

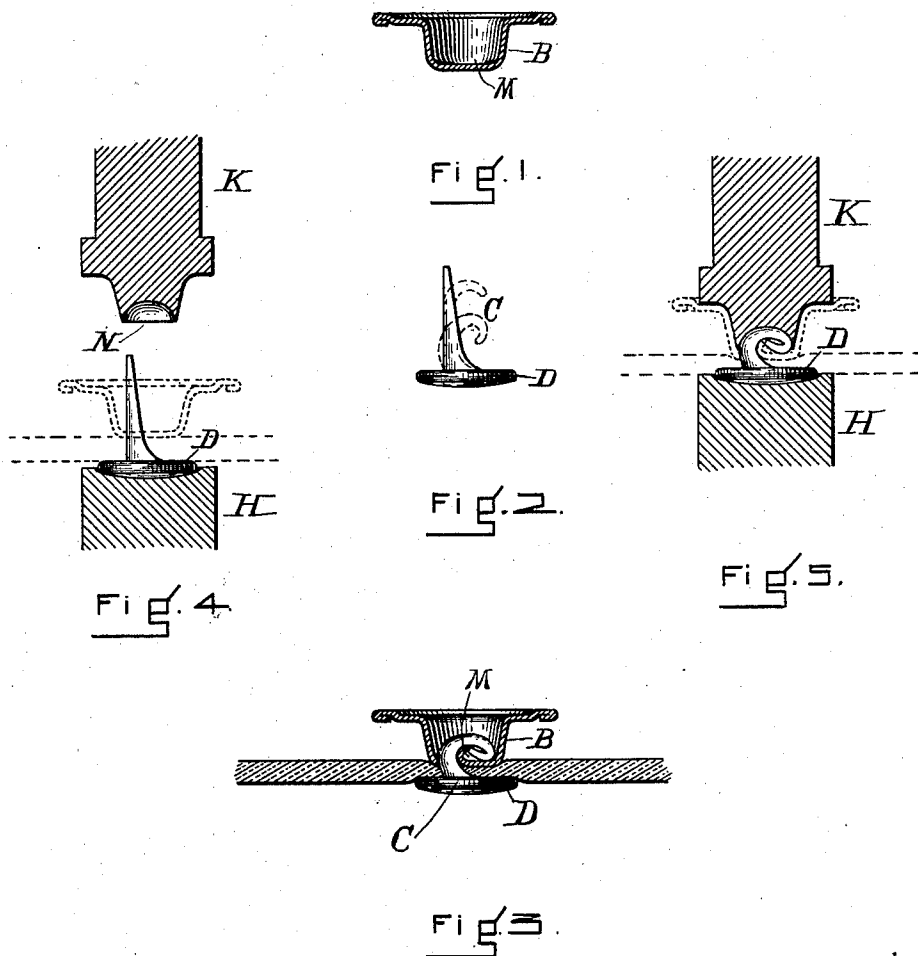
No. 679,762.

Patented Aug. 6, 1901.

T. LONG.
TACK BUTTON.

(Application filed Mar. 10, 1900.)

(No Model.)



WITNESSES:
G. M. Phillips
A. N. Hamner

INVENTOR:
Thomas Long
H. B. Bowers
Atty:

UNITED STATES PATENT OFFICE.

THOMAS LONG, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE CONSOLIDATED FASTENER COMPANY, OF PORTLAND, MAINE.

TACK-BUTTON.

SPECIFICATION forming part of Letters Patent No. 679,762, dated August 6, 1901.

Application filed March 10, 1900. Serial No. 8,142. (No model.)

To all whom it may concern:

Be it known that I, THOMAS LONG, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, (whose post-office address is 15 Edinboro street, Boston, Massachusetts,) have invented a new and useful Improvement in Tack-Buttons, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a new button and a new rivet or tack to be used in fastening buttons to garments and the like; and it consists in making the button without any hole in its base and in making the point of the rivet eccentric to its head. These peculiarities may be best understood by reference to the description as illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section showing a holeless button or button-head. Fig. 2 shows in elevation a rivet or tack having a slender stem eccentric to its head. Fig. 3 shows a button and fabric in section and a headed rivet or tack, illustrating the manner of fastening the button to the garment. Fig. 4 shows in vertical section one form of dies and also an eccentric rivet or tack in elevation before the heading action has taken place. Fig. 5 shows dies and rivet or tack as they appear after the operation of heading and while the dies are still closed.

In the drawings the button B is shown in vertical section in Figs. 1 and 3 and dotted in Figs. 4 and 5. The holeless button may be made as illustrated or in a variety of ways. The rivet, Fig. 2, consists of a head D and an eccentric stem C. This stem C is made pointed and rather slender, so that it will readily make its own puncture for penetrating both the fabric to which it is applied and the base of the button.

The action of heading the rivet, so that it shall act as a fastener for the button, as illustrated in Fig. 3, may be described as follows: The rivet is placed in the lower die H with its stem passed through the fabric and the base of the button. Now as the dies are brought together the point of the stem C will be curved by the cavity N of the die, which will at first cause a simple curvature in one direction—to the right, for instance. As the

dies move the curvature will be more and more, as indicated by the dotted lines, Fig. 2, and the reaction caused by this bending to the right will effect the bending of the lower part of the stem to the left, forming a re-curve, until contact is made with the opposite side of the cavity M in the face of the die K. Further movement of the dies will cause the head to form with the required symmetry—that is, the head will overlap the upper side of the base of the button. Owing to the eccentric location of the point of the tack relative to its base D, the puncturing of the base of the button takes place at one side of said base, as above explained, thus making the opening for the tack at a point where the base is strengthened by the vertical walls, so that there is practically no weakening of the base by the puncture. As the outer face of the tack is straight, there is no tendency of the button being moved laterally as the tack passes vertically, the inclined face of the tack acting on the weaker portion of the base, (that portion close to the center,) causing the metal displaced by the tack to be turned up, following the contour of the face of the tack during the turning-up movement. As the turned-up portion closely fits the face of the tack on the under side of the curve thereof, as clearly shown in Fig. 3, at a point approximately the center of the base, there is formed at this point a support against the pulling of the button away from the tack, and the close fit between the face of the tack and the turned-up portion forms on opposite sides of the tack a support against a movement of the button laterally relative to the tack, the vertical wall of the base forming the support in opposition to the turned-up portion. This turned-up portion is held from flattening, &c., by the point of the tack abutting there-against, as shown. In addition the eccentric puncturing of the base and the following movements of the tack during the clenching cause the tack to be moved substantially across the top of the base with the point of the tack turned thereunder. There is thereby formed an increased bearing-surface on the upper side of the base at substantially opposite sides of the base, so that the pulling strain of the button on the tack is close

to the bend of the base and vertical wall instead of at the center, but little strain being on the center. It will therefore be readily understood that there is no requirement of the use of additional means, such as solder, to form a head on the tack and that the strains in all directions are guarded by the specific construction shown.

Heretofore buttons of this class have been made with holes in their base to allow the point of the tack to readily enter the central hole in the base of the button. This puncturing of the base has caused the button to be weak at this point, so that it has not been strong enough to withhold the strain upon it after the tack has been headed on its upper side without reinforcing the base by inserting a round flat piece of metal into the button to increase the thickness of the base. Hitherto also tacks have been used which have their stem exactly in the center of the head.

Hitherto when an ordinary tack is used in buttons of this class its head has passed through a hole in the center of the base of the button and has been headed substantially at the point on the upper side of the base at its center over the hole and about the edges of the hole, so that without the reinforcement of the base, as above described, the button is liable to be pulled off the garment to which it is attached, the head of the tack tearing through the base of the button.

It is an expensive method to construct the button with the reinforcement described, and I am able to do without this by not having a hole made previous to the time of attachments and by the use of an eccentric-pointed tack. It will be seen that when the stem of the tack is at one side of the head it does not enter the base at its central point, but at one side. It then passes through the base of the button without removing any metal, but turning the metal disturbed up to strengthen the edge of puncture. The stem then is guided by the die across the upper side of the base and upset or headed, so as to have substantially nearly all of the upper side of the base to bear against. By this means I get a very strong attachment and can use a button not reinforced.

It is obvious that I could use an anvil of substantially the same shape as the open die shown in the drawings and so with a top covering produce what is known as the "covered" button without departing from the spirit of my invention.

The button shown in the drawings in its shape is what is commonly known as the "open-faced" button. The covered button has a cover, cap, or top showing a smooth face simply. The open-faced button is used in large quantities on all the cheaper garments, and it is of the highest importance to

produce a simple, strong, and cheap button. This invention of mine accomplishes this.

I claim—

1. A tack-button comprising a button-head having a base, and a tack or rivet having a pointed straight stem located eccentric of the tack-head, said stem being adapted to be passed through said base at one side of the center and be upset upon the upper side of the base, extending substantially across the upper surface thereof.

2. A tack-button comprising a button-head having an imperforate base, and a tack or rivet having a pointed straight stem located eccentric of the tack-head, said stem being adapted to be passed through said base at one side of the center and forming on said base a portion turned upon itself, and be upset upon the upper side of the base, extending substantially across said upper side.

3. A tack-button comprising a button-head having an imperforate base, and a tack or rivet having a pointed straight stem located eccentric of the tack-head, one side of the stem being inclined to form a stem of gradually-increasing thickness toward the head, said stem being adapted to be passed through said base at one side of the center and forming on said base a portion turned upon itself, and be upset upon the upper side of the base, extending substantially across said upper side.

4. A tack-button comprising a button-head having a depressed center with an imperforate base, and a tack or rivet having a pointed straight stem located eccentric of the tack-head, one side of the stem being inclined to form a stem of gradually-increasing thickness toward the head, said stem being adapted to be passed through said base at one side of the center and forming on said base a portion turned upon itself, and be upset upon the upper side of the base, extending substantially across said upper side.

5. The method of attaching a button-head to a garment or flap by means of a tack or rivet, which consists in placing an imperforate button-head on the upper side of the flap and a tack or rivet on the lower side, then forcing the tack through the flap and the imperforate base, forming on said base a portion turned upon itself within the button, and then upsetting the stem of the rivet on the upper side of the base, the stem extending substantially across the base, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 24th day of February, A. D. 1900.

THOMAS LONG.

Witnesses:

G. W. PHILLIPS,
A. H. FLANNERY.