(No Model.) 2 Sheets—Sheet 1.

S. A. GOULD.

CRIMPING MACHINE.

No. 256,475. Patented Apr. 18, 1882.

Fig. 1.

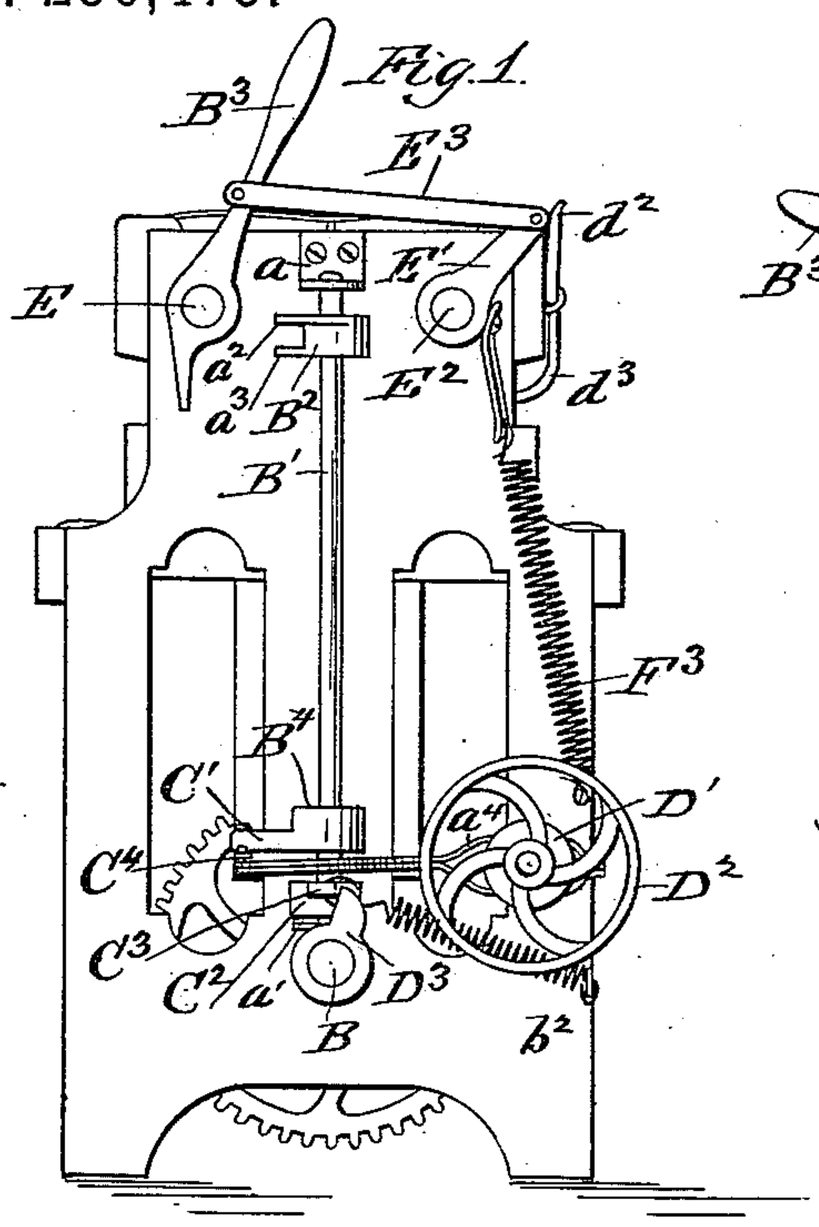


Fig. 2.

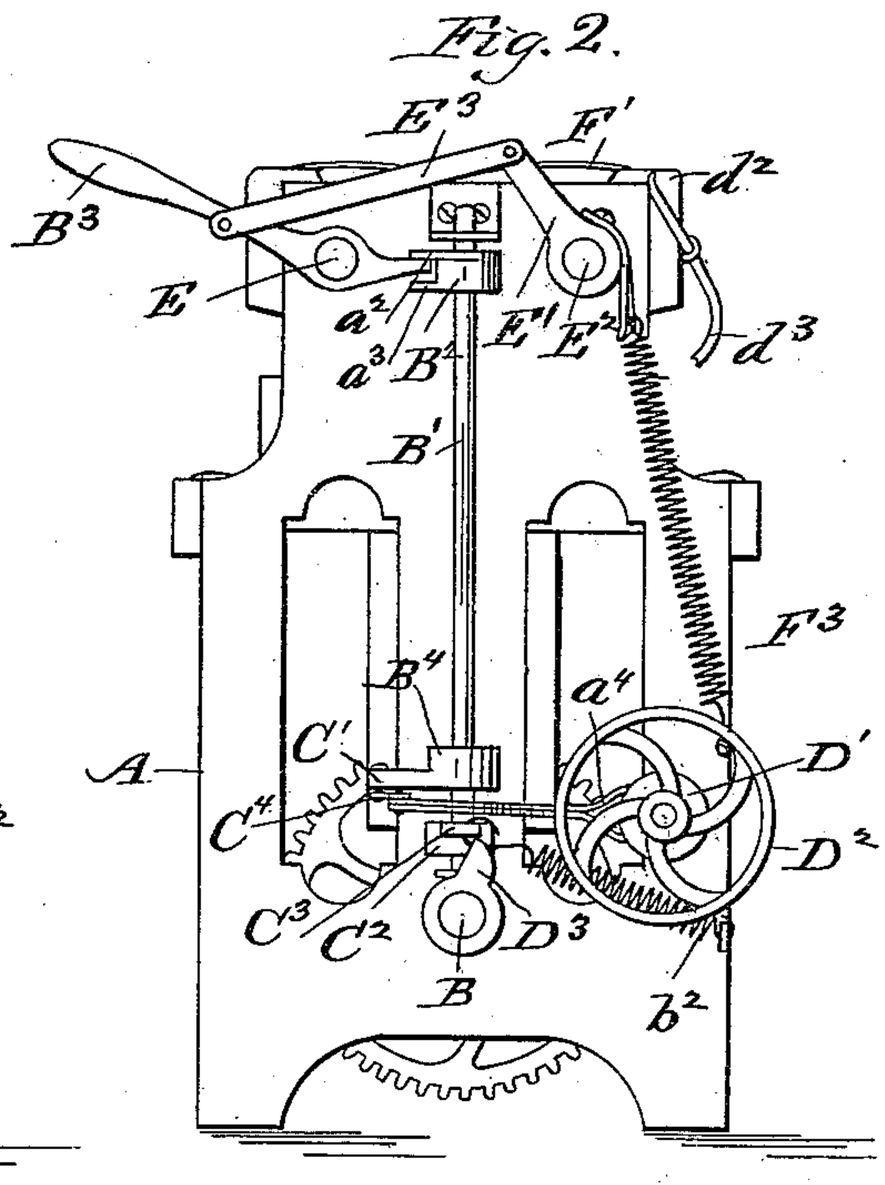


Fig. 3.

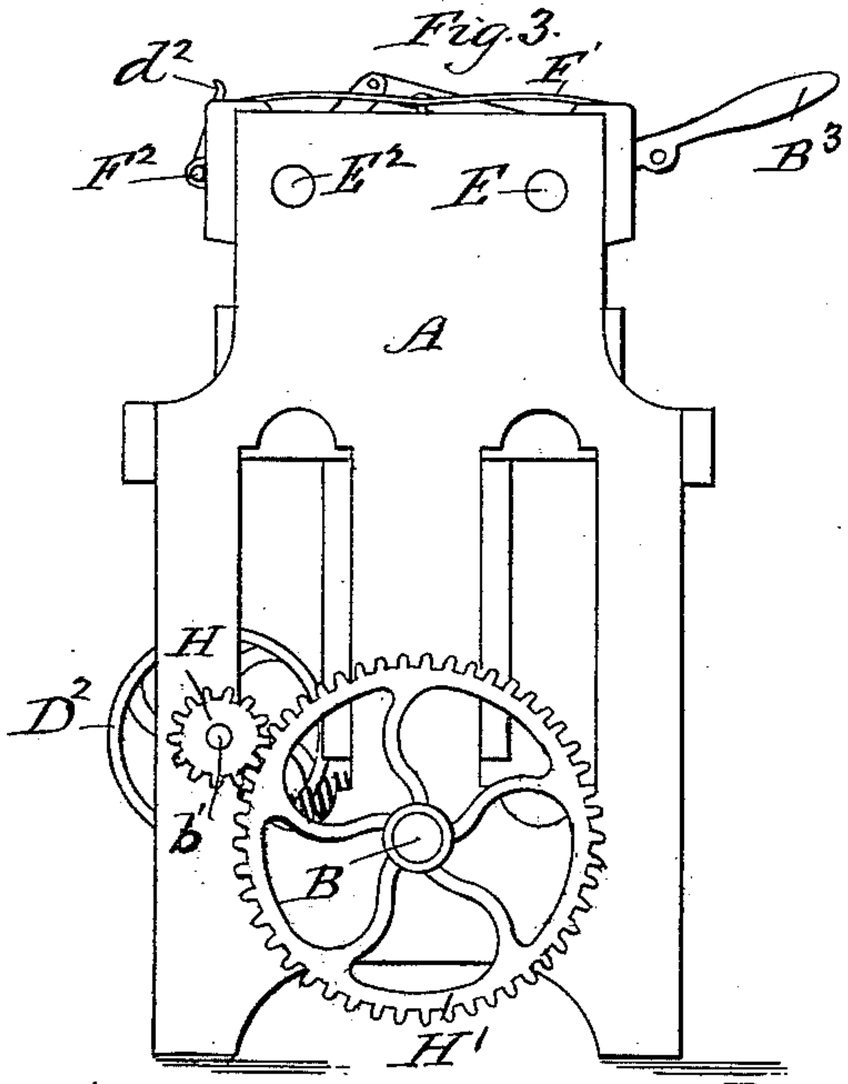
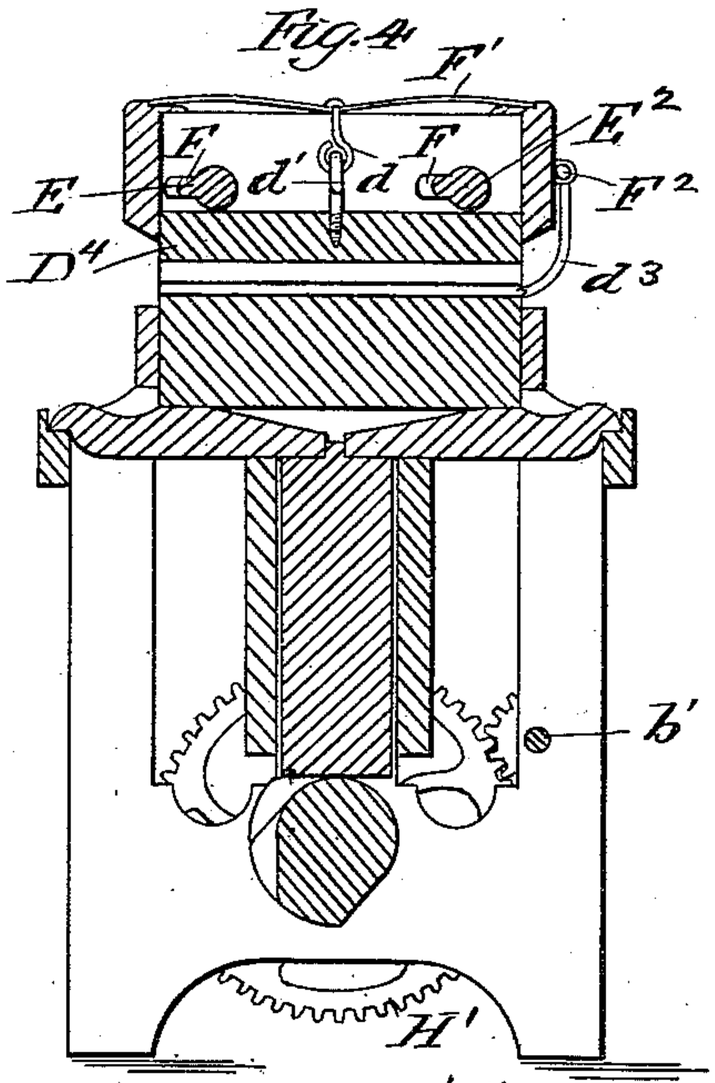


Fig. 4.



WITNESSES—

F. B. Townsend

L. F. Fisher

INVENTOR—

Samuel A. Gould

By L. B. Courland & Co

attys.

(No Model.) 2 Sheets—Sheet 2.

S. A. GOULD.

CRIMPING MACHINE.

No. 256,475. Patented Apr. 18, 1882.

Fig. 5.

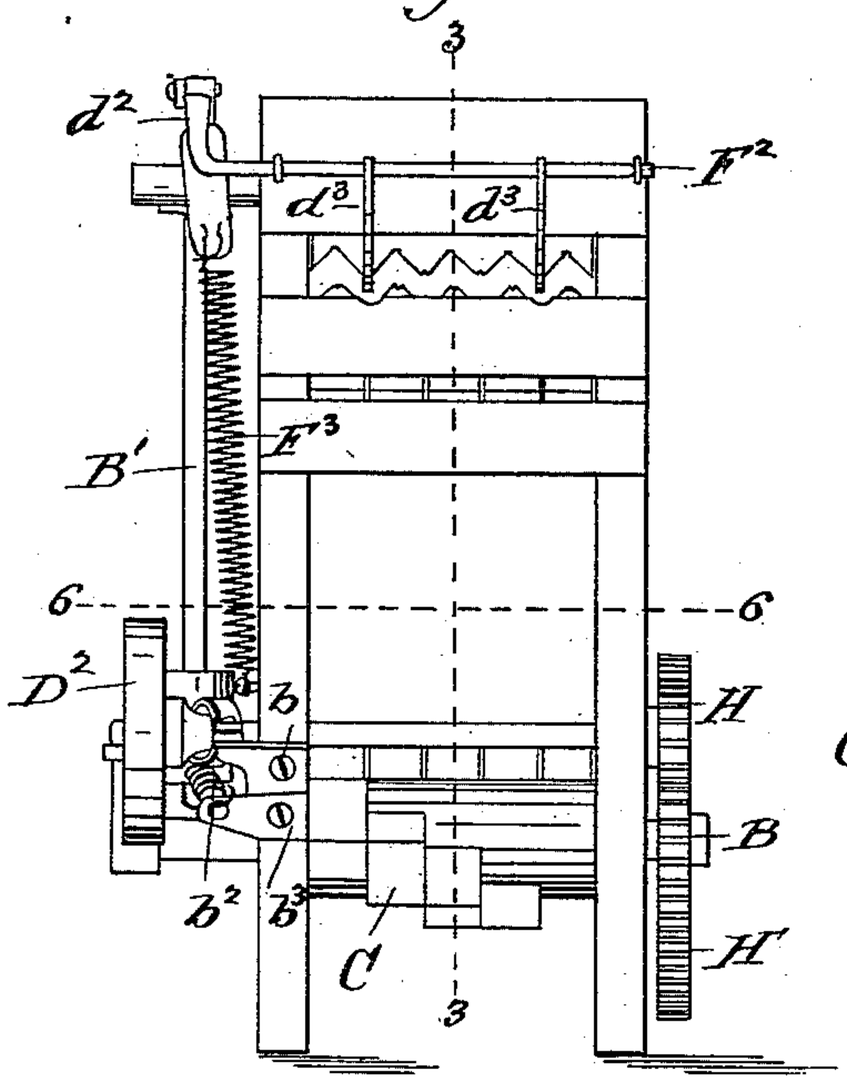


Fig. 6.

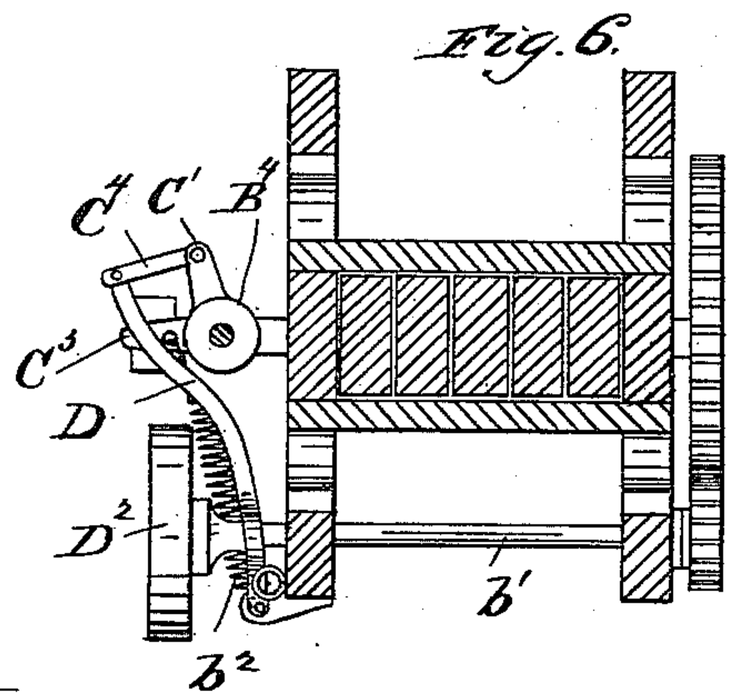


Fig. 7.

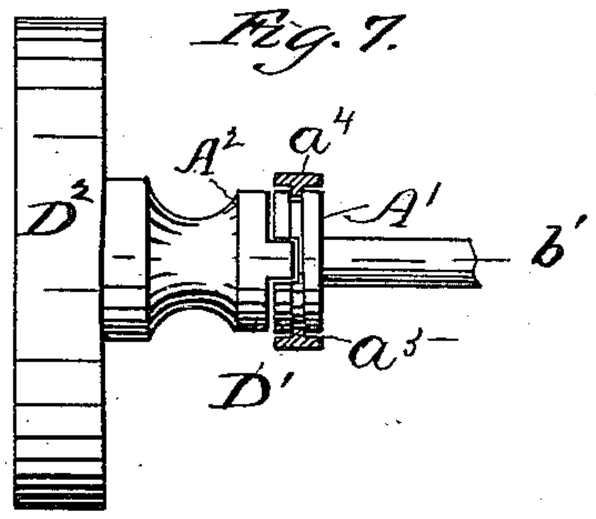
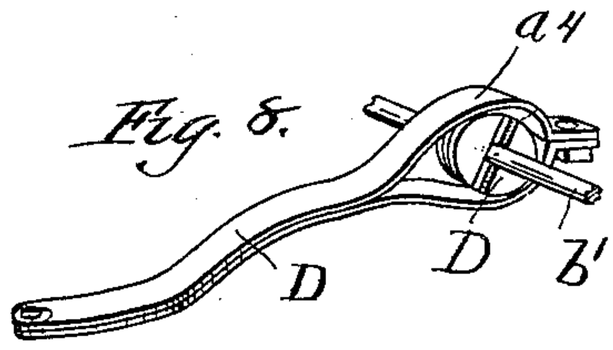


Fig. 8.



WITNESSES—

F. B. Townsend

L. L. Fisher

INVENTOR—

Samuel A. Gould.

By L. B. Courland & Co

attys.

UNITED STATES PATENT OFFICE.

SAMUEL A. GOULD, OF CHICAGO, ILLINOIS, ASSIGNOR TO HENRY B. POLSDORFER, OF EVANSVILLE, INDIANA.

CRIMPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 256,475, dated April 18, 1882.

Application filed January 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL A. GOULD, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Crimping-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, forming a part of this specification.

This invention relates to that class of crimping-machines that are employed in preparing metallic facings for wash-boards, and is an improvement on Letters Patent No. 237,515.

This improvement consists more especially of an attachment for throwing the machine proper in and out of gear, and at the same time forcing the prepared facing out from between the dies.

The general construction of the machine proper is the same as that in the patent above referred to, and the description in this case will therefore be confined to the improved attachment.

Figure 1 is an end elevation, showing the position of the mechanism composing the attachment when out of gear; Fig. 2, a view of the same when in gear; Fig. 3, a view of the opposite end of the machine; Fig. 4, a vertical transverse section in the plane 3 3, Fig. 5; Fig. 5, a view of the back side of the machine; Fig. 6, a horizontal section in the plane 6 6, Fig. 5; and Figs. 7 and 8, detached details of construction.

Referring to the drawings, A represents the supporting frame-work, and B the roller or shaft carrying the series of cams C. At that end of the machine illustrated in Figs. 1 and 2 of the drawings, and at the right hand of the operator, is located the vertical shaft B′, which has both a lateral and a vertical movement, and has bearings in the brackets *a a′*, attached to the frame-work A. On and near the upper end of the vertical shaft B′ is placed the collar B^2, provided with the jaws a^2 a^3. The upper jaw, a^2, is somewhat broader than the lower jaw, and as the lower or inner end of the operating-lever B^3 passes by the lower jaw it impinges against the under side of the upper jaw, a^2, when the mechanism is thrown into gear, as shown in Fig. 2 of the drawings.

The contact of the operating-lever B^3 produces a vertical movement of the shaft B′, and at the same time releases the lower end of this shaft, which then receives a slight lateral movement in an outward direction from the machine proper, bringing the lower jaw, a^3, immediately underneath the engaging end of the operating-lever B^3, thereby preventing these parts from becoming disengaged until properly released. The mechanism imparting the lateral movement to the shaft B′ will be explained further along.

At a point near the lower end of the vertical shaft B′ is placed the collar B^4, provided with the projecting arm C′. Below this point, and on the same shaft, is the collar C^2, provided with the projecting arm C^3. These collars are set on the shaft so as to bring the integral projections at about right angles to each other.

To the outer end of the projection C′ is pivoted one end of the short connecting-arm C^4, (more clearly shown in Fig. 6 of the drawings,) the other end being attached to the outer end of the bent shifting-lever D, the opposite end of this shifting-lever branching off into two parts, forming the yoke a^4, one branch passing over and the other underneath the clutch-box D′, as shown in Fig. 8 of the drawings, the two branch ends joining again, and are bolted to the bracket *b*, attached to the back side of the frame A, as shown in Fig. 5 of the drawings.

The clutch D′ is of the ordinary form of construction. The inner member, A′, is feathered onto the horizontal shaft *b′*, so as to permit of a slight longitudinal movement, while the other member, A^2, is rigidly attached to the band-pulley D^2, and revolves loosely with the same on the shaft when the mechanism is thrown out of engagement and the machine proper is at rest. That part of the clutch recessed for the reception of the counterpart is provided with an annular groove, into which fits the projecting bearings a^5, attached to the inside of the yoke a^4, as shown in Fig. 7 of the drawings. By this arrangement the clutch is

thrown in or out of engagement by a corresponding movement of the opposite end of the shifting-lever D.

On one end of the horizontal shaft B is the trip-cam D^3, which is brought in contact with the projection C^3 on the collar C^2 at each revolution, thereby throwing the mechanism out of gear. One end of the horizontal spring b^2 is connected to the projecting arm of the collar C^2, while the opposite end is attached to the bracket b^3, secured to the back part of the frame-work, as shown in Fig. 5 of the drawings.

The operating-lever B^3 is placed upon the cam-rod E, and has connection with the crank-arm E′, located on the cam-rod E^2, by means of the connecting-bar E^3. These cam-rods pass through the frame-work near the top and just immediately above the die-plate D^4. As the operating-lever B^3 is depressed to throw the machine into operation the cam-rods rotate far enough to bring the cam-projections F in contact with the upper side of the die-plate D^4, forcing the same down to its proper position to be operated against by the lower dies. When the mechanism is thrown out of gear the die or crown plate D^4 is returned to its normal position through the medium of the flat spring F′, the ends of which rest upon the top of the frame-work, and the middle having connection with the center of the die-plate by means of the hook d and the eyebolt d'.

At the back side of the machine, as shown in Fig. 5 of the drawings, is placed the rock-shaft F^2, one end of which is bent at right angles to form the upwardly-projecting arm d^2. Attached to this rock-shaft at a point equidistant from the ends are the two circular arms d^3, which take a downward course and have V-shaped notches in the ends. These arms pass in between the upper and lower dies or formers at each revolution of the machine and force out the corrugated sheet of metal, so that it may be conveniently removed. This operation is automatically performed by means of the crank-arm E′ striking the upper end of the arm d^2 as the mechanism is thrown out of gear, rotating the rock-shaft, and throwing the arms d^3 between the dies. The end of the rock-shaft bent upward to form the arm d^2 will be so weighted as to return the rock-shaft to its normal position by force of gravity when released from contact with the crank-arm E′. Force is given to the blow of the crank-arm E′ and the mechanism assisted to return to a normal position by the vertical spiral spring F^3, one end of which is connected to the crank-arm E′ and the other end to the frame-work A.

Motion is imparted to the roller or shaft B by means of the pinion H, located on the opposite end of the shaft b' from the clutch-box D′, which engages with the gear-wheel H, located on the shaft B.

The operation is as follows: Fig. 1 of the drawings shows the mechanism out of gear. It will be noticed that the forward or straight side of the tripping-cam D^3 rests against the projection C^3, forming an integral part of the collar C^2. Now, by grasping the operating-lever B^3 and bringing it to the position shown in Fig. 2 of the drawings the inner end of the lever comes in contact with the under side of the jaw a^2, which has the effect of raising the shaft B′ just high enough to allow the cam D^3 to pass under the projecting arm C^3; at the same time the horizontal spring b^2 imparts a slight lateral outward movement to the vertical shaft B′, which brings the jaw a^3 under the inner end of the operating-lever. The same movement throws outward the end of the lever D by means of the arm C^4, connecting the end of said lever and the projection C′, which has the effect of throwing the clutch into gear by means of the yoke end of the lever D. When the shaft or roller B completes a revolution the tripping-cam D^3 strikes against the projection C^3, imparting a lateral inward movement to the shaft B′, throwing the clutch out of engagement, and releases the inner end of the operating-lever from between the jaws a^2 and a^3.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a crimping-machine, the combination, with the operating-lever B^3, of the collar B^2, provided with the jaws a^2 a^3, and the vertical shaft B′, adapted to have both a lateral and a vertical movement, substantially as and for the purpose set forth.

2. In a crimping-machine, the combination, with the vertical shaft B′, of the collar B^4, having the integral projection C′, the connecting-arm C^4, the shifting-lever D, provided with the yoke end a^4, and the clutch D′, substantially as described.

3. In a crimping-machine, the combination, with the operating-lever B^3, of the collar B^2, having the jaws a^2 a^3, the vertical shaft B′, the collar B^4, having the integral projection C′, the connecting-arm C^4, the shifting-lever D, provided with the yoke a^4, and the clutch D′, all constructed and arranged to operate as described.

4. In a crimping-machine, the combination, with the vertical shaft B′, of the collar C^2, having the integral projection C^3, the spring b^2, the tripping-cam D^3, and the shaft or roller B, carrying the series of cams C, substantially as described.

5. In a crimping-machine, the combination, with the operating-lever B^3, of the collar B^2 of the vertical shaft B′, the collar C^2, having the integral part C^3, the spring b^2, the tripping-cam D^3, and the shaft or roller B, substantially as and for the purpose set forth.

6. In a crimping-machine, the combination, with the shaft or roller B, carrying the series of cams C, of the gear-wheel H′, the pinion H, the horizontal shaft b', the clutch D′, and the shifting-lever D, substantially as described.

7. In a crimping-machine, the combination, with the operating-lever B^3, of the connect-

ing-bar E^3, the crank-arm E′, the spiral spring F^3, and the arm d^2 of the rock-shaft F^2, substantially as and for the purpose set forth.

8. In a crimping-machine, the combination, with the die-plate D^4, of the cam-rods E E^2, the crank-arm E′, the connecting-bar E^3, and the operating-lever B^3, substantially as and for the purpose described.

9. In a crimping-machine, the combination, with the die-plate D^4, of the eyebolt d', the hook d, and the spring F′, as described.

10. The combination, with a crimping-machine, of the rock-shaft F^2, having one end turned upward at right angles to form the arm d^2, and carrying the downward-projecting arms d^3, substantially as and for the purpose described.

SAMUEL A. GOULD.

Witnesses:
L. M. FREEMAN,
A. DUNNING.