J. STEINLEIN & G. WRIGHT.

Embossing Machine for Wearing Apparel.

No. 197,181. Patented Nov. 13, 1877.

FIG. 1.

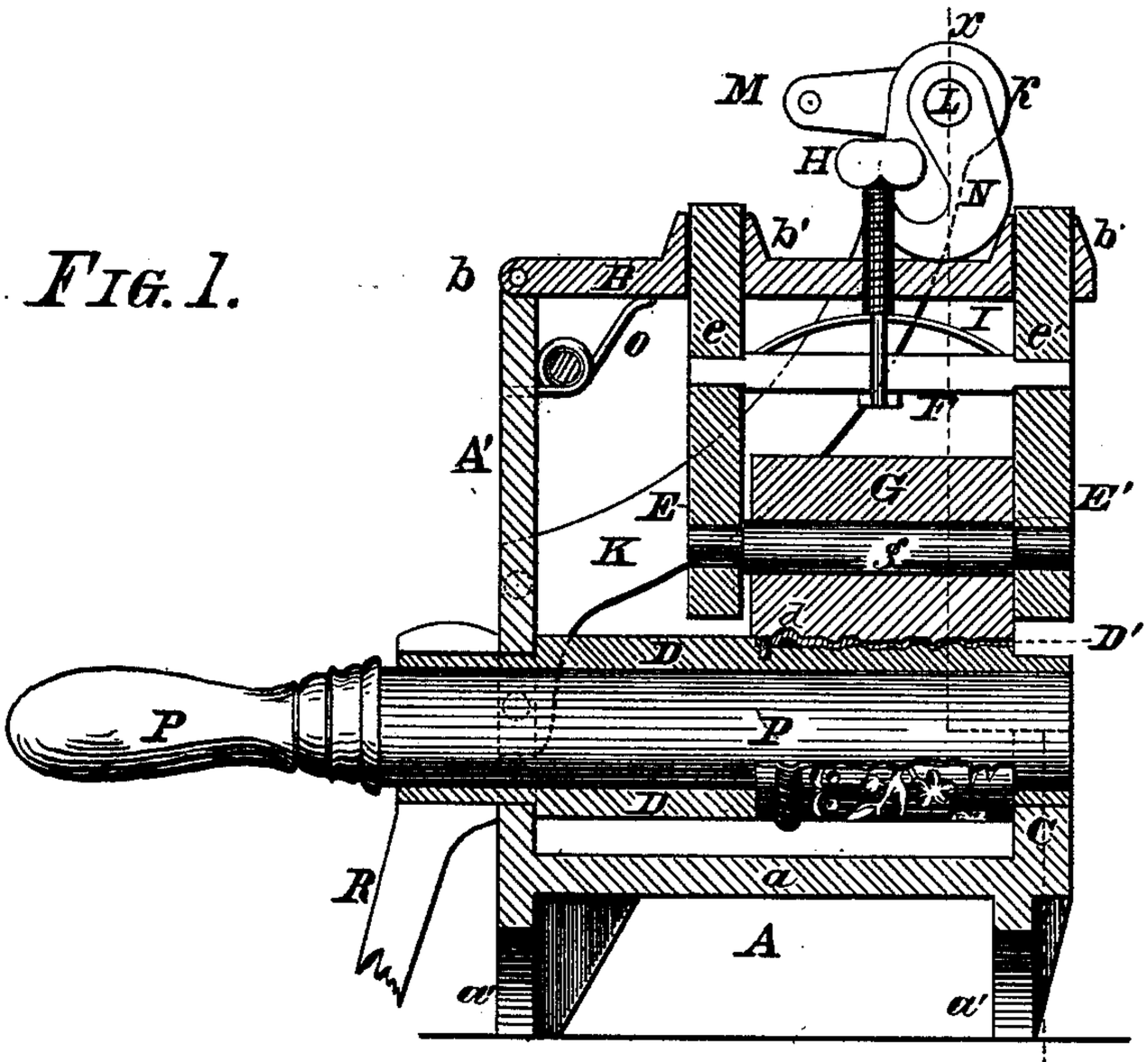
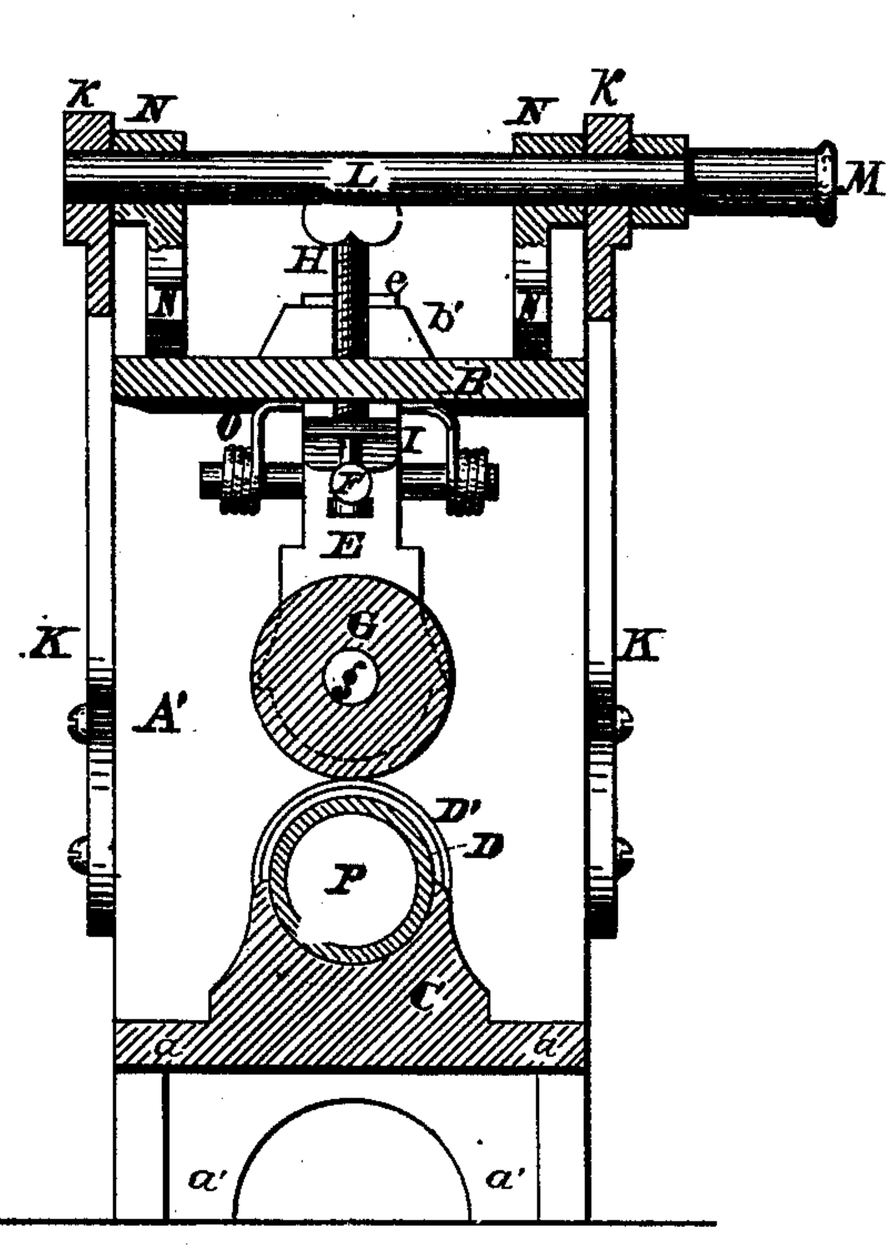


FIG. 2.



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UNITED STATES PATENT OFFICE.

JOHN STEINLEIN, OF EGG HARBOR, NEW JERSEY, AND GEORGE WRIGHT, OF PIKE, NEW YORK.

IMPROVEMENT IN EMBOSSING-MACHINES FOR WEARING-APPAREL.

Specification forming part of Letters Patent No. **197,181,** dated November 13, 1877; application filed August 13, 1877.

To all whom it may concern:

Be it known that we, JOHN STEINLEIN, of Egg Harbor, in the county of Atlantic, State of New-Jersey, and GEORGE WRIGHT, of Pike, in the county of Wyoming, State of New York, have jointly invented certain new and useful Improvements on an Embossing-Machine for Wearing-Apparel; and we do hereby declare that the following description of our said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has special reference to improvements on embossing-machines for wearing-apparel; and its object is to simplify their construction, and thereby to render them more desirable and cheaper to produce, by reducing the number of elements entering into their construction to the smallest possible number, and otherwise improving their construction.

Our principal improvements consist, first, in the substitution of an elastic or flexible rubber roller for that one of a pair of rollers usually employed in machines of the kind above mentioned having the design to be produced in relief, whereby we are enabled to discard the connecting-gearing necessary in such machines, and, having thus but one roller to engrave, dispense with a great amount of work otherwise expended in engraving the said roller and fitting both together; second, in the peculiar arrangement and construction of the frame for the upper or flexible roller, whereby the same is rendered self-adjusting and adjustable; third, in the peculiar arrangement of parts and details of construction, as hereinafter first fully described, and subsequently pointed out in the claims.

In the drawings hereinbefore mentioned, Figure 1 is a longitudinal sectional elevation of our improved embossing-machine for wearing-apparel. Fig. 2 is a transverse sectional elevation in line *x x* of Fig. 1.

Like letters of reference indicate corresponding parts in both figures.

A is a cast-iron frame, consisting of a base-plate, *a*, having legs *a'*, and an upright plate, A', whose upper extremity is formed into a series of eyes, *b*, meshing similar eyes on a top plate, B, and producing together a hinge-joint for said top plate B. On the forward end of the base-plate *a* is provided a pillar or projection, C, having its upper side formed into a semicircle, to serve as a front bearing or support for the hollow or impression roller or shaft D, while the plate A' has a circular aperture, serving as a box or bearing for the rear end of said roller B.

The top plate B has two rises, *b' b'*, perforated by rectangular apertures, forming sockets for the correspondingly-shaped shanks *e e'* of the two bars E E', serving, in conjunction with the transverse bar F, as a frame for the upper roller G, said bars E E' having circular apertures near their lower extremity, within which the shaft *g* of said roller G revolves. This roller is made of flexible rubber, and it is rendered vertically adjustable by means of the set-screw H, acting upon the spring I, which, in turn, bears upon the cross-bar F, thereby causing the upper roller to press upon the lower one with a force corresponding to the tension of said spring I.

To the upright A', and on each side thereof, are secured brackets K, extending upward a suitable distance above the top plate B, and terminating in eyes *k*, through which is passed the shaft L, carrying on one extremity a handle or crank, M, and between the two brackets, and in close proximity thereto, two cams, N. The purpose of this device is to afford ready means for elevating the upper roller to pass the fabric to be embossed between the impression-rollers, it being so arranged that when the handle M is actuated in the proper direction the cams N will, as it were, recede from the top plate, which plate, being supported by and under the influence of the tensioned spring O, is caused to follow the cams, and thereby to perform a partial revolution around its hinge *b*, whereby said roller G, partaking of this motion, recedes from the lower roller D, and thus enables the introduction of the fabric between them.

In operation the lower roller is heated by the heated bolt P introduced into its core, and the fabric, being properly starched, and yet in a somewhat moist state, is placed between the

rollers. Now the cams N are actuated to cause the upper flexible roller G to press upon the fabric and lower roller, and this latter is then rotated by the crank R, which causes the fabric to pass through between the two rollers and receive the impression engraved into the lower one.

The lower or engraved roller consists of a brass or other suitable metal cylinder, D′, which slides upon the hollow shaft D from the forward end, and is caused to revolve therewith by the fixed pin *d* engaging a notch on the end of said cylinder. This cylinder we produce by stamping a flat sheet of brass, &c., between suitable male and female dies to produce the desired ornamentation thereon in depression or relief, and then forming the same into a cylinder and brazing the seam. In this manner we are enabled to produce any number of rollers, and of various patterns or designs, at but a trifling expense, while the upper one, being flexible, readily conforms to the various contours of the lower one, and thus answers all the purposes of an engraved inflexible roller, so long as the material of which the upper roller is composed possesses sufficient flexibility for this purpose.

To enable the upper roller to readily answer to the various thicknesses of the material or garments to be ornamented, it is pivoted within the frame consisting of the bars E E′ and the cross-bar F. This latter bar does not rigidly connect the former, and therefore enables them to play vertically to some extent, while lateral motion is prevented by the angular shanks *e e′* fitting the sockets *b b′* a good sliding fit. By this arrangement one end or the other of said elastic roller may advance nearer to or recede farther from the under roller, and thus allow fabric of uneven thickness, seams, &c., to pass very readily.

The machine, as above described, although designed especially to produce raised ornaments on ladies' and children's underwear, dresses, collars, cuffs, &c., instead of embellishing them with embroidery, is equally adapted for embossing paper, leather, &c., and for many other purposes.

Having thus fully described our invention, we claim and desire to secure by Letters Patent of the United States—

1. A machine for producing raised or sunken ornaments upon wearing-apparel, consisting, essentially, of a suitable frame and two rollers, one of which, being provided on its circumference with the design to be produced, is hollow, or otherwise adapted in construction to be heated, and the other is made of flexible rubber, having a smooth periphery, and capable of forming a counterpart of the former under pressure, substantially in the manner and for the purpose stated.

2. In an embossing-machine for wearing-apparel, a hollow roller adapted to be heated from its interior, having on its outside a removable shell provided with raised or sunken ornaments in its circumference, in combination with a flexible rubber roller having a smooth periphery, capable of forming counterparts of the ornaments upon a series of removable interchangeable shells when in place and under pressure, substantially as and for the purposes set forth.

3. The combination, with the upper roller of an embossing-machine, of the bars E E′, having their angular shanks *e e′* fitting correspondingly-shaped sockets *b b′* in the plate B, the cross-bar F, loosely connecting said bars E E″, spring I, and set-screw H, as and for the purpose specified.

In testimony that we claim the foregoing as our invention we have hereto set our hands and affixed our seals in the presence of two subscribing witnesses.

JOHN STEINLEIN. [L. S.]
GEO. WRIGHT. [L. S.]

Attest:
FRED. WILLIAMS,
HARRISON OSBORN.