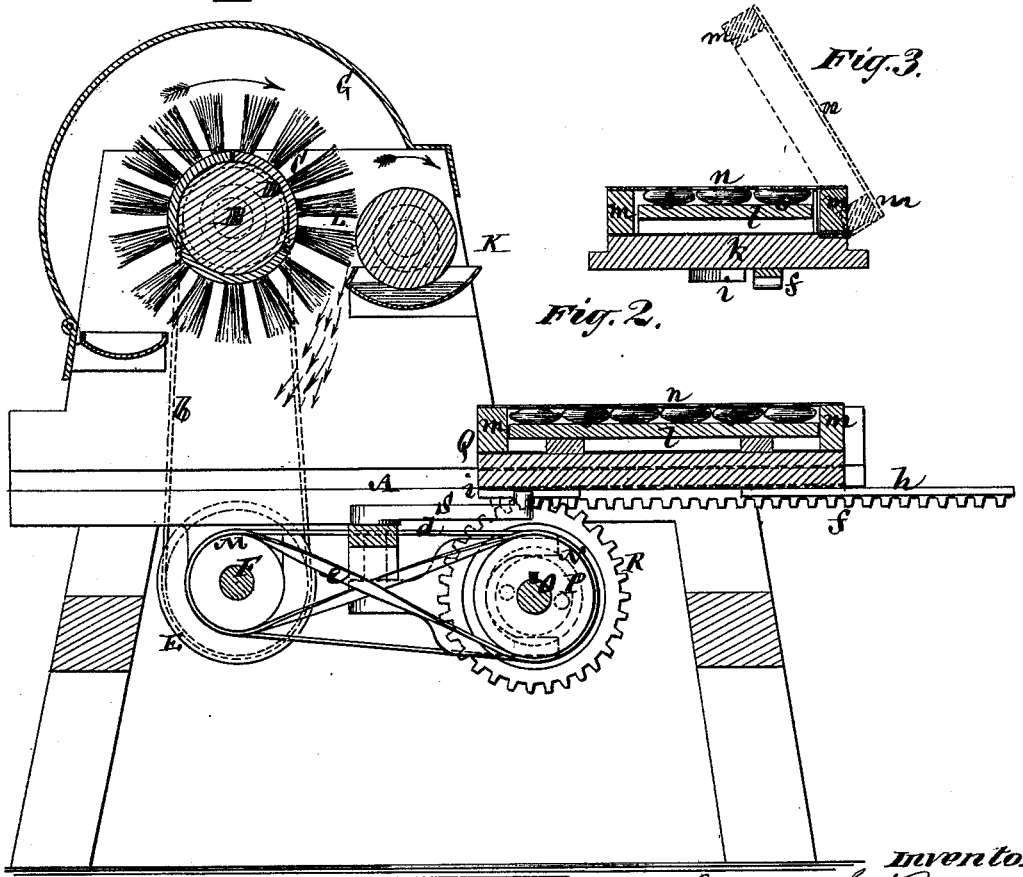


Fig. 3.

Fig. 2.



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GEORGE S. BEERS, OF NEW MILFORD, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR ORNAMENTING BUTTONS.

Specification forming part of Letters Patent No. **220,115**, dated September 30, 1879; application filed June 14, 1879.

To all whom it may concern:

Be it known that I, GEORGE S. BEERS, of New Milford, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Spattering-Machines for Ornamenting Buttons and other articles; 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, which form part of this specification.

This invention relates to spattering machines or apparatus for ornamenting buttons and other articles, in which a rotary spattering-brush is used, in concert with a reciprocating carriage containing the buttons or other articles to be ornamented by spattering.

The invention consists in a novel construction of said carriage, whereby greater facilities are afforded for inserting, holding, and taking out the work preparatory to, during, and after the spattering process.

In the accompanying drawings, Figure 1 represents a plan view of a spattering-machine adapted to carry out my invention; Fig. 2, a vertical longitudinal section of the same, and Fig. 3 a transverse section of a button or work holding carriage constructed in accordance with the invention.

A is the main frame of the machine, and B a transversely-arranged upper main driving-shaft, on which is secured a cylindrical spattering-brush, C, and which, by means of pulleys D E and belt or band *b*, serves to rotate a lower shaft, F. A hood, G, is used over the brush, and a drip-board below, to prevent scattering and waste of the spattering-material. On this lower shaft, F, is a pulley, H, which, by means of a band, *c*, and pulley I, serves to give motion to a rotary feed-roller, J, that works in a trough, K, and supplies the spattering-material contained in said trough to the brush C.

The brush C and the feed-roller J rotate in the same direction. The brush is revolved about five hundred revolutions per minute, and as the spattering material is worked from the feed-roller by the brush it is projected downward onto the work by centrifugal force as required, and as clearly illustrated by arrows in Fig. 2.

Upon the lower shaft, F, are also pulleys M, which serve to give motion by straight and cross belts *d e* to loose pulleys N on a shaft, O, which loose pulleys are made to alternately gear with a sliding clutch, P, on said shaft by means of a reciprocating work-carriage, Q, driven by a spur-wheel, R, on the shaft O, in gear with a rack, *f*, on the under side of said carriage. This carriage is made to automatically shift the clutch P, to engage it with either pulley N, for the purpose of reversing the motion of the carriage at the ends of its stroke by means of reverse inclines *h i* attached to opposite ends of the carriage and operating on a clutch-shifter, S; or any other suitable carriage-reversing mechanism may be used.

The button or work holding carriage Q is fitted to slide in ways in the main frame A, and is mainly composed of a base plate or board, *k*, which slides in the ways in the main frame, and has attached to it the rack *f* and inclines *h i*, hereinbefore described, an independent and readily-removable button or work holding board *l*, arranged to rest on said base or on cleats secured thereto, and an upper frame or cover, *m*, open at its top and preferably hinged to one side of the base *k*, to facilitate the entry and removal of the button-holding board *l*.

The upper open frame or cover, *m*, is constructed so that when closed, as shown by full lines in Figs. 2 and 3, it serves to hold and secure the button-holding board *l* steady and in position. Said upper frame or cover carries or has its open top provided with one or more perforated pattern sheets or strips, *n*, of paper or other suitable material, whereby the buttons *s* beneath may be spattered in a great variety of styles, or according to any desired pattern, by simply changing the perforated pattern sheets or strips *n*.

The operation is as follows: The trough K is charged with a preparation of white lead, and as the carriage Q is reciprocated along the frame A the rotating spattering-brush C receives the spattering-preparation from the roller J, with which it works in contact, and by reason of the high velocity at which it rotates it throws off the said preparation and spatters it upon those parts of the buttons *s* or other articles left uncovered by openings in or between the pattern sheets or strips *n*.

After the preparation of white lead has dried on the buttons the latter are dipped or put into dye or color, and the unspattered parts dyed, the spattered parts being protected from the dye by the lead. After this, said buttons are tumbled in turpentine in any suitable tumbling-machine, which dissolves off the lead, leaving the formerly-spattered parts uncolored, or of a different color by first dyeing the whole surface of the button of any desired ground-color before passing the button through the spattering-machine, and after their passage through the spattering-machine dipping them in a dye of different color and then removing from them the white lead cast on them by the spattering-machine.

It is found in practice that by dispensing with a check-bar, and causing the spattering-brush to rotate at a sufficiently-high velocity to throw off the spattering material by centrifugal force, the spattering operation is more effectively performed; and besides, by dispensing with the check-bar the machine is simplified.

I claim—

The combination of the base plate or board *k* of the carriage, the removable button or work holding board *l*, the movable open top cover *m*, constructed to hold said board in position, and one or more perforated pattern sheets or strips, *n*, applied to said cover, substantially as shown and described.

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Witnesses:

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