

(No Model.)

C. WAGENFÖHR.
BUTTON DIE.

No. 475,476.

Patented May 24, 1892.

Fig. 1.

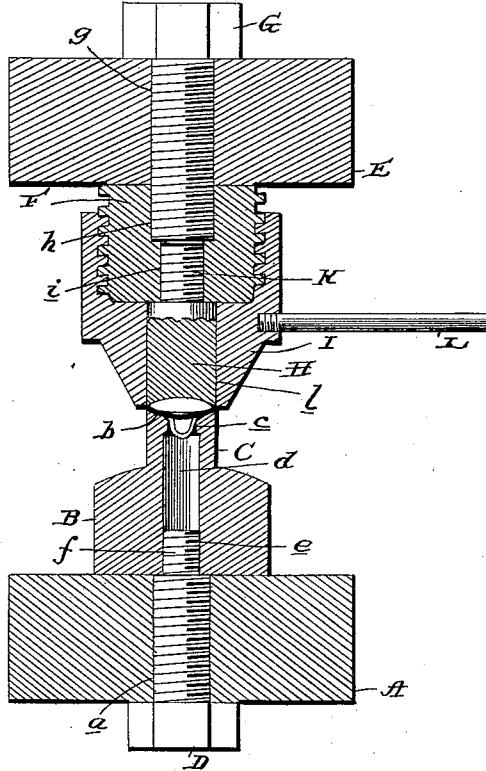


Fig. 2.

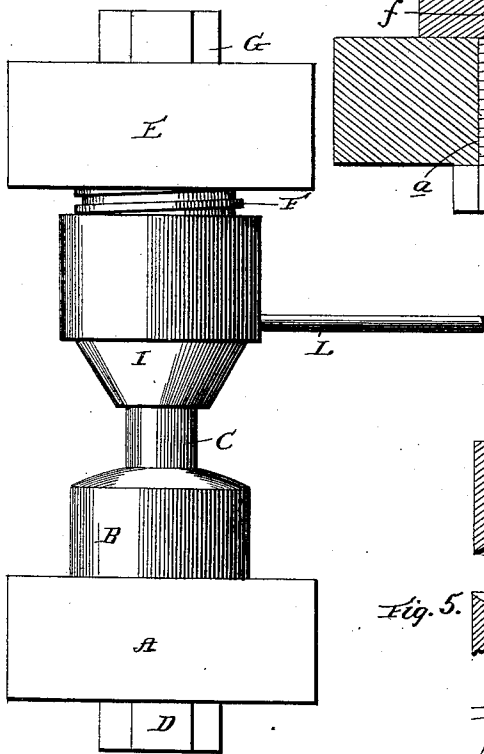


Fig. 4.

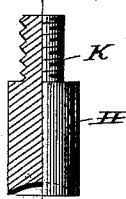


Fig. 3.

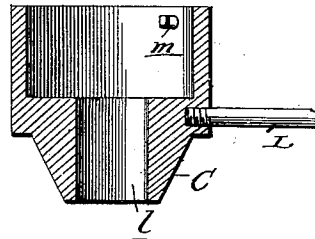


Fig. 5.

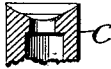


Fig. 6.



Witnesses:

H. J. Speeder
H. J. Robinson,

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UNITED STATES PATENT OFFICE.

CHARLES WAGENFÖHR, OF BROOKLYN, NEW YORK.

BUTTON-DIE.

SPECIFICATION forming part of Letters Patent No. 475,476, dated May 24, 1892.

Application filed December 2, 1891. Serial No. 413,811. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WAGENFÖHR, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Button-Dies; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a machine for making buttons; and it has for its prime object the provision of a sleeve or cutter having a spiral movement for cutting off the overflow after a button has been shaped or formed.

A further object of the invention is to accomplish by such movement of the sleeve or collar a ready release or dropping of the button from the upper die.

Other objects and advantages will appear from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is a vertical central sectional view of a pair of dies with my improved spirally-movable sleeve or cutter in position to be operated in connection with any suitable press. Fig. 2 is a side view of the same. Fig. 3 is a vertical diametrical sectional view of the sleeve or cutter, illustrating a modification. Fig. 4 is a view of the upper die, partly in section. Fig. 5 is a detail sectional view of the lower die; and Fig. 6 is a perspective view of one end of the upper die, illustrating a design which may be used when it is desirable to ornament or embellish the face of the buttons.

Before describing the details of construction which I have illustrated I wish to state that although I have here shown a pair of dies and other parts of a machine of a character which I prefer to employ, yet I do not wish to be understood as confining myself to the particular construction of devices which I have here shown and shall presently describe, as I am aware that various modifications might be made in the parts and the dies may be used in a press of any ordinary or approved construction; but I attach great importance to the employment of a spirally-movable cutting collar or sleeve, or a sleeve or collar from which a spiral cutting move-

ment—such as that received from rotary shears—might be obtained.

Referring by letter to said drawings, A indicates the bed plate or block, which is provided with a central vertical screw-tapped aperture *a*, and above this aperture is mounted the lower-die holder B, carrying the lower die C, which is provided with a concave face *b* and a slot *c* to receive the shank of a button. This lower-die holder, which is provided with a vertical aperture *d*, is also screw-tapped, as shown at *e*, to receive the upper reduced and threaded end *f* of a bolt D, whereby said die and its holder may be secured to the bed of the press.

E indicates the head of the press, which is here shown as of a block of metal having a vertical screw-tapped aperture *g*.

F indicates the upper-die holder or body. This body, which is of circular form in outline or cross-section, is provided with a screw-tapped aperture *h* and a further screw-tapped aperture *i* of a less diameter. The first screw-tapped aperture *h* is designed to receive the lower end of a threaded and headed bolt G, which is designed to connect said die holder or body with the head-block E, while the lower threaded aperture *i* is designed to receive the externally-threaded shank *k* of the upper die H. This body or holder F is also provided externally with a spiral groove or grooves, as shown, and while I do not wish to confine myself to any particular form of groove, yet I prefer a square-cut groove or one in which the walls are rectangular, such as illustrated in Fig. 1 of the drawings.

I indicates the cutting collar or sleeve. This collar is provided vertically for a sufficient portion of its length with a planed and smooth bore *l* for the reception of the upper die, and above said bore the collar is provided internally with spiral grooves or projections to enter the grooves in the body F, and vice versa, so that when an oscillating or rotary motion is imparted to the collar by the hand or otherwise said collar will ride down over the body F, and consequently the cutting-edges of the dies, in a spiral manner, and when the motion of the collar has been reversed said collar will rise in a reversed manner. By the first movement a rotary shear-cut will be given to the material—such as rubber, melted glass, or the like fed between the dies in the usual man-

ner—from which the button has been formed, so as to effectively cut off the overflow, while the second or reverse movement of the collar after the dies have been separated will cause the button after it has been formed to drop from the concavity of the upper die.

L indicates a lever secured to the spirally-movable collar, whereby the same may be manipulated by hand or otherwise.

10 As one modification of my improvement I may, instead of having a spiral groove or projection on the body provide the same with a stud or lug *m* to enter the spiral groove in the sleeve F, or vice versa, and it is obvious that
15 this spiral movement of the collar may be obtained by various other means without departing from the spirit of my invention.

By reference to Fig. 6 of the drawings it will be seen that I have engraved a design
20 upon the operating-face of the upper die, as such is desirable when the face of the buttons are to be embellished or ornamented.

Having described my invention, what I claim is—

25 1. In a machine for making buttons, the combination, with an upper and a lower die, of a spirally-movable sleeve surrounding one of the dies and adapted to move back and forth

or up and down over the meeting edges of both dies, substantially as specified. 30

2. In a machine for making buttons, the combination, with the upper die and a lower die, of a body or holder having an externally-spiral groove or projection and a sleeve or collar for said upper die engaging said groove
35 or projection, so as to receive a spiral motion, substantially as specified.

3. The combination, with a lower die, of the upper die having the threaded shank, the body or holder having an internally-threaded
40 aperture to receive said shank and an external spiral groove or projection, and the sleeve or collar having an internally-planed aperture to receive the die and an internally-spiral groove or projection to engage and co-operate
45 with a corresponding surface on the holder or body, so as to impart a spiral motion to said sleeve when turned on the die, substantially as specified.

In testimony whereof I affix my signature in
50 presence of two witnesses.

CHARLES WAGENFÖHR.

Witnesses:

WM. KOTHE,
PHILIP HORNING.