

W. H. Reed,  
Button.

No. 45,077.

Patented Nov. 15, 1864.

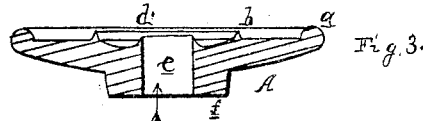


Fig. 3.

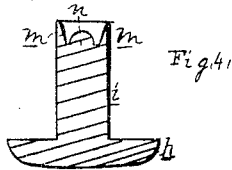


Fig. 4.

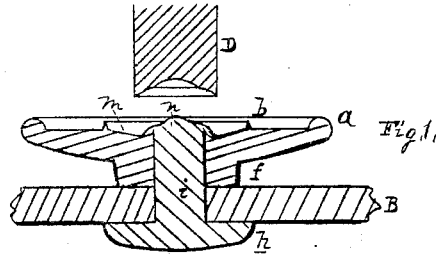


Fig. 1.

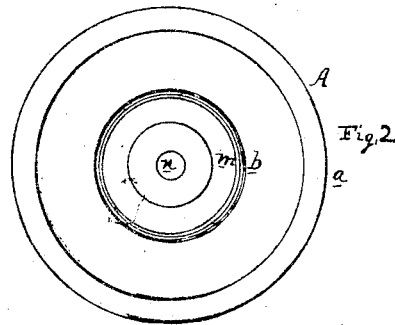


Fig. 2.

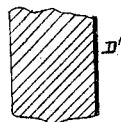


Fig. 5.

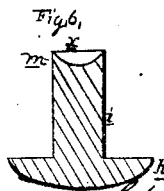
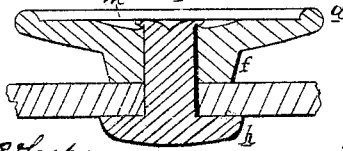


Fig. 6.



Witnesses { Charles E. Foster  
W. H. Reed

Henry Howland  
Atty for W. H. Reed

# UNITED STATES PATENT OFFICE.

WILLOUGHBY H. REED, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN FASTENING BUTTONS TO FABRICS.

Specification forming part of Letters Patent No. 45,077, dated November 15, 1864.

*To all whom it may concern :*

Be it known that I, WILLOUGHBY H. REED, of Philadelphia, Pennsylvania, have invented an Improvement in Fastening Buttons to Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists, first, in the use for fastening buttons to fabrics of a rivet having a stem countersunk at the end, substantially as described hereinafter, so that the head formed by striking the said countersunk end of the stem may be uniform, substantial, concentric with the button, and afford a neat central ornament for the same.

My invention consists, secondly, of the said rivet, with its countersunk stem, in combination with an annular ridge, to which the end of the stem is securely locked when struck with a punch or die.

In order to enable others to practice my invention, I will now proceed to describe the manner of carrying it into effect.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a sectional view illustrating my improvement in securing buttons to fabrics; Fig. 2, a plan view of Fig. 1; Fig. 3, a sectional view of the button; Fig. 4, a sectional view of the rivet for securing the button to the fabric; Fig. 5, a sectional view illustrating a modification of my invention, and Fig. 6 a view of the rivet appertaining to Fig. 5.

All the views are drawn to an enlarged scale, and similar letters refer to similar parts throughout the several views.

A is the button, which has in the present instance on the upper or outer surface the rounded rib *a*, on the edge of the button the inner and smaller rib, *b*, and within the latter an annular ridge, *d*, on the edge of the central hole, *e*, which passes entirely through the button, on the under side or back of which is the central hub, *f*. The ridge *d* may be best formed by punching the hole *e* from the back or under side of the button in the direction of the arrow, Fig. 3.

Fig. 4 represents the rivet which I prefer for the purpose of securing the button to the fabric B. On one end of this rivet is an appropriate head, *h*, and the other end is coun-

tersunk or recessed, so as to form the annular and angular projection *m*, surrounding the central rounded projection, *n*. The stem of the rivet having been passed through the fabric and through the opening *e* of the button, I take a punch or die, D, which is countersunk at the end, as shown by the red lines in Fig. 1. This punch I place with its countersunk end on the countersunk end of the stem *i* of the rivet, the head *h* of the latter resting on a suitable foundation or anvil, and with a hammer I strike one or more smart blows on the punch, which turns down the annular flange *m* of the rivet over the annular ridge *d* of the button, thereby locking the flange to the said ridge and securing the button firmly to the fabric, as seen in Fig. 1. The end of the rivet, having through the action of the die received the form of the countersink of the said die, affords a neat central ornament for the button.

The central rounded projection, *n*, in the countersunk end of the rivet may be dispensed with and a simple concavity, *x*, may be made in the end of the stem *i*, as seen in Fig. 6, in which case a die, D', formed at the end in the manner seen in Fig. 5, should be used, the central point, *y*, of the die occupying a position in the center of the concavity, so that on the die being struck the end of the stem *i* of the rivet will be expanded laterally by the point *y*, while the other portion of the die will turn the edge of the concavity over the ridge *d* of the button, which is thus firmly secured to the fabric.

The ridge *d* may be dispensed with without affecting the efficiency of the countersunk rivet, although I prefer the use of the ridge, as it tends to add security to the fastening.

The tubes attached to and forming the shanks of buttons heretofore made have proved objectionable, both on account of the expense incurred in forming the tube and securing it to the button, and from the fact that when the buttons have to be secured to very thick fabrics the hollow shanks must be made of such a length in proportion to their thickness that they do not possess sufficient strength to resist the blow required to spread the end over the washer, in doing which they are frequently bent or split. In the present application these defects are remedied, while all the advantages of a tubular shank are retained.

The shank with the depression in the end of the same may be formed at the same time that the button is manufactured, and with but little, if any, increase of expense, while the shank is only weakened at the point where it is necessary for it to be acted on by the riveting punch, which may therefore be brought to bear with sufficient force to effectually spread the head without bending or otherwise affecting the body of the shank.

In attaching buttons to fabrics by means of an ordinary rivet with a plain-ended stem, the head formed by the dies is apt to be imperfect and more or less one sided, thereby detracting from the security of the fastening and presenting an awkward and uneven appearance.

By countersinking the end of the rivet the head formed by the action of the die, and the consequent turning down of the annular pro-

jection *m*, is certain to be in all cases concentric with the button, and consequently forms a neat central ornament for the same.

I claim as my invention and desire to secure by Letters Patent—

1. The use for fastening buttons to fabrics of a rivet having a stem countersunk at the end, substantially as and for the purpose set forth.

2. The rivet, with its countersunk stem, in combination with the annular ridge *d* of the button.

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

W. H. REED.

Witnesses:

JOHN WHITE,

CHARLES HOWSON.