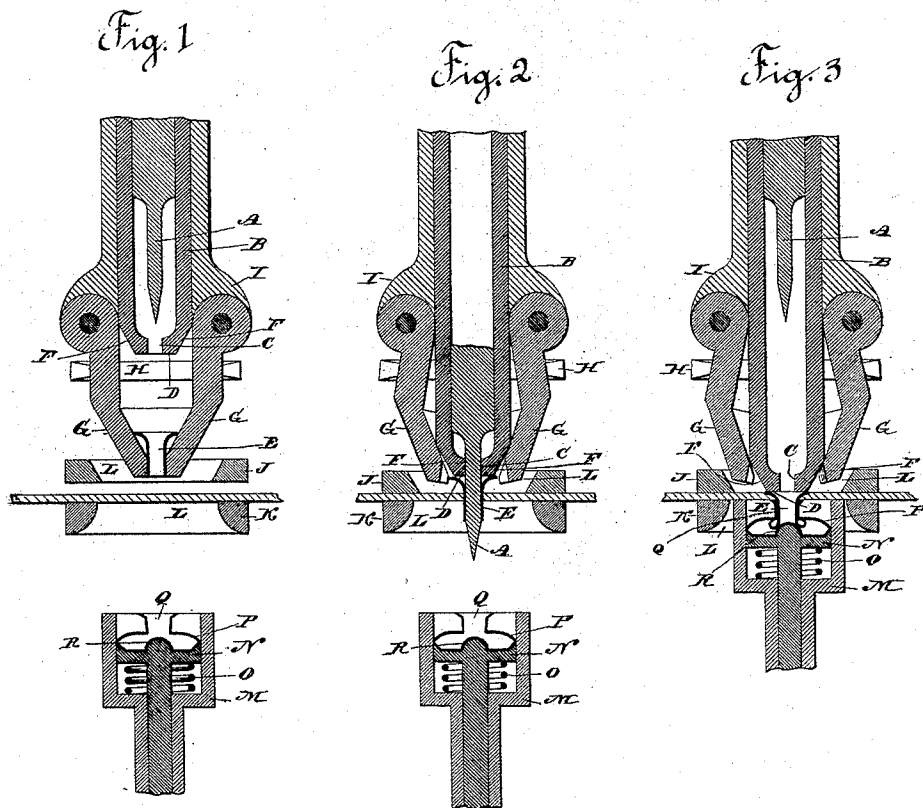


I. G. PLATT.
MACHINE FOR ATTACHING BUTTONS.

No. 495,753.

Patented Apr. 18, 1893.



Witnesses:
Chas B. Shumway.
Mydellauria

Inventor
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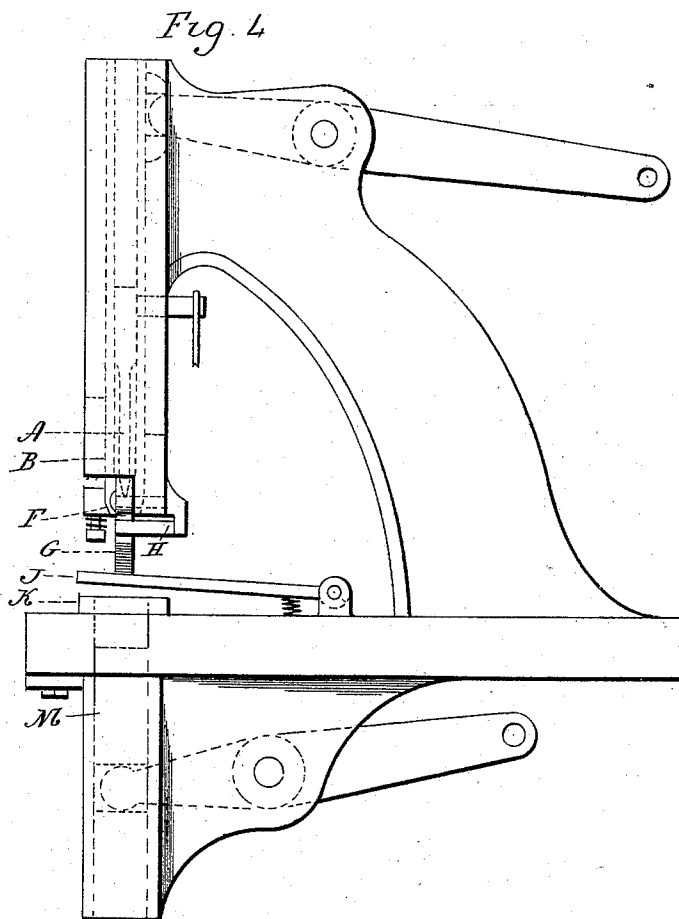
(No Model.)

2 Sheets—Sheet 2.

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Fred C. Bree

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Inventor
By J. H. Shumway

UNITED STATES PATENT OFFICE.

IRVING G. PLATT, OF WATERBURY, CONNECTICUT.

MACHINE FOR ATTACHING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 495,753, dated April 18, 1893.

Application filed March 1, 1889. Serial No. 301,637. (No model.)

To all whom it may concern:

Be it known that I, IRVING G. PLATT, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Machines for Attaching Buttons to Cloth; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in machines for attaching hollow-shanked buttons to cloth, the object being to make such machines more purely automatic than as heretofore constructed.

With this end in view, my invention consists in certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in vertical central section of the essential parts of a machine embodying my invention, showing the respective members of a button in position in it preparatory to their assemblance together and attachment to the cloth. Fig. 2 is a similar view showing the puncturing of the cloth and the introduction of the button-back, here consisting, as shown, of a hollow shank, into the puncture. Fig. 3 is a similar view showing the expansion of the inner end of the button-back upon the interior boss of the button-head, whereby the head and shank are secured together on opposite sides of the cloth; and, Fig. 4 is a view in side elevation of a press to which my improvement has been applied.

As my improvement may be applied to a press of any approved construction, and as that shown by Fig. 4 of the drawings is a well known form, I shall not describe the same.

In carrying out my invention I employ two dies for the respective members of the button, one or both of the said dies being movable, and one being constructed to receive the button-head and the other the button-back. These dies may either be simple or composite in their structure, and the same may be said of the button-head and button-back, but whatever the particular construction of the said button-members may be the button-back will be centrally perforated, and the button when completed will have a hollow shank. I de-

sign to locate within the die adapted to receive the button-back, an independently movable punch or bodkin, and to provide means for controlling the projection of the same through an opening in the face of the die for the purpose of puncturing the cloth, and the retirement of the punch or bodkin within the die to permit the face thereof to do its work. I may locate the die co-operating with the button-back above the cloth, and the die receiving the button-head below the same, or vice-versa. As herein shown the button-members are a button-head P, having a flanged stem Q, and an inwardly projecting cone R, and a button-back consisting of a hollow rivet E, the outer end of which is flanged to rest upon the cloth and form the back of the button. I would have it understood, however, that I do not limit myself to a machine constructed to set buttons having their members so constructed.

As herein shown, the die for the button-back consists of a long, hollow plunger B, mounted in the press, shown by Fig. 4, for vertical reciprocation, and having its operating face D, constructed with a central perforation or opening C, and having its lower end beveled at opposite points, as at F F, for a purpose to be mentioned later on.

The die for the button-head is located in line with but below the said plunger forming the upper die, as described, and consists of a cup-shaped holder M, containing a movable head N, conformed to the exterior conformation of a button-head, supported by a spring O, and having a shank which passes down into the said holder M, which is mounted for vertical movement in the press before mentioned.

The hollow plunger B, contains an automatic piercing bodkin or punch A, arranged for independent longitudinal reciprocation in it, and constructed to be projected through the opening C in its operating face, to punch the fabric, and to be retired to permit the said plunger to do its work in coupling the respective button-members. The punch as herein shown is directly connected with a moving part of the press for positive reciprocation within the plunger; but I am not limited to operating it positively, my invention requiring only that it shall be projected from

the die long enough to puncture the fabric, and then retired or allowed to retire to permit the two dies to come together to do their work. I may mention here, also, that whatever be the provision for controlling the retirement of the piercing bodkin, the mechanism provided therefor should be allowed to retire the bodkin or permit it to be retired so that its point will not be upset and dulled against the button-head or otherwise. As herein shown I have also provided the machine with a button-back holder, comprising two arms G G, pivoted at their upper ends to a head I, which is stationary in the head of the press, the lower ends of the said arms being constructed to support a button-back below the operating face of the plunger, with its flanged end adjacent to the said face, as shown by Fig. 1 of the drawings. Normally these arms are sustained in their closed positions by a spring, or some equivalent thereof, but when the plunger is depressed, they are separated for the ejection of the button-back carried by them, by the engagement of its bevels F F with their lower ends. I am not, however, obliged to employ this button-back holder, for in case the positions of the dies were reversed I should not need it, or some other provision may be made for holding the button-back in case the die for the same is located above the die for the button-head. As herein shown, also, I employ a cloth-holder located between the two dies, and consisting of the arms J and K, each having an opening L, and one or both being adapted to be moved toward or from the other to permit the cloth to be slipped along between them, and to permit them to be clamped upon it firmly, so that it will not yield when it is operated upon by the bodkin. I am not, however, obliged to employ this cloth-holder as the cloth may be held by other means, or by hand.

It is thought that the operation of the machine will be understood from what has already been said, and from the drawings, so that the details of its operation will not be given more than to explain that after the punch or bodkin has been projected from the face of its die to puncture the cloth, it is retired in time to permit the die to co-operate with the other die in combining the two members of the button. In the particular construction herein shown, the punch or bodkin also serves to guide the button-fastener in its

passage through the puncture made in the cloth.

I would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention.

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

1. In a machine for attaching buttons to cloth, the combination with two dies, one of which is adapted to receive a button-head and the other of which is made hollow with an opening in its operating-face and constructed to receive a button-back, and one or both of the said dies being movable; of a piercing bodkin located within the said hollow die in which it has independent longitudinal movement for its projection through the opening in the operating-face of the said die, and its retirement within the die to clear the said face; and mechanism co-operating with the said bodkin and constructed and arranged to control the retirement of the same within the hollow die to permit the two dies to come together, substantially as set forth.

2. In a machine for attaching buttons to cloth, the combination with two dies, one of which is adapted to receive a button-head, and the other of which is made hollow and with an opening in its operating-face and constructed to receive a button-back, and one or both of the said dies being movable; of a piercing bodkin located within the said hollow die in which it has independent longitudinal movement for its projection through the opening in the operating-face of the said die, and its retirement within the die to clear the said face; and independent power connections for the said bodkin, located, in part, outside of the hollow die, for positively projecting the said bodkin through the opening in the face of the said die, and positively withdrawing it thereinto to retire it to permit the two dies to come together, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

IRVING G. PLATT.

Witnesses:

CHAS. B. SHUMWAY,
WM. J. DE MAURIAC.