

(No Model.)

E. H. TAYLOR.

MACHINE FOR ATTACHING BUTTONS.

No. 385,734.

Patented July 10, 1888.

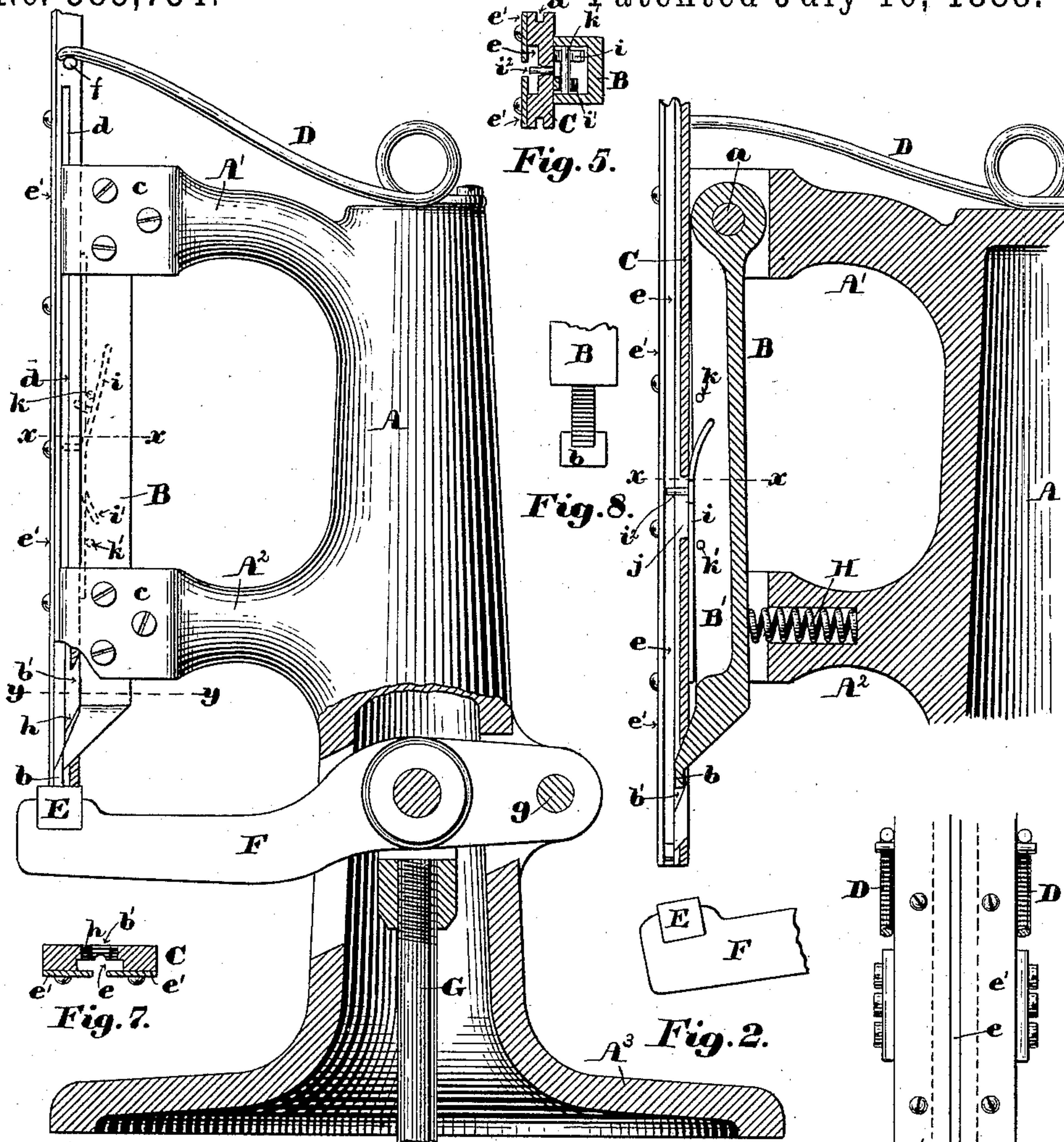


Fig. 1.

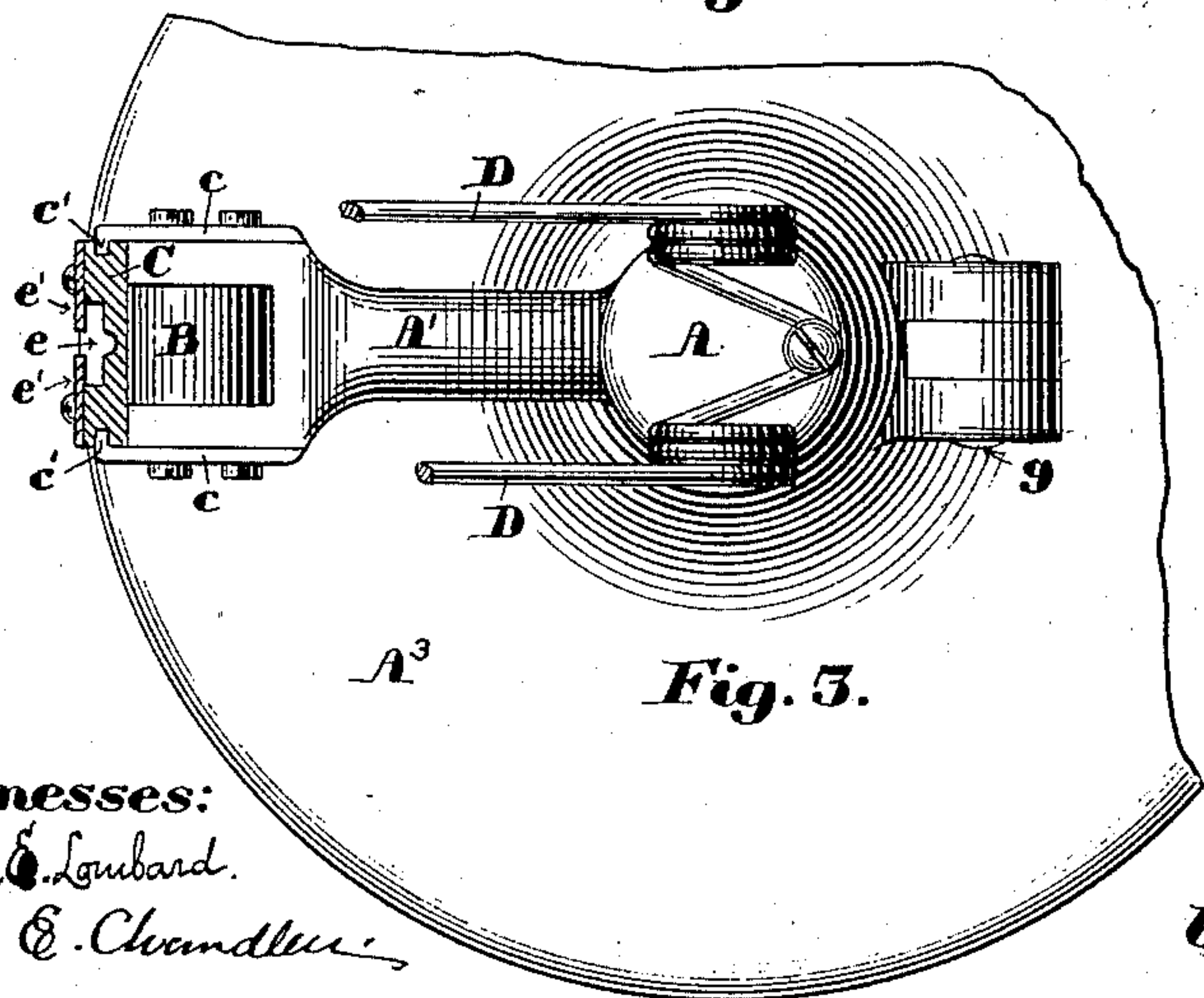


Fig. 5.

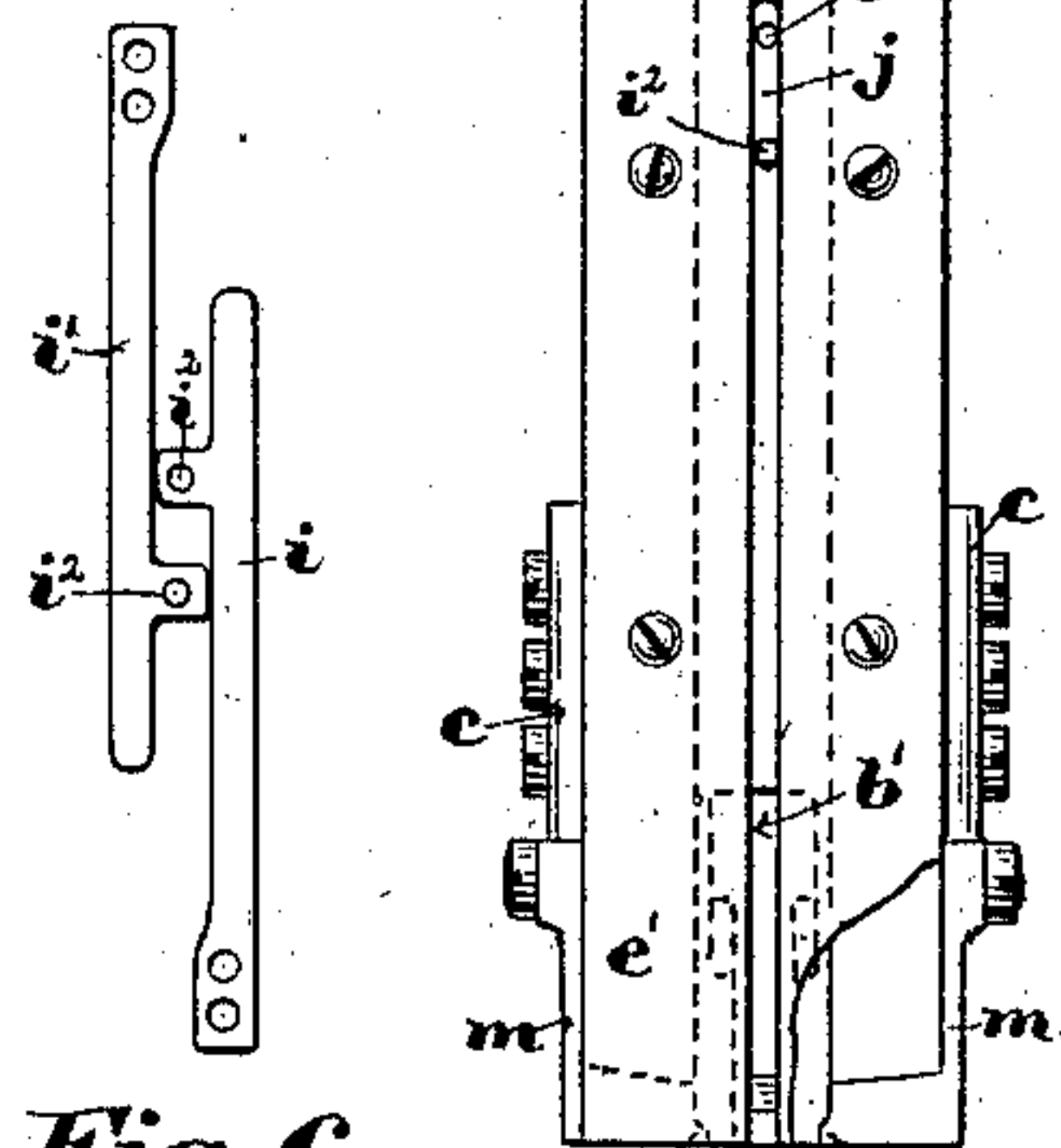


Fig. 6.

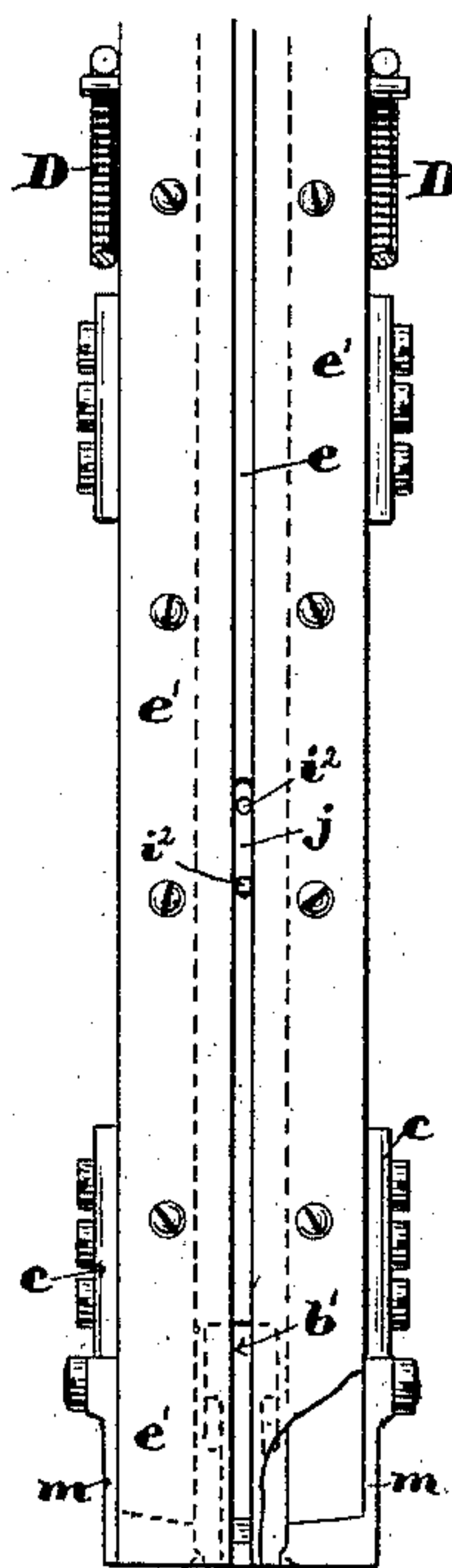


Fig. 4.

Witnesses:

Walter E. Lombard.

Ernest E. Chandler.

Inventor:

Eugene H. Taylor,

by *N. C. Lombard,*
Attorney.

UNITED STATES PATENT OFFICE.

EUGENE H. TAYLOR, OF LYNN, ASSIGNOR TO THE AMERICAN SHOE TIP COMPANY, OF BOSTON, MASSACHUSETTS.

MACHINE FOR ATTACHING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 385,734, dated July 10, 1888.

Application filed October 26, 1887. Serial No. 253,439. (No model.)

To all whom it may concern:

Be it known that I, EUGENE H. TAYLOR, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Attaching Buttons, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to machines for attaching buttons to leather, cloth, or other flexible material, and to that particular class of such machines in which the button-fastening staples, with the buttons attached, are automatically fed along a raceway in a row or continuous line, and the lower staple is separated from said row or line and driven into and clinched to the material; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings, and to the claims to be hereinafter given, and in which my invention will be particularly pointed out.

Figure 1 of the drawings is a sectional side elevation of a machine illustrating my invention, with the anvil in position for setting the staple. Fig. 2 is a central vertical section of a portion of the upper part of the machine, taken in the same plane as the section of the lower part of Fig. 1, with the parts in position for feeding the staple to the position for being set. Fig. 3 is a plan with a portion of the base-flange and raceway broken away. Fig. 4 is a partial front elevation of the raceway, with a portion of one front plate broken away to show the staple-arresting spring-stop. Fig. 5 is transverse section through the raceway and driver-stock on line *xx* on Figs. 1 and 2. Fig. 6 is a rear elevation of the button-separating spring-stops. Fig. 7 is a horizontal section of the raceway on line *yy* on Fig. 1, and Fig. 8 is a rear elevation of a portion of lower end of the driver-stock and its driver.

In the drawings, A is the frame of the head of the machine, provided with the laterally-projecting arms A' and A² and base-flange A³, by which it may be secured upon a supporting column or bench (not shown) in any well-known manner. The arms A' and A² are

forked at their front or outer ends to receive the driver-stock B, pivoted to the arm A' at *a* in such a manner that its lower end may be moved laterally to move the driver end *b* into and out of the path of the button fastening staples.

To each side of each of the arms A' and A² is secured a plate, *c*, provided at its front end with the inwardly-projecting lip *c'*, said lips forming guiding bearings upon which the raceway-bar C may be moved vertically. The bar C has formed in each edge thereof a longitudinal groove, *d*, to fit the lips *c'*, and in the center of its front face with a rectangular groove, *e*, of a width and depth corresponding substantially to the width and thickness of the button-fastening staple, and has secured to its front face the two thin metal plates *e'*, the inner edges of which project over and cover a portion of said groove *e*, but leaving a space between said inner edges sufficient for the free passage of the eye of the button, all as shown in Figs. 4 and 5.

The raceway-bar C has its lower end slotted through its back to permit the passage through said back of the angularly-projecting setting tool or driver *b*, as shown at *b'*, Figs. 1, 2, and 4, and so mounted upon the guiding-lips that it may be moved vertically against the tension of the springs D D, which bear upon the laterally-projecting pins *f f*, set in said bar, and tend to hold said bar C in the depressed position indicated in Fig. 2, its downward movement being limited by the upper ends of the grooves *d* coming in contact with the upper ends of the lips *c'* upon the upper plates, *c*, or by any other suitable stop.

E is the anvil, firmly secured to the free end of the lever F, pivoted at *g* to the frame A, and having pivoted thereto the rod G, the lower end of which is pivoted to a treadle (not shown) so arranged that by the operator placing his foot upon said treadle and pressing the same downward the anvil E will be moved upward into contact with the raceway-bar C and move said bar upward into the position indicated in Fig. 1.

The upper end of the slot *b'* is cut oblique to the raceway-groove to act upon the upper surface of the obliquely-projecting driver *b*, to

move said driver backward out of the raceway-groove when said bar C is moved downward, and said slot *b'* is provided upon each side with the oblique shoulder *h*, which acts
 5 upon the lower end of the driver to move the same toward the front and into line with the raceway-groove *e* when the bar C is moved upward by the upward movement of the anvil E.

10 To the back side of the raceway-bar C are secured the two springs *i* and *i'*, shaped and arranged as shown in full lines in Fig. 6 and in dotted lines in Fig. 1, each of said springs being provided with a pin, *i*², which projects
 15 through a slot, *j*, in the bar C, extending forward to near the front side of the groove *e* when said spring is in its normal position, as indicated in Fig. 2.

The driver stock B has formed in its front
 20 side a rectangular chamber or recess, B', which extends nearly its whole length, and into which said springs *i* and *i'* project, as shown in Figs. 2 and 5.

Two pins, *k* and *k'*, are set in said driver-stock so as to extend across the chamber or
 25 recess B' in such positions that the curved upper end of the spring *i* will strike the pin *k* when the bar C is moved upward, and thus retract the pin *i*² of said spring *i*, thereby releasing the column of buttons and staples resting thereon and allow said buttons and staples
 30 to descend a distance equal to the diameter of a button, when they will be arrested by the pin *i*² of the spring *i'*; and when the bar C is again moved downward the spring *i* will assume its normal position, and its pin will be
 35 projected between the eyes of the lower button and the one next above it, and the curved lower end of the spring *i'* will come in contact with the pin *k'* and be moved toward the rear,
 40 thus withdrawing its pin *i*² from beneath the eye of the lower button of the column of buttons, when said button and its attached staple will descend the groove *e* until the lower ends
 45 of the staple come in contact with the inclined shoulders *l* on the spring or yielding stops *m*. (Shown in Fig. 4.)

II is a spring fitted to a socket formed for the purpose in the arm A², the tension of which serves to press the lower end of the driver-
 50 stock toward the raceway-bar C.

The operation of my invention will be readily understood by reference to the foregoing without further description here.

What I claim as new, and desire to secure by
 55 Letters Patent of the United States, is—

1. In a machine for attaching buttons, the combination herein described of a movable anvil, a vertically-movable raceway-bar having a slot cut through its back near its lower
 60 end, and a pivoted driver-stock provided with a driver projecting obliquely therefrom and constructed and arranged to be vibrated about its pivot by the reciprocations of said raceway, whereby said driver is projected into and
 65 retracted from the path of descent of the button-fastener staples.

2. The combination herein described of a vertically-movable raceway, a pair of button-separating spring-stops secured to and movable
 70 with said raceway, a pivoted driver and stock provided with pins constructed and arranged to alternately operate said spring-stops, and an anvil mounted upon the free end of a pivoted lever constructed and arranged to be vibrated
 75 to force the work upon the button-fastener and clinch said fastener by moving the raceway upward.

3. The combination of the movable anvil E, the vertically-movable raceway C, the pivoted
 80 and laterally-movable driver B *b*, provided with the pins *k* and *k'*, and the spring-stops *i* *i*², *i'* *i*², and *m* *m*, all constructed and adapted to operate substantially as and for the purpose described.
 85

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 19th day of October,
 A. D. 1887.

EUGENE H. TAYLOR.

Witnesses:

N. C. LOMBARD,
 GEO. E. GOODING.