(No Model.)

C. M. PLATT.

BUTTON ATTACHING MACHINE.

No. 481,587. Patented Aug. 30, 1892.

Fig. 1

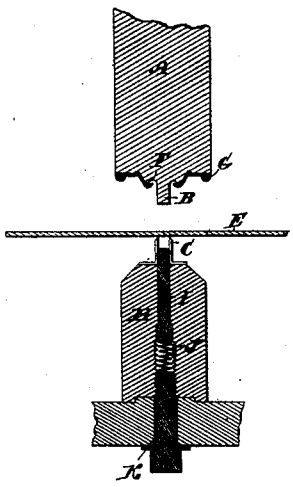


Fig. 2

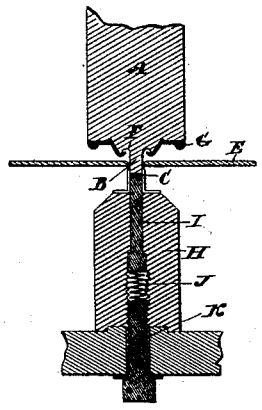


Fig. 3

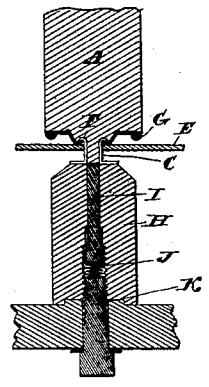
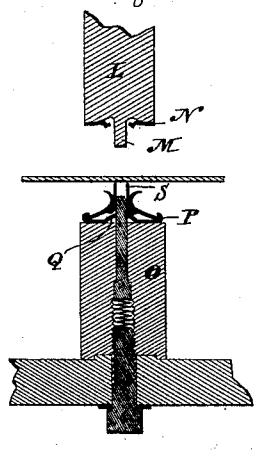


Fig. 4



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CLARK M. PLATT, OF WATERBURY, CONNECTICUT.

BUTTON-ATTACHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 481,587, dated August 30, 1892.

Application filed June 8, 1888. Serial No. 276,485. (No model.)

To all whom it may concern:

Be it known that I, CLARK M. 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 increase the capacity of such machines by making their action more nearly automatic than they have been as heretofore constructed.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in vertical section through the two holders of one form of machine embodying my invention, the said holders being separated to receive the button parts. Fig. 2 is a similar view showing the perforation of the cloth by the rigid pin. Fig. 3 is a similar view showing the expansion of the hollow rivet to bind the perforated button-flange to it; and Fig. 4 is a view of a machine embodying my invention, but adapted to a different button of the same type.

The holder A is provided in the center of its face with a rigid cylindrical pin B, encircled at its base by an annular recessed upsetting-surface F, its face being shaped or configurated to conform to the shape of the centrally-perforated button part or flange G, which is slipped over the said pin, and thus held concentric therewith and against lateral displacement and so as to leave an annular space around the pin-opening into the chamber formed by the recession of the upsetting-surface. The said pin is itself adapted in length and in end conformation (in Figs. 1, 2, and 3 it has a shearing end) to co-operate with the thin cylindrical end of the hollow rivet C, forming the button-shank, in making the perforation in the cloth E for the said end of the shank to pass through. The upsetting-surface encircling the base of the pin expands the said thin end of the shank and turns it over in the form of a lip upon the outer face of the said button part G, the chamber formed around the base of the pin by the recession of the said upsetting-surface being necessary to receive the said end of the shank and to give clearance to it while being expanded. The annular space around the pin obtained by adapting the holder to center and lock the button part concentric with the pin admits the said end of the rivet into the said chamber. The said rivet C is supported upon a holder H, provided with a yielding centering or guiding pin I, extending above the same and located opposite and in line with the pin B and adapted to be retired thereby by being supported upon a spiral spring J, inclosed within the said holder H and held in place therein by a screw-plug K.

In using my improved machine the button-flange and the rivet are applied to their respective holders, the holder of the flange being magnetized for the purpose of holding the same in place. The holders are now brought together and preferably by the depression of the upper holder, whereby the cloth is first pinched between the end of the rigid pin and the end of the button-shank, which co-operate as the parts are brought still nearer together to perforate the cloth by the removal of a very small circular section thereof, the yielding guiding-pin assisting in the operation by holding the shank in place. Upon further approach of the parts the said rigid pin retires the guiding-pin and the button-flange engages with the cloth and pushes it down over the hollow shank, the end whereof now passes through the annular space between the button-flange and the pin and into the chamber formed around the base of the pin by the recessed upsetting-surface, with which it is soon engaged and by which it is expanded and turned over upon the outer face of the button-flange, as shown by Fig. 3 of the drawings. The holders are now separated and the cloth removed with the button firmly attached to it. It will thus be seen that by adapting the rigid pin of the machine to co-operate with the hollow shank in forming an opening in

the cloth for the shank to pass through the use of a bodkin by hand is dispensed with, whereby time is saved and the capacity of the machine for applying buttons to cloth is greatly increased.

In the construction shown by Fig. 4 of the drawings the upper holder L, having a rigid pin M, is adapted to hold the inner button-flange N, while the lower holder O is adapted to support the outer button-flange P, having an internal boss Q and carrying the hollow rivet S, which co-operates with the rigid pin in perforating the cloth in the manner described for the preceding figures of the drawings.

It is apparent that in adapting my invention to different buttons of the type shown it may undergo some changes and alterations. I would therefore have it understood that I do not limit myself to the exact construction and arrangement of parts shown and described, but hold myself at liberty to make such changes and alterations 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—

In a machine for setting buttons, having a perforated center, the combination, with a die of such shape as to firmly hold a button thereon and having formed thereon a rigid pin or lug of smaller diameter than that of said perforation for extending through or partially through the same, said holder or die being also provided with a recess encircling the base of said pin to be partially overlapped by the edge of said perforation, of a second die adapted to hold an open rivet or eyelet and provided with a central yielding pin adapted to enter said eyelet, the several parts being constructed and arranged to operate in the manner and for the purpose substantially as described.

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

CLARK M. PLATT.

Witnesses:
LUCIEN F. BURPEE,
JOHN P. KELLOGG.