J. J. Mervesp.

Attaching Buttons.

No. 98,512. Patented Jan. 4, 1870.

Fig. 1.

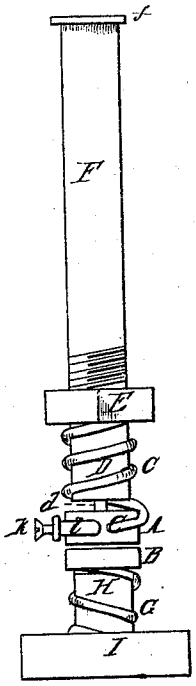


Fig. 2.

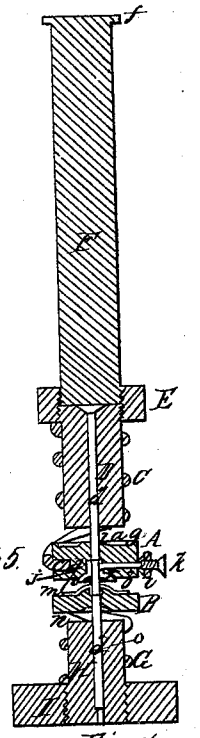


Fig. 7.

Fig. 6.

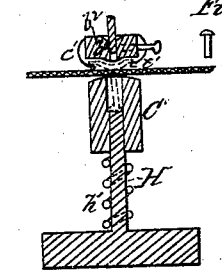


Fig. 5.

Fig. 3.

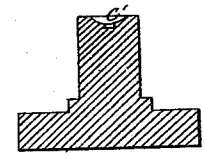
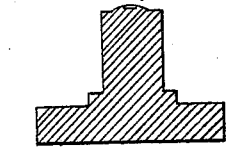


Fig. 4.



Witnesses.

Geo. G. Rothwell

Phil. F. Garner.

Inventor.

J. J. Mervesp

By Pierce Sheerin & Co

Attys.

United States Patent Office.

J. JOHNSON MERVESP, OF NEW YORK, N. Y.

Letters Patent No. 98,512, *dated January* 4, 1870.

IMPROVEMENT IN MACHINES FOR ATTACHING RIVETS TO BUTTONS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, J. JOHNSON MERVESP, of the city, county, and State of New York, have invented a new and useful Improvement in Dies for Riveting Buttons to Cloth, &c.; and I do hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable those skilled in the art to which my invention appertains, to fully understand and to make and use the same, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 is a side elevation of the device complete.

Figure 2, a longitudinal vertical section of the same.

Figures 3 and 4, longitudinal sections, showing modifications of the lower die.

Figures 5, 6, and 7, are detail views, to be hereinafter referred to.

My invention is an improved device by means of which buttons are riveted to wearing-apparel and other fabrics; and

It consists in the construction, arrangement, and combination of parts, as hereinafter specified.

I will now proceed to describe my invention in detail, referring to the accompanying drawings, wherein similar letters indicate like parts in the several figures.

In the drawings—

A is a circular metallic block or die, formed with two faces, *a b*.

In the side of this die a hole is made for the reception of the lower end *c* of a spiral spring, C, which is coiled around a shank, D, screwed into a nut, E.

The shank D is provided with a central longitudinal socket, in which a punch, *d*, is fitted rigidly. This punch projects downward below the shank D, and its lower portion fits loosely into a central opening in the die A.

Into the upper side of the nut E is screwed a handle, F *f*. The upper end of the spring C abuts against the under side of the nut E, and the pressure of this spring is regulated by screwing the shank D more or less into the nut E.

The face *a* of the die A is formed with a concentric rim, *g*, extending around the outer edge, and with a rounded elevation, *i*, around the central opening of the die.

The face *b* of the die A is made without a rim, and is provided with a depression, *j*. It will be understood that the end *c* of the spring C is loosely fitted into the side of the die, so as to permit the latter to be turned on said part *c* as a pivot or centre, in order to present either of the faces *a b* downward.

The lower end of the punch *d* is countersunk, as shown clearly in fig. 7, so as to form a rounded head on the rivet.

The rivet is inserted from the under side into the central opening of the die A, and is there retained by a screw, *k*, pressed inward against the rivet by a flat spring, *l*. This spring is secured at one end to the side of the die, and through its free end the screw *k* is fitted. This screw works loosely in an opening made at right angles to the central opening of the die A, and communicating therewith.

The lower die B is, like the upper die, reversible, being formed with two faces, *m n*, and fitted loosely on to the upper end of a punch, *o*, fixed in the shank H, which is screwed into a base, I. The die B rests on a spring, G, encircling the shank H, and regulated in the same manner as is the spring C.

I will now proceed to describe the operation of my device, when a rivet of the form shown at *p* is used.

After slightly flattening the lower end of the rivet, a washer, *r*, fig. 1, is slipped over the smaller end, and allowed to rest on the flattened portion. The rivet is now inserted into the central opening of the upper die, and is held in place by the pressure of the spring-pin *k*, the washer occupying the depression in the under side of the die A.

The button is next laid, face down, upon the upper surface of the under die. The cloth is laid on the top of the button, and the upper die is forced down by pressure, or a stroke on the head *f*. As this pressure is applied, the rivet passes through the cloth and button, and down to the punch *o*, and, on account of the countersunk ends of the punches *o* and *d*, a head is formed on each end of the rivet, thereby securing the button to the fabric.

The space between the top of the punch *o* and the upper face of the lower die is lessened or enlarged by screwing the shank H more or less into the base I. By this adjustment the size of the head raised on the rivet is regulated.

When a rivet having one head already formed, as shown in fig. 5, is used, the dies A B are reversed, so that the faces shown uppermost in fig. 2 are turned underneath. The shank H is then partially unscrewed from its base I. This brings the top of punch *o* on a level with the bottom of the depression in the face *n* of die B. The rivet is put through the cloth by means of a needle, hollow at one end. The head of the rivet is now placed in the depression in the upper face of die B, while its plain end extends up through a hole in the centre of the button, a short distance into the central opening of the upper die. It will be seen that when the upper die and its punch are now forced down, a head will be formed on the upper end of the rivet, the lower end, already headed, remaining unaltered.

A modification of the lower-die support may be made by forming the base and shank in one solid piece, having a central vertical opening for the punch, which latter may be driven out and replaced by a new one when desired.

To compensate for the adjustability secured by

screwing the shank into the base, I place a washer loosely around the shank, between the base and the spring. This washer is employed when a plain rivet is used, but when a rivet having one head already formed is used, the washer is removed and the die reversed, as above described, whereby the spring descends and occupies the space before occupied by the washer, allowing the upper surface of the die to come even with the top of the punch.

In fig. 3 is shown a modification of the lower die and support. It is formed with a depression and recess, *c'*, for the head of a rivet, which is already formed with one head.

In fig. 4 is represented a modification of fig. 3. This is employed when a plain rivet is used. It is similar to that shown in fig. 3, with this exception: while the modification shown in fig. 3 is formed with a depression in its top, that represented in fig. 4 is made with a raised projection, which has in its top a slight cavity, provided on its inside with vertical cutting-edges, at right angles to each other, which raise a burr on the end of the rivet when pressed against it.

I will here mention that these modifications of the lower support and die are all used with the upper die, shown in figs. 1 and 2.

In fig. 6 is shown a modification to be used when rivets previously formed with heads at one end are employed. In this case a thimble, C', encircles the upper part of shank H', and is supported on the spring *h'*. The rivet is set in the recess formed by the thimble and shank, where it stands upright.

Now, the cloth having been laid on the top of the thimble C', the button *t'* is placed in the recess in the face of the die b^2, where it is held by the spring *c'*. This spring is soldered to the die b^2, about the centre, and the ends keep the button in place. The operation is as above described.

The central opening in the shank H is of the same diameter throughout, excepting for a short distance at the lower end, where it is made smaller, as shown in the drawing, so that when the punch is inserted, it rests on the shoulders at the junction of the large with the small opening. The chief object of this construction, and the arrangement of the punch in a socket so made, is to facilitate the removal of the punch when broken.

Having thus described my invention, I wish to state that I do not claim the modification shown in fig. 6, and above described, a loose thimble or under die, encircling a shank and resting on a spring, not being new; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. The reversible dies A B, formed each with two different faces, substantially as and for the purpose herein set forth.

2. The combination of the die A, shank D, spring C *c*, and countersunk punch *d*, all constructed and arranged substantially as herein described.

3. The arrangement of the die A, extending below the lower end of the punch *d*, to form a recess which receives the rivet, and prevents it from bending while the head is being formed.

4. The reversible lower die B, fitted on the punch *o*, and supported by the spring G, which encircles shank H, to be regulated by the nut I, as herein described.

5. The reversible dies A B, countersunk punches *d o*, rivet-holding spring-pin *k l*, shanks D H, nuts E I, and shank F, all constructed, arranged, and combined to operate as herein described.

To the above I have signed my name, this 17th day of December, 1868.

J. J. MERVESP.

Witnesses:

TH. A. STADLER,

E. N. LOEW.