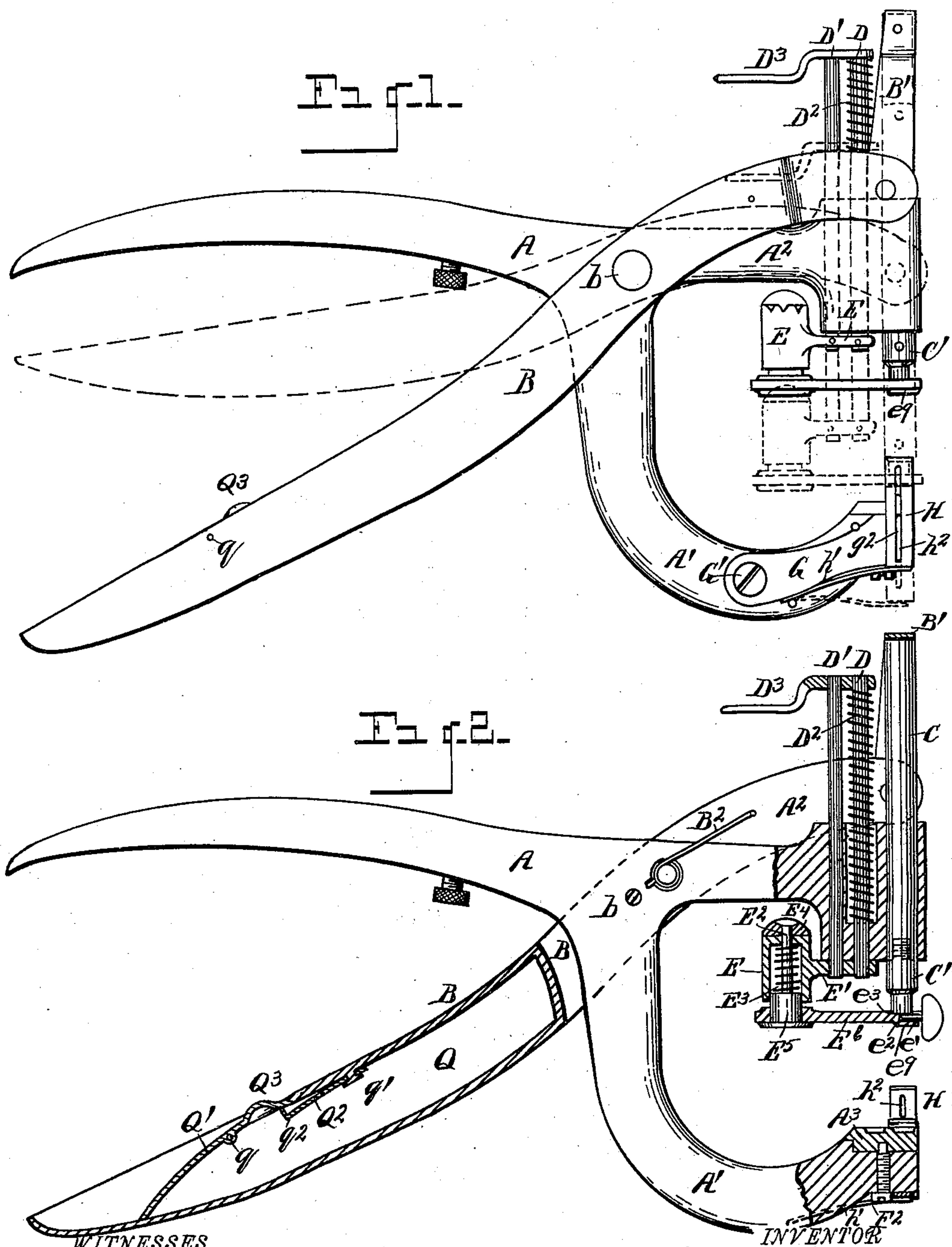


2 Sheets—Sheet 1.

No. 599,007.

Patented Feb. 15, 1898.



WITNESSES

O. B. Barnzgro
John F. Miller

Franklin S. McKenny.

By his Attorney

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(No Model.)

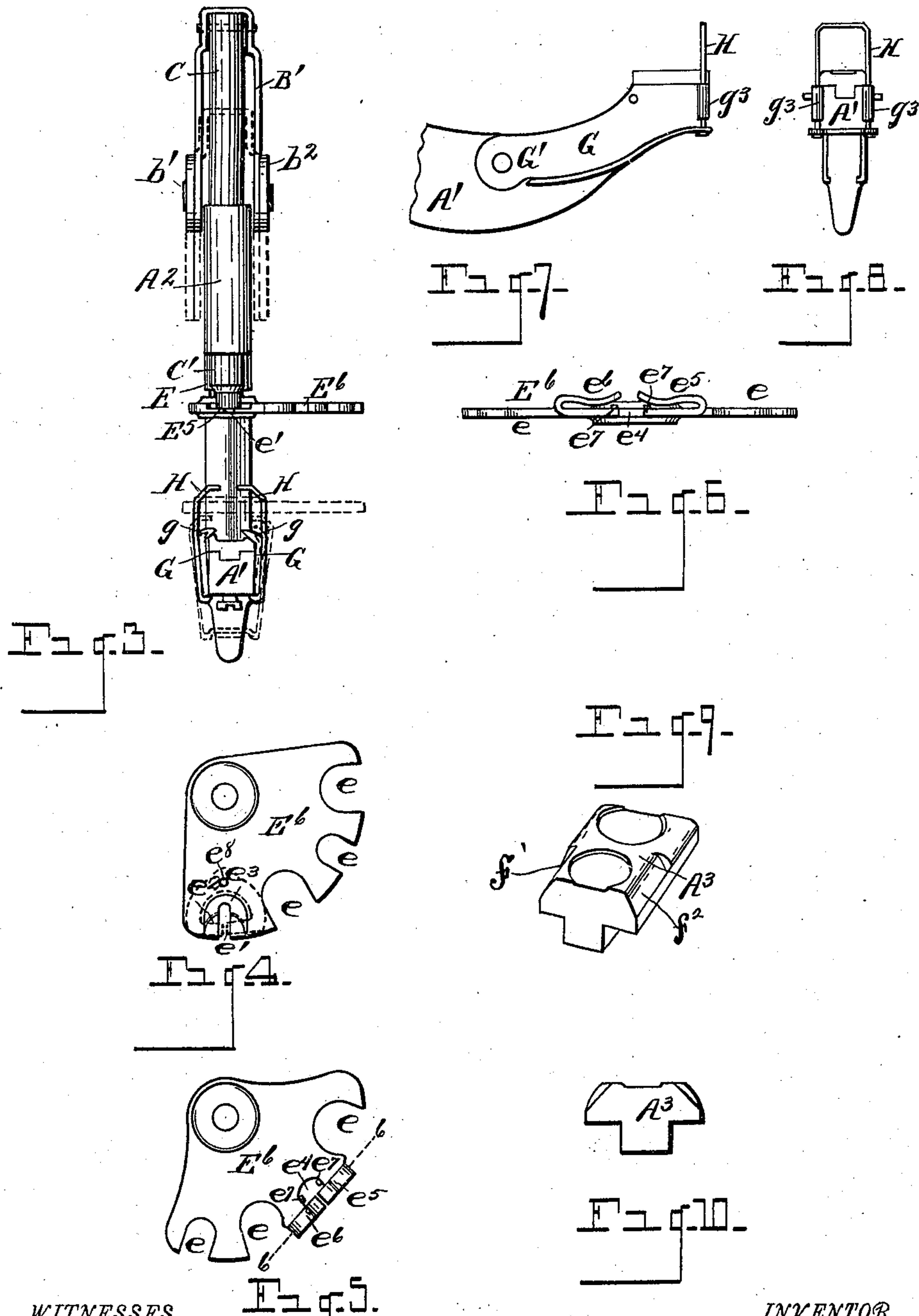
2 Sheets—Sheet 2.

F. S. MCKENNEY.

HAND BUTTON ATTACHING IMPLEMENT.

No. 599,007.

Patented Feb. 15, 1898.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANKLIN S. McKENNEY, OF DETROIT, MICHIGAN, ASSIGNOR TO THE
McKENNEY BUTTON FASTENING COMPANY, OF SAME PLACE.

HAND BUTTON-ATTACHING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 599,007, dated February 15, 1898.

Application filed July 1, 1896. Serial No. 597,696. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN S. McKENNEY, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Universal Hand Button-Attaching Implements; and I 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object a universal hand button-attaching implement of superior efficiency and utility; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation showing the jaws of the implement in full lines in inoperative or open position and in dotted lines in closed or operative position. Fig. 2 is a view partly in side elevation and partly in vertical section. Fig. 3 is a front end view of the implement. Fig. 4 is a detail view of a button-holder. Fig. 5 is a detail view showing a modification in the construction of the button-holder. Fig. 6 is a sectional view on the line 6 6, Fig. 5. Fig. 7 is a detail view showing a modification in the construction of the guard. Fig. 8 is a front view illustrating the same. Fig. 9 is a detail view of the seat for holding the fastening. Fig. 10 is an end view of said seat.

The aim of my present invention is to provide a button-attaching implement adapted for setting a pronged fastening in engagement therewith to set a button upon various articles of manufacture, as upon shoes and various articles of apparel, the same being adapted for setting buttons of different kinds and of different sizes in a most effectual and satisfactory manner.

I carry out my invention as follows:

In the drawings, A and B represent two jaws, each provided with an operating-handle and fulcrumed the one upon the other, as indicated at *b*. The jaw A is constructed with two arms A' A², the two arms together being,

essentially, of G-shaped structure. The jaw B is bifurcated at its forward end to embrace the jaw A, the bifurcated portions being indicated at *b'* and *b*². Through the arm A² is sleeved a die-spindle C, made reciprocatory therein, the spindle carrying, preferably, a removable die C'.

D and D' are two spindles sleeved through the forward end of the arm A² and made reciprocatory therethrough, said spindles carrying at their lower ends a button-holding device. Said spindles are made self-retracting in any suitable manner, as by means of a spring D² upon one of said spindles. D³ is an operating thumb-piece surmounting said spindles D D' for depressing the button-holding device independently of the movement of the die-spindle.

B' is a yoke connecting the bifurcated ends of the jaw B with the upper end of the die-spindle, whereby said die-spindle is reciprocated by the movement of said jaw.

The button-holding device carried by the spindles D D' consists, essentially, as shown, of a hollow hub E, provided with an attaching-arm E', by which the hub is connected to the said spindles in any suitable manner. Through said hub passes a pin E², provided with a tension-spring E³ within said hub, the upper end of said pin engaging a cap E⁴, seating on the hub, and the lower end of said pin engaging a thimble E⁵, supporting a button-holding plate E⁶. The cap E⁴ and the adjacent end of the hub have a toothed or ratcheted engagement the one with the other, so that said cap may readily be lifted out of engagement with the hub and held thereupon in any given position of adjustment. It will be observed that the pin E² with the cap E⁴ and the thimble E⁵ have a limited vertical movement in connection with the hub. By pressing upward upon the said thimble or plate the cap E⁴ is disengaged from the hub, being lifted out of engagement therewith, permitting the button-holding plate being adjusted laterally in any desired position, when, by releasing the said thimble or plate, the spring E³ will force the cap down into engagement with the hub to secure the button-holding plate in any given position of adjustment. This plate is shown constructed with a series

of recesses e , of different sizes, for holding buttons of various sizes where the buttons are provided with holes therethrough or an attaching-bar.

5 In the form of the button-holding plate shown in Figs. 2, 3, and 4 said plate is further provided with a contracted recess e' for holding the shank or eye of a button—as, for example, the eye of a shoe-button. The edge
10 of this recess e' is countersunk to receive and support the eye and is formed with a stop, as at e^2 , to limit the entrance of the eye of the button and to center it under the die. The edge of the plate about said recess is also
15 countersunk to the rear of the stop, as indicated at e^3 , to allow the die to be forced down upon the eye of the button, the stop e^2 being of the same height as the eye of the button when in place on the button-holding plate.
20 The countersunk portion forward of said stop is made of a width to form a frictional contact with the eye of the button to hold the button in place.

In the form of button-holding plate shown
25 in Figs. 5 and 6 a recess e^4 is provided, the plate adjacent thereto and on each side thereof being provided with spring clamping-arms e^5 and e^6 , said clamping-arms clamping down upon the eye of the button. At the edges of
30 said recess e^4 are points e^7 , turned upward to form stops to center the eye of the button.

It will be apparent that when a button is in place upon the button-holding plate the downward pressure of the die will simultaneously force downward the button-holding
35 plate, while said button-holder may also be depressed independently of the movement of the die, as above described.

B^2 is a retracting-spring to open the jaws.

40 The lower arm A' of the jaw A carries a seat A^3 for a pronged fastener. This seat is preferably removable and may be connected with the arm A' in any suitable manner, as by means of a set-screw F^2 . As indicated in
45 Fig. 9, moreover, the seat is made with multiple countersunk portions f of different diameters to hold fastenings of different sizes. By simply releasing the device A^3 it may be turned end to end, as may be required. The
50 edges of this seat are beveled on the sides of said recesses, as indicated in Fig. 9 at $f' f^2$.

G G indicate spring clamping-arms constructed with beveled flanges g at their upper ends to reach over the seat A^3 to hold the
55 head of the fastening in place upon the seat. These clamping-arms are rearwardly extended and engaged with the arm A' at their rear ends, as by screws G' .

60 H H are spring guard-arms, the upper edges of which are turned inward, said arms serving to protect the prongs of the fastening and preventing their engaging a fabric in the engagement of the implement in place to set the button upon the fabric. These
65 clamping-arms and guard-arms have a lateral movement away from the seat of the fastening, while the guard-arms are also vertically

movable, as indicated in full and in dotted lines, Fig. 3.

In the form shown in Figs. 1, 2, and 3 the
70 guard-arms are made of flat pieces of metal constructed with elongated recesses, (indicated at h^2), the clamping-arms G G being provided with guide-shoulders g^2 , entering said elongated recesses, and upon which shoulders
75 said guard-arms reciprocate. Said guard-arms may be connected at their lower ends, as indicated in Fig. 3, a spring h' being provided to retract said arms and force them
80 into normal or lifted position.

In Figs. 7 and 8 the guard-arms are shown formed of wire bent into the form of a loop, the forward ends of the clamping-jaws being provided with orifices, as indicated at g^3 , to receive the lower extremities of the loop and
85 permit its reciprocation.

It will be evident that when the die is pressed toward the seat of the fastening to set the prongs of the fastening upon the button the button-holding plate coming into contact
90 with the upper edges of the guard-arms will force said arms downward toward the seat of the fastening. The same movement of the button-holding plate coming into contact with the clamping-arms will also spread the arms
95 apart upon the adjacent beveled edges of the seat of the fastening, this movement of the guard-arms and the clamping-arms allowing the die to set the prongs of the fastening and effecting the release of the fastener from the
100 seat when the setting has been accomplished. The beveled portions of the seat are made deeper opposite the recess f of narrowest diameter, so that the clamping-arms will clamp over the head of the fastener.
105

As above observed, by simply changing the position of the button-holder and by changing the seat of the fastening, as well as by means of the interchangeable die, fastenings of different
110 sizes may readily be set upon different kinds and sizes of buttons, all by the same implement.

To carry different sizes of dies and fastening-seats and any other desired implements, one of the handles of one of the jaws is constructed with a closed chamber (indicated in
115 Fig. 2 at Q) permanently closed at one end, as at its forward end, as by one of the fixed walls of the handle, the chamber being provided with a swingingspring-actuated gate Q' , which
120 may be fulcrumed intermediate its ends, as shown at q , a spring Q^2 being engaged to the wall of the chamber Q , as indicated at q' , said spring engaging the adjacent end of the gate, as indicated at q^2 , to automatically close the
125 gate and hold it in closed position. The gate is preferably constructed with a raised boss Q^3 . By pressing upon said boss it is evident that the opposite extremity of the gate will be
130 opened to release the contents of said chamber or to permit the insertion of any part or tool thereinto.

The seat for the fastening, it is observed, is so centered upon the attaching-screw F^2

that it may be reversed end to end when it is desired to change the same to employ the countersunk portion thereof at the opposite end.

5 This implement is designed and adapted for attaching all ordinary commercial buttons engageable by a pronged fastening of various thicknesses and sizes and upon all sorts of wearing-apparel and to other articles to which buttons are applied.

The button-holding plate may be obviously swung entirely out of the way, if desired, permitting the implement to be used for various purposes other than a button-attaching implement, as for uniting straps by means of a pronged fastening, attaching hooks and eyes, buckles, and other articles.

Although I have described my invention as a button-attaching implement more particularly, I would have it understood that I contemplate its use as coming within the scope of my invention for any and all purposes to which it may be found adapted.

It will be observed that the button-holding plate has an automatic positive stop to hold the plate in any given position of adjustment. When the operator has moved the plate laterally to a desired point, he simply releases it, and it is automatically held by a positive stop at that point. This automatic stop or locking device forms an important feature of my invention, and I contemplate this automatic positive stop or lock of the button-holding plate broadly as coming within the scope of my invention.

The spring clamping-arms $e^5 e^6$ may also be applied to a button-holding plate of the form shown in Fig. 4, as indicated in dotted lines in said figure. In Fig. 5 said arms are integral with the body of the plate and bent over into place. In the form shown in Fig. 4 the spring clamping-arms are attached to the body of the plate in any suitable manner, as by a rivet e^8 , the forward extremities of the arms being extended over the slot e' , said extremities occupying a position in front of the setting-die and back of the button, the extremities being in position to project over the shank of the button. These spring clamping-arms thus form a support against the back of the button to prevent the rocking of the button where they are made integral with the plate, as indicated in Fig. 5, or attached thereto, as in Fig. 4. This supporting feature of said clamping-arms will be fully recognized by reference to Fig. 6.

The countersink about the recess e' may be formed by stamping downward the body of the plate, forming on the under face of said plate a swell or shoulder e^9 about the diameter of the die, permitting that portion of the plate to be forced down more closely upon the head of the fastening and material to which the fastening is applied.

5 The stop is formed on the upper countersunk portion of the plate by milling out the edges adjacent to the front portion of the slot

or recess to permit the end of the shank of the button to extend backward to the center of the setting-dies. This position of the button-shank provides for one prong of the fastening passing through the eye of the button and the opposite prong to enter the die on the opposite side of the shank, the operation of the die convoluting the prongs about said shank. 70 75

What I claim as my invention is—

1. In a button-attaching implement, the combination with two pivotally-connected jaws, of a seat for a pronged fastening, a reciprocatory spindle carried by one of said jaws, a button-holding plate, and an intermediate support connecting said plate with said spindle, said plate having a spring-actuated adjustment upon said support, substantially as set forth. 80 85

2. In a button-attaching implement, the combination with two pivotally-connected jaws, of a seat for a pronged fastening, a reciprocatory spindle carried by one of the jaws, a laterally-movable button-holding plate, a support intermediate the plate and the spindle connecting said plate with said spindle, said plate having a spring-actuated vertical adjustment with said support, substantially as set forth. 90 95

3. In a button-attaching implement, the combination with two pivotally-connected jaws, of a reciprocatory spindle carried by one of said jaws, a supporting-hub attached to said spindle, a cap having a movable engagement with said hub, a laterally-movable button-holding plate, and a spring-pin connecting said plate with said cap, whereby the cap may be lifted out of engagement with the hub by upward pressure on the said plate to move the plate laterally, substantially as set forth. 100 105

4. In a button-attaching implement, the combination with two pivotally-connected jaws, of a reciprocatory spindle carried by one of said jaws, a button-holding plate, a supporting-hub connected with the spindle, a cap having a toothed or ratcheted engagement with said hub, a thimble, and a spring-pin connecting said cap with said thimble, substantially as and for the purpose set forth. 110 115

5. In a button-attaching implement, the combination with two pivotally-connected jaws, of a seat for a fastening carried by one of said jaws, clamping spring-arms adjacent to said seat, and spring guard-arms having a vertically-movable connection upon said clamping-arms, substantially as set forth. 120 125

6. In a button-attaching implement, the combination with two pivotally-connected jaws, of spring clamping-arms carried by one of said jaws, and spring guard-arms constructed with elongated slots having a vertically-movable engagement upon the clamping-arms, the clamping-arms provided with guide-shoulders entering said slots, substantially as set forth. 130

7. In a button-attaching implement, a jaw

provided with a chambered operating-handle, a gate Q', fulcrumed intermediate its ends to said handle, and a spring Q² engaging one extremity of said gate, substantially as and
5 in the manner set forth.

8. In a button-attaching implement, a button-holding plate formed with a recess at one edge thereof, said plate provided with spring clamping-arms projecting over said recess,
10 for the purpose set forth.

9. In a button-attaching implement, a button-holding plate formed with a recess at one edge thereof, the face of said plate being countersunk about said recess and provided with
15 a stop to limit the insertion of the button-shank and center the end of the shank, substantially as set forth.

10. In a button-attaching implement, a button-holding plate formed with a recess at one
20 edge thereof, the face of the plate about said recess being stamped down to form a countersunk portion on the upper face of the plate,

the countersunk portion on the upper face of the plate being milled out adjacent to the front portions of said recess to form a stop to
2 center the shank of the button, substantially as set forth.

11. In a button-attaching implement, the combination with two pivotally-connected jaws, of a seat for a fastening, having its lateral edges beveled, spring clamping-arms, and
3 vertically-movable spring guard-arms, the upper ends of said clamping-arms and of said guard-arms constructed with inwardly-turned beveled flanges to contact with the beveled
3 edges of the fastener-seat, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

FRANKLIN S. MCKENNEY.

Witnesses:

N. S. WRIGHT,
JOHN F. MILLER.