(No Model.)

O. W. KETCHUM.

MACHINE FOR CLINCHING METALLIC BUTTON FASTENERS.

No. 365,604. Patented June 28, 1887.

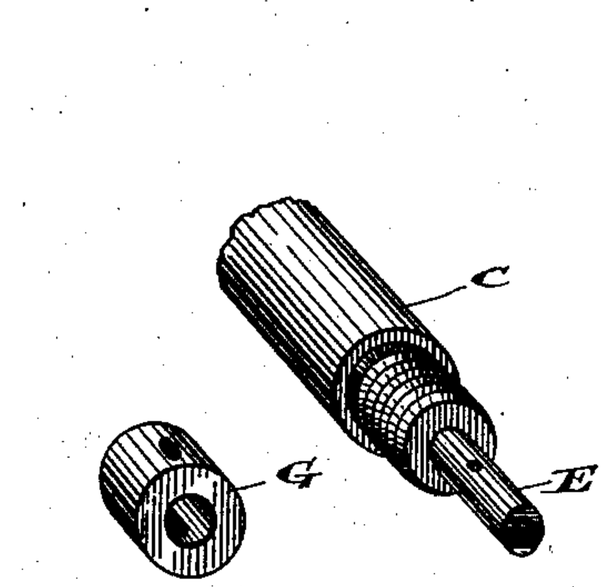
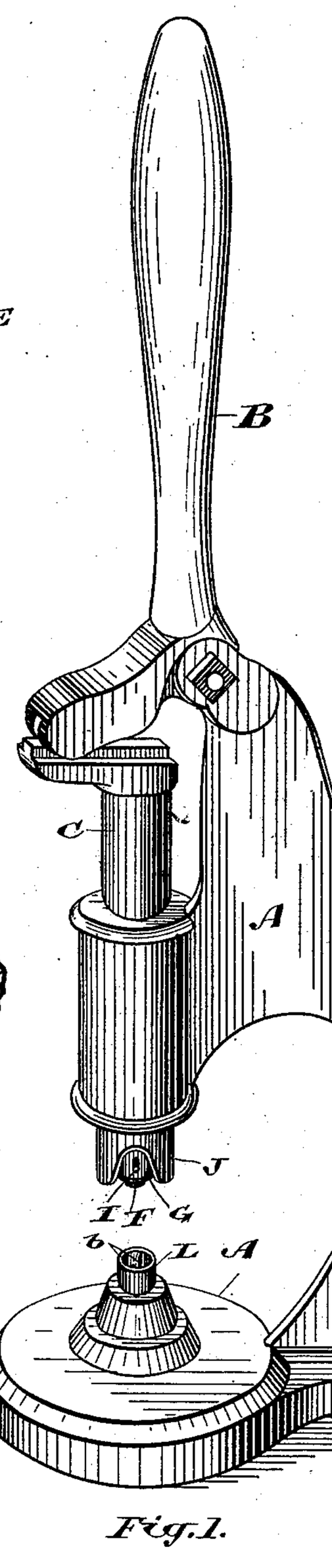


Fig. 3a

Fig. 3



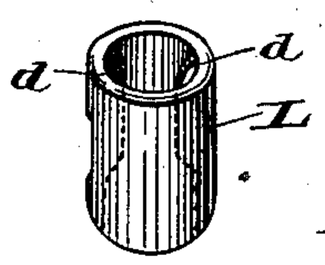


Fig. 4

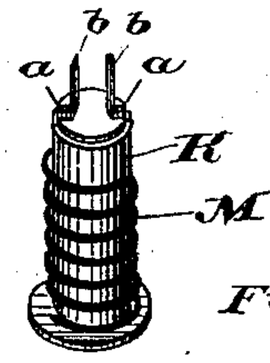


Fig. 5.

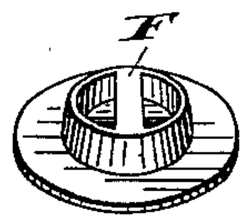


Fig. 6.

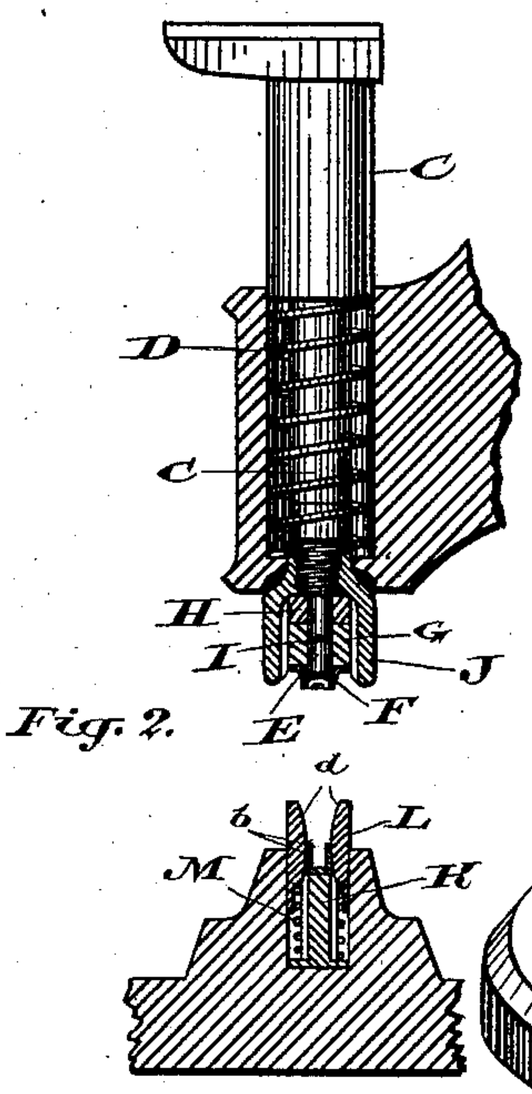


Fig. 2.

Fig. 1.

Witnesses.

F. B. Fehlustonhaugh

J. M. Jackson

Inventor.

O. W. Ketchum

by Donald C. Ridout & Co

Attys

UNITED STATES PATENT OFFICE.

OLIVER WILLIAM KETCHUM, OF TORONTO, ONTARIO, CANADA.

MACHINE FOR CLINCHING METALLIC BUTTON-FASTENERS.

SPECIFICATION forming part of Letters Patent No. 365,604, dated June 28, 1887.

Application filed October 18, 1886. Serial No. 216,521. (No model.)

To all whom it may concern:

Be it known that I, OLIVER WILLIAM KETCHUM, a subject of the Queen of Great Britain, residing at the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented an Improved Machine for Clinching Metallic Button-Fasteners, of which the following is a specification.

The object of the invention is to design a simple, easily operated, and effective machine for attaching buttons in position by means of metallic button-fasteners; and it consists, essentially, of a pressure-press with attachments specially adapted for the purpose.

Figure 1 is a perspective outside view of my clinching-machine. Fig. 2 represents in section the parts of the tool designed to receive the button and metallic fastener. Fig. 3 is a perspective detail of the spindle, the end of which forms the clinching-tool. Fig. 3ª represents the magnetized collar for holding the button. Fig. 4 represents the portion of the tool designed to support the prongs of the fastener during the period that they are being forced through the material. Fig. 5 represents the portion of the tool forming the anvil upon which the head of the metal fastener rests. Fig. 6 is a detail of the button for securing which with a metallic fastener my tool is specially adapted.

In the drawings, A represents the main frame of the machine.

B is a handle pivoted to it, and designed to operate the spindle C, which passes through a journal formed in the frame A, and is supported by a spiral spring, D. This portion of the machine is really of ordinary construction, and it will of course be understood that instead of the handle B, the spindle C may be worked by an ordinary foot-power or in any other suitable manner.

It will be noticed that on the end of the spindle C, a spindle, E, of smaller diameter is formed. The end of this spindle E is curved so as to fit the convex center of the button F. (See Fig. 2.)

The collar G fits over the spindle E and butts against a rubber block or spring, H, which rests against the shoulder formed by the screwed end of the spindle C. A pin, I, passes through a slot in the collar, G, so that the block or spring H shall receive any pressure directed against the collar G. The collar G is magnetized, so that when the button F is placed against it the said button shall be held in position.

J is an adjustable sleeve screwed upon the spindle C, so that the relative position of its bottom edge toward the end of the spindle E may be readily altered, for the purpose hereinafter explained.

K is what I term an "anvil," which rests within a recess cut in the bed of the frame A, which recess is sufficiently large to receive the sleeve L, which rests upon and is supported by the spiral spring M. The metal fastener, for which this machine is designed, has two slots, *a*, cut in its head opposite to each prong *b*. When the fastener is to be dropped into the sleeve L, so that its head shall rest upon the anvil K, it is necessary to adjust the head of the fastener, so that the slots *a* shall come opposite to and slip over the projecting ribs *d*. When the head of the fastener reaches the anvil K, its prongs *b* are supported by the projecting ribs *d*.

Having completed the description of the mechanical parts of my device, I shall now describe briefly its operation.

Having dropped the fastener into the sleeve L till its head rests upon the anvil K, as shown in Fig. 2, I place the button F against the magnetized collar G and adjust it so that the bar of the button shall be opposite to the space between the prongs *b*. I then rest the material on which the button is to be fastened upon the top of the sleeve L and force the spindle C down until the button comes in contact with the material, when the sleeve L will naturally be forced down till the prongs *b* have been forced through the material, and by coming in contact with the concave center of the button F be caused to clinch over the bar of the said button. Although my machine is specially designed for a capped button, such as shown in Fig. 6, it may be used for fastening an ordinary open button, in which case the points of the prongs *b* will of course come directly in contact with the concave end of the spindle E, which will naturally bend them around the

bar of the button in the same way as when they come in contact with the concave surface of the cap in the button before described. By adjusting the sleeve J, I am able to clinch the prongs *b* around the bar of the button, so that the button may be either held closely and firmly to the material, or as locsely to the said material as may be desired.

What I claim as my invention is—

1. A spindle, E, having a concave end, in combination with a magnetized collar, G, designed to support the button F, substantially as and for the purpose specified.

2. A spindle, E, having a concave end and a magnetized collar, G, adjustably secured to it by means of the pin I, in combination with a spring, H, substantially as and for the purpose specified.

3. A spindle, E, having a concave end and a magnetized collar, G, secured to it, in combination with an adjustable sleeve, J, substantially as and for the purpose specified.

4. An anvil, K, in combination with the sleeve L, supported by the spring M, and having inward projections *d* formed on it, substantially as and for the purpose specified.

5. The spindle E, having a concave end and a magnetized collar, G, attached to it, in combination with the anvil K, provided with a sleeve, L, supported by a spring, M, and having inward projections *d* formed on it, substantially as and for the purpose specified.

6. A spindle, E, having a concave end, and a magnetized collar, G, attached to it, with an adjustable sleeve, J, surrounding it, in combination with the anvil K, substantially as and for the purpose specified.

7. A spindle, E, having a concave end and a magnetized collar, G, adjustably connected to it by means of the pin I, and an adjustable sleeve, J, designed to project below the collar G, in combination with an anvil, K, a sleeve, L, surrounding said anvil, and supported by a spring, M, substantially as and for the purpose specified.

Toronto, September 2, 1886.

OLIVER WILLIAM KETCHUM.

In presence of—
CHARLES C. BALDWIN,
J. M. JACKSON.