

Joseph H. Lewis Invt. in Machinery for fixing studs in Shoes, etc.

109227

PATENTED NOV 15 1870

Fig. 1.

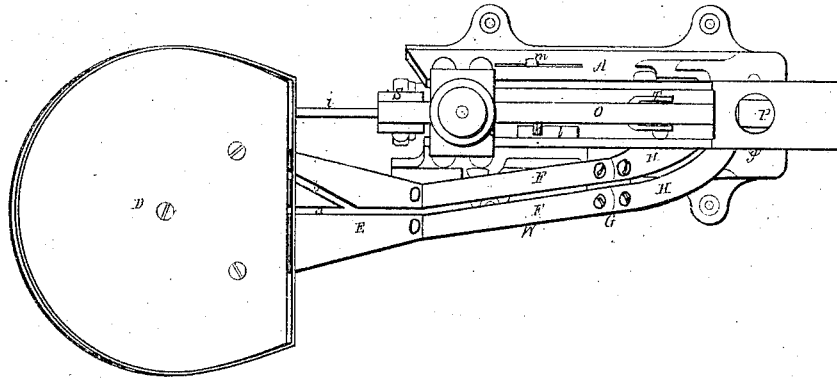


Fig. 2.

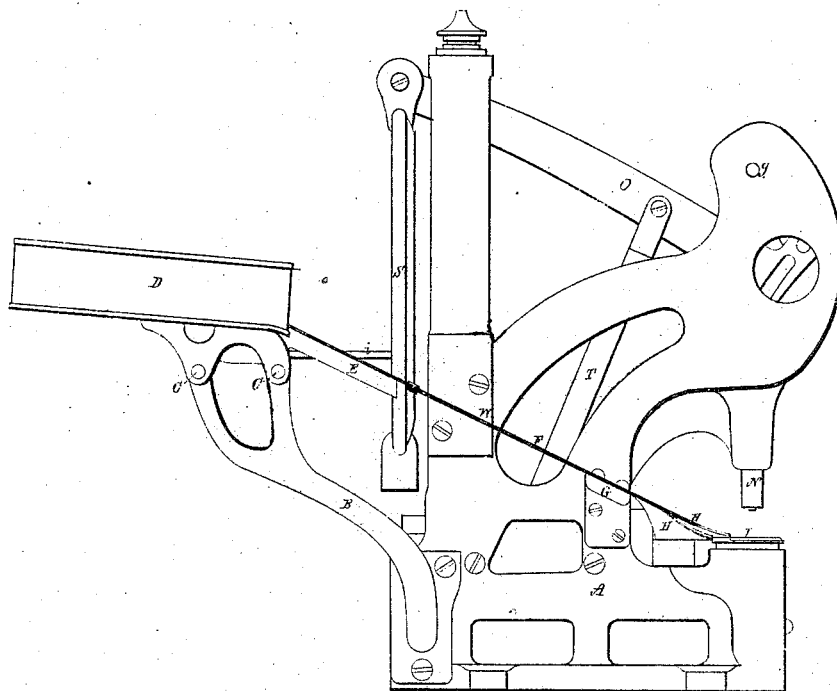
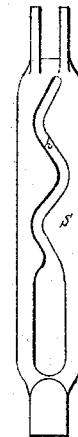


Fig. 3.



Witnesses.

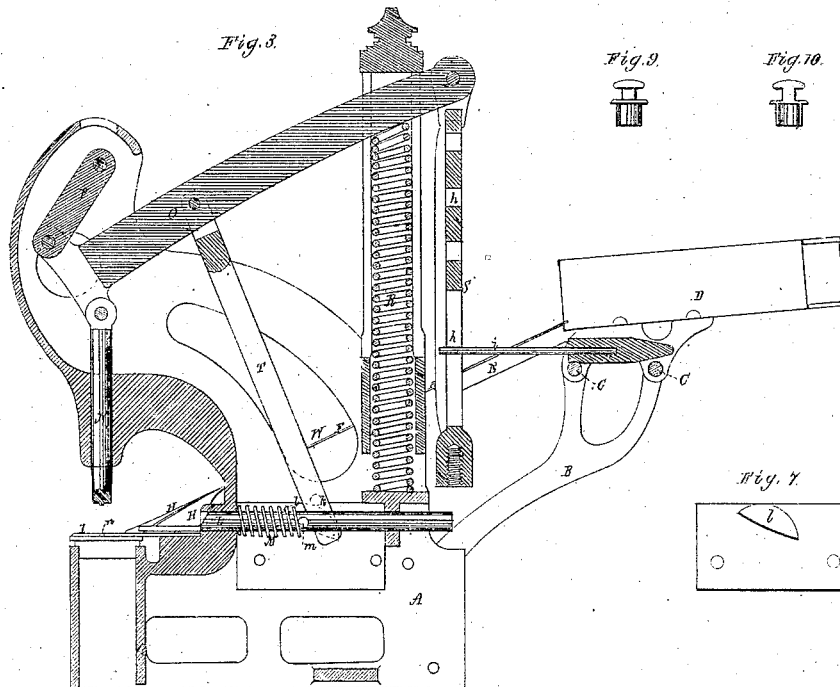
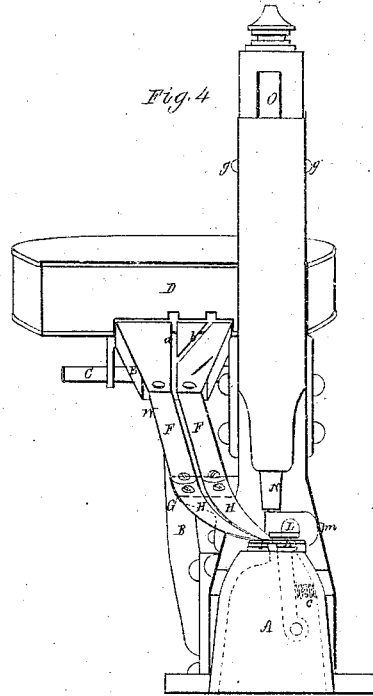
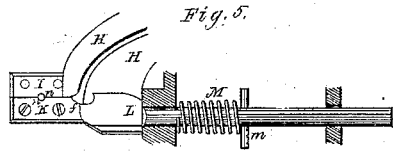
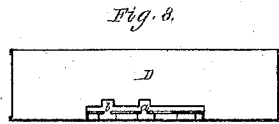
S. N. Piper
J. Brown

Joseph H. Lewis

by his attorney

N. M. Day

Joseph H. Lewis Invt. in Machinery for fixing studs in Shoes, etc.



Witnesses
L. N. Piper
J. Abner

Joseph H. Lewis
 by his attorney
R. H. May

United States Patent Office.

JOSEPH H. LEWIS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO ALFRED R. FIELD, OF GREENFIELD, MASSACHUSETTS.

Letters Patent No. 109,227, dated November 15, 1870; antedated November 5, 1870.

IMPROVEMENT IN MACHINES FOR ATTACHING STUDS OR TUBULAR-SHANKED BUTTONS TO FABRICS.

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

To all persons to whom these presents may come:

Be it known that I, JOSEPH H. LEWIS, of the city and county of Providence, in the State of Rhode Island, have invented a new and useful Machine for Fixing Studs or Tubular-shanked Buttons in Shoes or various other articles; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawing, making part of my specification.

Of such drawing—

Figure 1 denotes a top view,

Figure 2, a side elevation,

Figure 3, a vertical and longitudinal section, and

Figure 4, a front-end elevation of the machine.

Figure 5 is a top view of the stationary and movable jaws, the stud-advancer, and the lower part of the conductor or chute.

Figure 6 is a rear elevation of the treadle-rod or hopper-vibrator.

Figure 7 is a representation of the cam employed to aid in effecting the forward movement of the advancer.

In the said drawing—

A exhibits the frame of the machine, from which an arm, B, is projected, and sustains two parallel rods or rails, C C, that serve to support a hopper or pan, D, and to admit of its being vibrated, with a reciprocating motion, horizontally and laterally.

Figure 8 is a section of the front end of the hopper, exhibiting its discharging-mouths.

Figure 9 is a side view of one of the studs;

Figure 10 being a vertical section of it.

An inclined plane, E, leading from the hopper, and formed with grooves, *a b*, to receive the neck and head of a stud, is pivoted, at its foot, to two parallel guide-plates, F F, which, in turn, at or near their lower ends, are pivoted to a bracket, G, extended from the frame.

From the said bracket two other and stationary curved guides, H H, arranged at a short distance apart, and formed as shown in the drawing, lead to a pair of jaws, I K.

One of the said jaws, viz., that marked I, is stationary, and the other is movable. It being pressed toward the stationary jaw by a spring, *c*.

Each jaw has a semicircular notch, *n*, made in it, to receive a stud and hold it by its neck.

The movable jaw also has another notch, *f*, made in it at its inner rear corner.

To operate with the jaws, and the guides H H, of the chute is an advancer or notched pitman, L, which is arranged to slide longitudinally within the frame A, and has a retractive spring, M.

Directly over the notches *n n* of the jaws there is a punch, N, which is applied to the frame A, so as to be capable of sliding vertically therein.

This punch, at its upper end, is jointed or pivoted to a lever, O, whose front end is hinged to a pendulous bar or link, P, arranged in the upper part of the frame A, and on a pivot, *g*.

The lever O rests upon a helical spring, R, arranged as represented.

At its rear end such lever is jointed to the hopper-vibrator S, which consists of a bar, having a serpentine slot, *h*, made in it, to receive a stud or arm, *i*, extended from the hopper.

The vibrator S is to be carried downward, and with a pedal.

Furthermore, there is jointed to the lever O a pitman or bar, T, from which a stud, *k*, is projected, to act against a stationary cam, *l*, formed as shown in fig. 7, and arranged within the frame.

A stud, *m*, from the advancer, serves, with the cam *l*, the bar T, and the stud *k*, to effect the forward movement of the advancer while the lever O is in the act of being elevated.

The operation of the machine may be thus described:

On forcing down the vibrator S, the hopper will be put in vibration, so as to agitate a quantity of the studs when therein, and cause them successively to pass out of it, heads downward, into the grooves *a b* of the inclined plane E, comprising part of the chute W, from whence they will pass down the chute, or between the plates F F, and thence between the guides H H, and to the jaws, the lever O and the punch N being depressed in the meantime.

During the elevation of the lever O and the punch, the cam *l*, by its action against the stud *k* of the bar T, will move such bar, so as to force it against the projection or stud *m* of the advancer, and thereby push forward the latter. This forward movement of the advancer will cause the lowermost of the series of studs in the chute to be driven forward between the jaws, the movable one of which will be moved away from the stationary one, so as to admit the stud between them, and into their holding-notches. Next, on depression of the vibrator S, the punch will be forced down upon the tubular part of the stud, and will expand or upset it.

An attendant, after each stud may have been deposited between the jaws, is to apply to it the shoe-upper or article in which the stud is to be fixed; and, after having effected the fixation of the stud in such upper or article, the attendant, by pulling on the shoe or article, can draw the stud out from between the jaws.

In some respects my machine is like machines for inserting eyelets in cloth or shoes, but in others it differs materially therefrom.

I claim as my invention—

1. The machine, substantially as hereinbefore described, viz., as composed of a hopper, D, a chute, W, the jaws I K, the punch N, and the advancer L, arranged as set forth, and provided with mechanism for operating them, or causing them to oper-

ate, essentially in manner and for the purpose as described.

2. The arrangement and combination of the pitman T, the stud k, the cam l, and the stud n with the lever O and the advancer L.

JOSEPH H. LEWIS.

Witnesses:

J. R. SNOW,

R. H. EDDY.