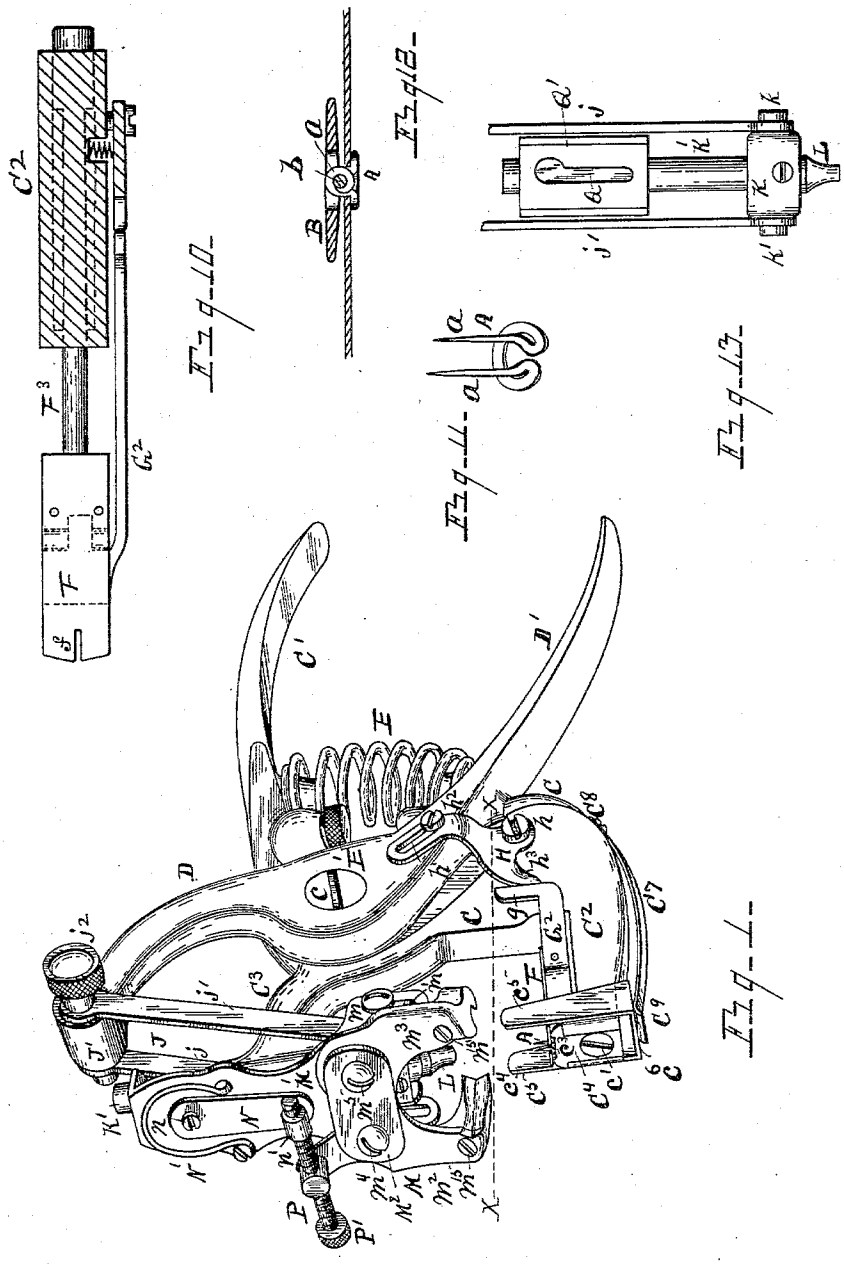
(No Model.) 4 Sheets—Sheet 1.

F. S. McKENNEY.

HAND BUTTONER.

No. 563,791. Patented July 14, 1896.



WITNESSES

O. F. Baenziger.

M. A. Martin.

INVENTOR

Franklin S. McKenney

By his Attorney

Newell S. Wright

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 4 Sheets—Sheet 2.

F. S. McKENNEY.

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Fig. 2.

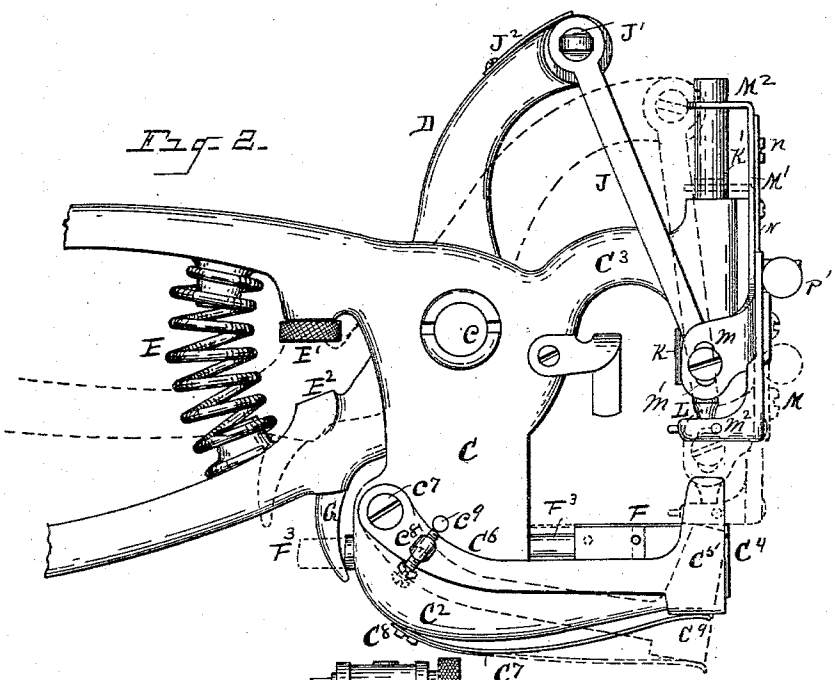


Fig. 3.

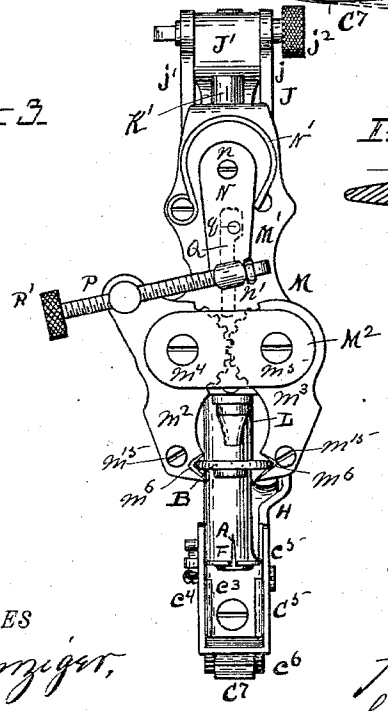


Fig. 4.

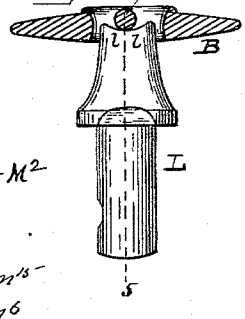


Fig. 5.

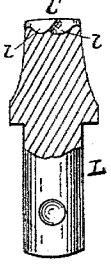
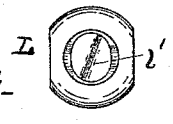


Fig. 6.



WITNESSES

C. B. Baenziger,

M. A. Martin.

INVENTOR

Franklin S. McKenney

By his Attorney

Newell S. Wright

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 4 Sheets—Sheet 3.

F. S. McKENNEY

HAND BUTTONER.

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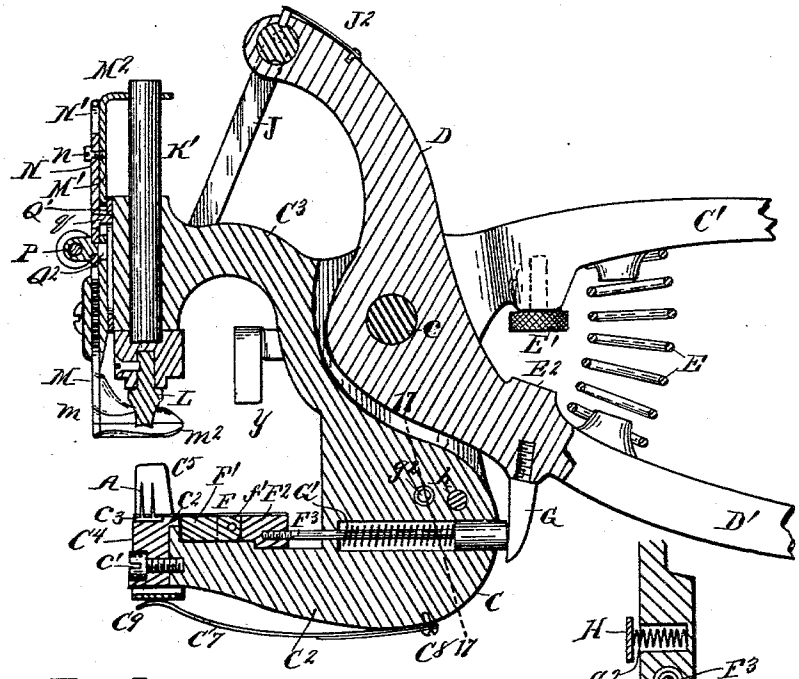

Fig. 7.

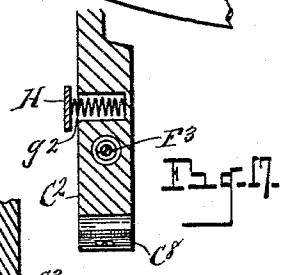

Fig. 17.

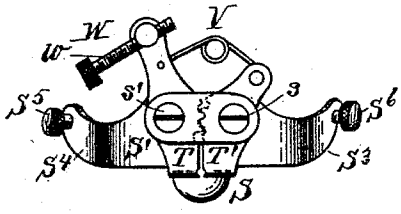

Fig. 8.

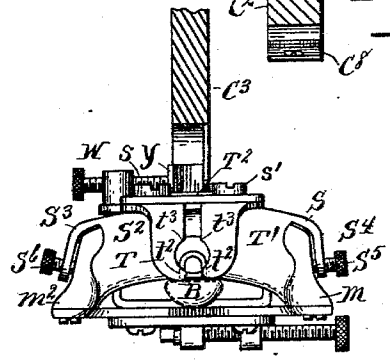

Fig. 9.

WITNESSES

O. B. Baeziger.

M. A. Martin.

INVENTOR

Franklin S. McKenney

By Lus Attorney

Merrell & Wright.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 4 Sheets—Sheet 4.

F. S. McKENNEY.

HAND BUTTONER.

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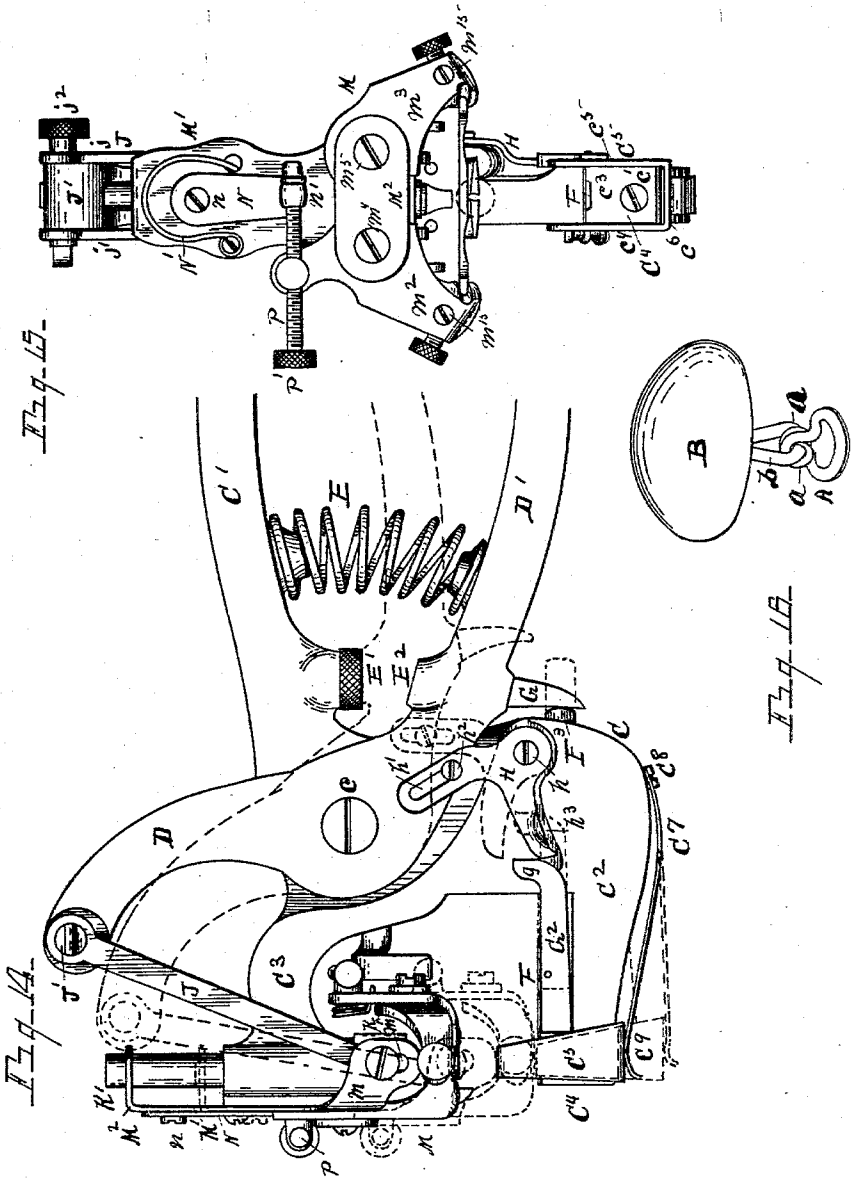

Fig. 15.

Fig. 16.

Fig. 14.

WITNESSES

O. B. Baumgart.

M. A. Martin.

INVENTOR

Franklin S. McKenney

By his Attorney

Newell S. Wright.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANKLIN S. McKENNEY, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO J. M. LONGYEAR, OF MARQUETTE, MICHIGAN.

HAND-BUTTONER.

SPECIFICATION forming part of Letters Patent No. 563,791, dated July 14, 1896.

Application filed July 9, 1894. Serial No. 516,924. (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 Hand-Buttoners; 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 "hand-buttoner," the device being designed for use as a hand implement for attaching buttons on various articles, as upon shoes, gloves, garments of various kinds, and the like, a pronged fastening being employed to secure the buttons in place.

My invention is constructed and adapted to hold the fastening and the button and to engage the prongs of the fastening with the button.

My invention consists of the construction, combination, and arrangement of devices and appliances, as hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective illustrating features of my invention. Fig. 2 is a side elevation from the side opposite that shown in Fig. 1, a portion of the handles of the jaws being broken away. Fig. 3 is a front elevation showing one form of a button-holding device, with a button held in place thereby. Fig. 4 is a separate view of a die employed in the instrument. Fig. 5 is a vertical section of the die on the line 5 5, Fig. 4, showing the base of the die in elevation at right angles to that shown in Fig. 4. Fig. 6 is a top view of a die embodied in my invention. Fig. 7 is a vertical longitudinal section of the device. Fig. 8 is a separate rear elevation of an attachment for holding certain kinds of buttons. Fig. 9 shows the same attachment in inverted plan, with a button engaged therewith. Fig. 10 is a view on the line x x, Fig. 1. Fig. 11 is a detail view of one of my improved fastenings. Fig. 12 is a view showing my improved fastening in position when engaged with a perforated button by my improved attaching instrument. Fig. 13 is a detail view in front elevation, the button-holding jaws being removed and showing the die-spindle at the end of its stroke in the forward end of the arm C^3. Fig. 14 is a view in perspective showing the attachment indicated in Figs. 8 and 9 in position in the implement. Fig. 15 is a front elevation showing said attachment in position, and Fig. 16 is a view showing my improved fastening engaged with a shank-button by my improved attaching implement. Fig. 17 is a cross-section on the line 17 17, Fig. 7.

Although my improved buttoner or button-attaching device is not limited in its operation to the use of any particular fastening, it has been designed and adapted with more direct reference to the employment of a novel fastening of my own invention, (shown in Fig. 11,) the said fastening, however, constituting no feature of this present invention.

My invention has in view a hand machine or implement whereby buttons of various kinds and of various sizes may be secured upon all kinds of garments, gloves, shoes, &c., in a very simple and superior manner and more particularly so as to make the fastening and the button simulate a sewed-on button, the fastening and the method of its attachment having all the advantages secured in sewing on buttons, without any of its disadvantages, the fastening being firm and durable and never liable to become disengaged from the fabric or the button to which it is attached.

In the drawings, A represents a fastening employed in my hand-buttoner.

B represents a button, the drawings showing how the fastening is engaged with the button by the use of my improved implement. It will be perceived by reference to Figs. 12 and 16 that the prongs a of the fastening have been curved and curled or wound about the attaching portion b of the button, and in opposite directions, the extremities of the prongs being curved inward toward the base of the corresponding prong and upward on a curve toward the attaching portion of the button. When the fastening has been thus secured to the attaching portion of the button, it will be seen that in looking upon the face of the button the fastening has every appearance of be-

ing a thread fastening, especially where the metal of the fastening is of suitable color, the fastening being formed, preferably, of wire of any desired color. To accomplish this result is the object of my present invention, and I have herein disclosed a hand implement adapted to secure this result.

I carry out my invention as follows:

C and D represent two jaws having a pivotal connection, as at c, the one jaw being thereby fulcrumed upon the other.

C′ and D′ represent the handles of the respective jaws.

E is a spring to restore the jaws into a normally-opened position.

E′ is an adjusting-screw which may form a stop to limit the stroke of the jaws. The adjusting-screw has an engagement with one of the jaws, as with the jaw C, the opposite jaw being provided with a shoulder or boss E^2, against which the head of the adjusting-screw strikes. The jaw C is constructed with a lower arm C^2 and with an upper arm C^3, projecting forward of the fulcrum c. The lower arm C^2 carries at its outer end a seat C^4 for the fastening. This seat is made removable, being engaged with said arm C^2 in any suitable manner, as by a screw c'. The seat is thus made interchangeable, to accommodate fastenings of different sizes. I prefer that the upper end of the seat C^4 should be constructed with a shoulder c^2 to rest upon a corresponding portion of the jaw C^2, so that the strain may be the better communicated directly to the jaw in the operation of the device. The seat is preferably concaved or dished upon its upper end, as shown at c^3, Fig. 7, to conform to the face of the fastening. About the seat C^4 is located a shield or guard C^5, preferably provided with two upwardly-projecting arms c^4 and c^5, which may be united at their lower ends by a cross-head, as shown at c^6. The object of this shield or guard is to prevent the prongs of the fastening from catching in the fabric or article to which the buttons are to be applied in passing the fabric or article in and out between the jaws. The shield or guard is made adjustable in any suitable manner. Thus, for example, as shown in Fig. 2, it may be provided with a rearwardly-projected arm C^6, pivotally connected at its rear end, as shown at c^7, upon the adjacent jaw, allowing the guard to swing away from the work in the operation of engaging the fastening with the button, as indicated in dotted lines, Fig. 2. The guard may be adjusted in any suitable manner, as by means of an adjusting-screw c^8, engaged with the arm C^6, the adjacent jaw being provided with a stop c^9, against which the end of the screw may strike. Beneath the guard is located a spring C^7, engaged at one end upon the adjacent jaw, as shown at C^8, the forward end of the spring bearing on the guard, as shown at C^9. By this construction the arms c^4 and c^5 of the guard may have a reciprocatory movement upon the seat C^4, so as to be forced downward, as indicated in dotted lines in Figs. 2 and 14, and so out of the way in the operation of the device, the spring C^7 restoring the guard to normal position when the jaws are opened.

Over the seat C^4 projects normally a clamping-plate F, which, in the instance shown, is constructed with an elongated recess (shown at f) and through which the prongs of the fastener project upward. The head or base of the fastening is engaged upon the seat C^4 underneath the clamping-plate F in the recess c^3, said head or base being readily slipped into place between the clamping-plate and seat at the forward end of said clamping-plate. In order to clamp the plate F upon the fastening beneath its forward end, said plate is engaged upon sliding bars F′ and F^2, having a jointed connection at their adjacent ends, as shown at f'. These sliding bars are located upon the upper face of the arm C^2 to the rear of the seat C^4, the forward end of the plate F projecting therefrom. With the sliding bar F^2 is connected a reciprocatory spindle F^3, passed through the adjacent portion of the jaw C, as shown more particularly in Fig. 7, said jaw being constructed with an orifice to receive this said spindle. The rear end of the spindle projects rearwardly from the adjacent portion of the jaw and is engaged by a spur or cam G, engaged with the opposite jaw D, said spur or cam impinging against the end of the spindle.

G′ is a retracting-spring to retract the spindle F^3 when said spindle is free to move, thereby retracting the sliding bars F′ and F^2, together with the clamping-plate F, releasing said plate from the fastening when the fastening is engaged with the button and the work.

G^2 is a lever-arm engaged with the forward sliding bar F′, its rear end projecting upward, as shown at g.

H is a bell-crank lever fulcrumed upon the jaw C, as shown at h, its forward end normally projecting against the adjacent face of the arm g of the lever G^2. The opposite end of the bell-crank lever is constructed with an elongated slot, as shown at h'. A screw or pin h^2 is passed through said slot into the jaw D. The slotted arm of the bell-crank lever thus engaged by the screw or pin h^2 forms a guide and operates the forward end of said bell-crank lever when the handles of the jaws are compressed. It is evident that upon the compression of said handles the forward end of the bell-crank lever will ride upward along the face of the arm g of the lever G^2, the frictional contact of which tends to lift the rear end of the lever G^2 and thereby force downward the forward bar F′ to force the clamping-plate F firmly upon the fastening. The forward arm of the bell-crank lever rises along the adjacent end face of the arm g of the lever G^2 until it eventually rides out of contact with said adjacent end face, as shown in dotted lines, Fig. 14, allowing the

lever G^2, with the spindle F^3 and the clamping-plate F, to be retracted by the spring G'. In Figs. 2 and 14 the end of the spindle F^3 is shown in retracted position in dotted lines. When the jaws are permitted to open again, the spur or cam G impinges against said spindle, forcing it, together with the clamping-plate F, forward into its normal position.

I preferably construct the lower edge of the forward arm of the bell-crank lever H rounded or hollowed toward the rear, as indicated by the shaded lines in Figs. 1 and 14, at h^3, so that when the lever G^2 is retracted upon the riding of the forward arm of the bell-crank lever out of engagement with the rear face of the arm g said arm of the bell-crank lever may ride downward into normal position behind the arm g. When in normal position, a spring back of the forward end of the bell-crank lever forces said forward end outward against the rear end face of the arm g. In Fig. 7 I indicate such a spring at g^2, located in a suitable orifice in the jaw C.

Upon the forward end of the jaw D is engaged a link J, preferably constructed of two link-arms j and j', eccentrically engaged with the forward end of the jaw D. This may be accomplished in any suitable manner, as by means of an adjustable eccentric connecting-pin J', the intermediate portion of said pin having an eccentric bearing within the adjacent end of the jaw D. A spring J^2, engaged with the jaw D, bears upon the pin J'. Said pin is preferably constructed with a milled head j^2, whereby it may be readily adjusted by the operator. The tension-spring J^2 will hold said pin in a given adjusted position. The lower extremities of the arms of the link are engaged with a plunger-head K, said head being engaged with a plunger-spindle K', having a reciprocatory engagement within the outer end of the arm C^3 of the jaw C, said arm being constructed with an orifice to receive said spindle. The plunger-head is constructed with pintles k and k', upon which the lower ends of the link-arms j and j' are engaged.

L is a setting-die removably engaged in the head K.

It will be evident, since the arms C^2 and C^3 are rigid parts of one and the same jaw C, that the spindle K', carrying the plunger-head K and the setting-die L, must always carry said die at all times perpendicularly upon the fastening, an essential point in the proper operation of the device. As the spindle K' descends, the link J will swing upon its eccentric pin J'. By making the die L removable in its connection with the head K it is readily interchangeable, so that any die of required size or form can be engaged in the implement as may be required.

Upon the forward end of the arm C^3 of the jaw C, I locate an adjustable button-holding device M. As shown, this button-holding device is constructed of a fastening-plate M', formed at its upper end with a rearwardly-projecting perforated shoulder M^2, through which the spindle K' is projected. Toward its lower end this plate is provided with lateral shoulders m, one on each side, said shoulders each constructed with an elongated slot m', through which the pintles upon the plunger-head K project, said elongated slots allowing a free movement of said pintles therethrough corresponding to the length of said slots before carrying the said plate downward therewith. Upon the lower face of said plate are pivotally-engaged button-holding jaws m^2 and m^3, their pivotal connections being shown at m^4. This construction permits the lower ends of the jaws m^2 and m^3 to oscillate. The two jaws m^2 and m^3 are preferably geared together, as shown in dotted lines in Fig. 3, so that they will work simultaneously. M^2 is a cover-plate concealing the geared portions of said jaws.

The lower extremities of the jaws m^2 and m^3 are preferably projected rearward, as shown, the rearwardly-projecting portions being grooved, preferably, in the form of an elongated V-shaped groove, as shown at m^6, the button being engaged in said grooves. The special object of having said jaws formed with V-shaped button-holding grooves is to accommodate or adapt the jaws to different sizes and thicknesses of buttons. The lower ends of the jaws m^2 and m^3 preferably project rearwardly on the arc of a circle to conform to the customary annular shape of the rim of a button. The rearwardly-projecting portions of these jaws are preferably made removable, more particularly to facilitate the manufacture of the device, said portions being attached, as shown, by means of screws m^{15} or otherwise. As so constructed and arranged, it will be perceived that the attaching portion of the button is always held centrally and in proper relation to the setting-die and fastening. These button-holding jaws are made adjustable in any suitable manner. Thus, for example, as shown in the drawings, I have provided a swinging plate N, pivotally connected at its upper end with the plate M, as shown at n. A spring N' bears upon the plate N.

P is an adjusting-screw engaged in the upper end of the jaw m^3, one end of said screw being connected with the swinging plate N, as shown at n', the opposite end of the screw being provided with a milled head P' to facilitate its operation. It will be perceived that in whatever position the adjusting-screw may be placed the jaws m^2 and m^3 will always have a self-acting spring adjustment through the medium of the screw P, the swinging plate N, and the spring N'. This automatic adjustability of said jaws will allow the engagement therewith of various sizes of buttons, together with their insertion and removal, in a ready and convenient manner even without the aid of the adjusting-screw P; but by the aid of said adjusting-screw said button-holding jaws may be given any further adjustment to adapt said jaws to receive and hold

any size of button, either smaller or larger, as may be required. To set the button-holding jaws firmly upon the periphery of the button engaged therewith in the operation of applying the fastening, the front face of the arm C^3 is preferably formed with a cam-slot. (Shown in Fig. 13 at Q.) This slot is elongated. The swinging plate N is provided with a pin or shoulder q, preferably of hardened metal, projecting into said cam-slot, said slot being also preferably formed in a piece of hardened metal Q', engaged upon the arm C^3. The plate M is cut away, as shown at Q^2 in Fig. 7, to allow said pin q to move freely therein, as its movement is guided by the cam-slot. The cam-slot is so shaped as to force the lower extremities of the jaws m^2 and m^3 firmly upon the button upon the downward stroke of the die and allowing them to separate at the end of the upward stroke of the die. The spring-plate N, it will be perceived, is only free to move when the pin q is at the upper end of the cam-slot Q. By this construction any desired adjustment can be made for the engagement of the button-fastening device with any desired size or thickness of button.

The plunger-head K being free to move in the slot m' a corresponding distance before the button-fastening device is carried downward with said plunger-head, allows the die first to come into firm contact with the attaching portion of the button, whether said attaching portion be raised above the surrounding portion of the button or whether the attaching portion be below the general plane of the button. The button and die are then carried downward over the prongs of the fastening, bringing the die into contact with said prongs.

The die employed in my device is preferably of novel construction. An ordinary form of die would set the fastening upon the button, but I prefer to employ a die so constructed as to set the prongs about the attaching portion of the button in a new and superior manner. To this end, as shown in Figs. 4 and 6, I prefer to hollow the side edges of the die, as shown at l, Fig. 4. The hollowing out of the edges at the sides thus enables the die to set over the attaching portion b of the button, as illustrated in Fig. 4, the die and button being shown in said figure in reversed position. The die thus firmly presses the prongs upon the attaching portion of the button, and the projecting extremities of the die on each side of the attaching portion b hold the prongs of the fastening and direct them on a continuous curve about said attaching portion, as the die is forced downward. The face of the die is also hollowed out or concave within the rim thereof, as shown more particularly in Figs. 5 and 6. A rib l' rises slightly from the center of the face of the die, preferably extending diagonally across said face, the rib serving to separate the prongs of the fastening and to insure the points passing one another at the center and being turned in opposite directions. This action of said rib, together with the concavity of the die, turns the points around the attaching portion of the button and curves them about said attaching portion, curling them in opposite directions, each toward its adjacent stem and upward again on a continuous curve about said attaching portion, as illustrated in Fig. 12.

It will be apparent that the button-holding device above described is designed especially to hold buttons having eyes or perforations therethrough.

To hold buttons having shanks, in contradistinction from buttons having eyes or perforations, as, for example, a shoe-button, I provide an additional button-holding attachment (shown more particularly in Figs. 8, 9, and 14) in combination with the button-holding device already described. This latter attachment consists, preferably, of a plate S, bent at right angles, forming a rear flange S' and the horizontal flange S^2, the rear flange being shown in Fig. 8 and the horizontal flange in Fig. 9. The side edges of the horizontal flange preferably conform in shape to the curvature or outline of the rearwardly-projecting portions of the jaws m^2 and m^3 of the button-holding device M, so as to slip into place within the grooves m^6 of the parts m^2 and m^3 in the same manner as though a large button were to be held in the jaws m^2 and m^3. The plate S is formed with lateral arms S^3 and S^4, adapted to extend about the outer faces of the rearwardly-projecting portion of the jaws m^2 and m^3, as shown in Fig. 9.

Set-screws S^5 and S^6 serve to bind the attachment S to the button-holding device M. To engage the attachment S in place, the jaws m^2 and m^3 are opened wide enough to receive the flanged portion S^2, as above described, when by means of the set-screws S^5 and S^6 the attachment S may be firmly held in place.

T and T' represent two button-holding jaws engaged with the attachment S. These jaws are preferably constructed angular in form, as shown, having horizontal extremities extending underneath the flanged portion S^2 of the attachment and having vertical arms t and t' extending upward in the rear of the portion S' of the attachment, the vertical arms being fulcrumed upon the portion S', as shown at s and s', Fig. 8. The jaws T and T' are preferably geared together on their edges adjacent to their respective fulcrums, as shown in Fig. 8 on dotted lines. T^2 is a cover-plate concealing said geared connection.

V is a spring connecting the upper extremities of the jaws T and T' to give to said jaws spring-tension. One of the jaws, as the jaw T, is provided with an adjusting-screw W. Upon the jaw C is engaged an arm Y, against which an adjusting-screw W may impinge as the jaws of the instrument are closed, to hold the jaws T and T' firmly together upon the shank of the button. When the jaws are opened, the adjusting-screw W rises up above the arm Y, permitting the jaws T and T' to

be opened for the release or insertion of the button. The horizontal extremities of the jaws T and T′ are grooved upon their edges, as indicated at the dotted lines t^2 in Fig. 9, to permit the shank of the button being engaged and held firmly by said jaws. The horizontal portions of said jaws are also cut away on the arc of a circle at their inner edges, as shown at t^3, Fig. 9, to admit the die. These jaws T and T′ are adapted not only to hold buttons having shanks, but also to hold small-sized perforated buttons, as, for example, pearl shirt-buttons or small sizes of perforated buttons. This attachment S may be readily secured in place or removed from the machine whenever desired without the use of a screw-driver or without detaching any portion of the instrument therefrom.

Fig. 9 shows a shoe-button engaged with the button-holding device S.

What I claim as my invention is—

1. In a hand button-setting instrument, the combination of a jaw C provided with a handle and with arms C^2 C^3, of a jaw D provided with a handle and fulcrumed intermediate its ends upon the jaw C rearward of said arms, a die provided with a spindle having a reciprocatory engagement with one of said arms, a seat for a fastening upon the other of said arms, means to hold the fastening upon said seat, and a link connecting the die and the jaw D forward of its fulcrum whereby the die is reciprocated by the movement of said jaw D, substantially as set forth.

2. In a hand button-setting instrument, the combination of a jaw C provided with a handle and with arms C^2 C^3, of a die carried by one of said arms, a seat to hold a fastening carried by the other of said arms, and a jaw D to actuate said die, said latter jaw provided with a handle and fulcrumed intermediate its ends upon the jaw C forward of said arms, said die formed with a concavity having an outward-projecting central parting ridge or rib to direct the points of the fastening the one past the other, substantially as set forth.

3. In a hand button-setting instrument, the combination of the jaws fulcrumed one upon the other and provided with operating-handles, one of said jaws constructed with arms C^2 and C^3, a die provided with a spindle having a reciprocatory engagement with one of said arms, a seat for a fastening upon the other of said arms, means to hold a fastening upon said seat, and an oscillatory guard adjacent to said seat, substantially as set forth.

4. In a button-setting instrument, the combination of the jaws C, D, the jaw C constructed with arms C^2, C^3, of a seat for a fastening upon the arm C^2, a reciprocatory die carried by the arm C^3, a reciprocatory binding-plate to hold a fastening upon the die-seat a spindle connected with said binding-plate and extending through an adjacent portion of the arm C^2, and a spur or cam upon the jaw D to actuate said binding-plate, substantially as set forth.

5. In a button-setting instrument, the combination of two pivotally-connected jaws, a die and a seat for a fastening carried by one of said jaws, a clamping-plate F to hold a fastening upon the die-seat, sliding bars F′, F^2 jointedly connected together and engaged with said plate, a spindle connected with one of said sliding bars and extended through an adjacent portion of one of said jaws, and a spur or cam upon the other jaw to actuate said spindle, substantially as set forth.

6. In a button-setting instrument, the combination of two pivotally-connected jaws carrying a die and a seat for a fastening, a clamping-plate, sliding bars F′, F^2 jointedly connected together and engaged with said plate to hold a fastening upon the seat, a horizontally-extended lever-arm G^2 carried by one of said jaws connected with one of said sliding bars, and means to actuate said lever-arm, substantially as and in the manner described.

7. In a button-setting instrument, the combination of two pivotally-connected jaws carrying a die and a seat for a fastening, a reciprocatory clamping-plate to hold a fastening upon the seat, a horizontally-extended lever-arm G^2 to actuate said clamping-plate provided with an upward extension g at the rear end, and a lever H to engage said upward extension and actuate said lever-arm, and means for retracting said plate, substantially as set forth.

8. In a button-setting instrument, the combination of two pivotally-connected jaws bearing a die and a seat for a fastening, a guard adjacent to said seat, and an arm C^6 carrying said guard and fulcrumed upon one of said jaws, substantially as set forth.

9. In a button-setting instrument, the combination of two pivotally-connected jaws carrying a die and a seat for a fastening, a clamping device to hold the fastening upon the seat, a lever-arm G^2 connected with said clamping device provided with an arm g, and a bell-crank lever fulcrumed upon one of said jaws, and actuated by the other jaw to engage and lift the arm g and to ride out of contact therewith, substantially as set forth.

10. In a button-setting instrument, the combination of two pivotally-connected jaws carrying a die and a seat for a fastening, a clamping device to hold the fastening upon the seat, a lever-arm G^2 connected with said clamping device provided with an arm g, a bell-crank lever fulcrumed upon one of said jaws, to engage and lift the arm g and to ride out of contact therewith, and a spring to force the bell-crank lever against the rear end face of the arm g, substantially as set forth.

11. In a hand button-setting instrument, the combination of a jaw C provided with a handle and with arms C^2 C^3, a die provided with a spindle sleeved through the arms C^3, a seat for a fastening carried by the jaw C^2, a

jaw D provided with a handle fulcrumed intermediate its ends upon the jaw C rearward of said arms, a link connected with the die and with the forward end of the jaw D to reciprocate the die, and means whereby the spindle of the die is carried perpendicularly through the arms C^3 upon the seat, substantially as set forth.

12. In a hand button-setting instrument, the combination of a jaw C provided with a handle and with arms C^2 C^3, a seat for a fastening carried by one of said arms, a die provided with a spindle carried by the other of said arms, a jaw D provided with a handle and fulcrumed intermediate its ends upon the jaw C rearward of said arms, an adjustable eccentric connecting-pin engaged on the forward end of the jaw D, and a link carried by said eccentric pin and connected with the die to reciprocate the die, substantially as set forth.

13. In a hand button-setting instrument, the combination of a jaw C provided with a handle and with arms C^2 C^3, a reciprocatory die carried by one of said arms, a seat for a fastening carried by the other of said arms, a jaw D provided with a handle and fulcrumed intermediate its ends upon the jaw C rearward of said arms, a link to operate said die, an adjustable eccentric pin connecting said link with the jaw D and means to hold the pin in a given position, substantially as and for the purpose set forth.

14. In a button-setting instrument, the combination of two pivotally-connected jaws C D, the jaws C being formed with arms C^2 C^3, a spindle reciprocatory in the jaws C^3, a plunger-head connected with said spindle, a die carried by said plunger-head, and links connected at their upper ends with and actuated by the jaw D to reciprocate said die, said plunger-head formed with pintles upon which the lower ends of the links are sleeved, substantially as set forth.

15. In a button-setting instrument, the combination of two pivotally-connected jaws C D, the jaw C being formed with arms C^2 C^3, a reciprocatory die carried by the arm C^3, and a button-holding device provided with an attaching-plate S movable with said die, and with button-holding jaws pivotally connected with said plate, substantially as described.

16. In a button-setting instrument, the combination of two pivotally-connected jaws, a reciprocatory plunger-head, a spindle carrying said head, and a button-holding device provided with an attaching-plate carried by one of said jaws and with button-holding jaws pivotally connected with said plate, said spindle projected through said plate, substantially as set forth.

17. In a button-setting instrument, the combination of two pivotally-connected jaws, a die, a reciprocatory plunger-head connected with the die constructed with pintles k, k', and a button-holding device provided with an attaching-plate constructed with lateral shoulders m on opposite sides thereof engaged upon said pintles, substantially as set forth.

18. In a button-setting instrument, the combination of two pivotally-connected jaws, a reciprocatory plunger-head carried by one of said jaws, provided with a spindle and pintles k, k', a link engaging said pintles with the other jaw, and a button-holding device provided with an attaching-plate engaged with said pintles and with said spindle, substantially as and in the manner set forth.

19. In a button-setting instrument, the combination of two pivotally-connected jaws, one of which is constructed with arms C^2 C^3, a reciprocatory die carried by one of said arms, and a button-holding device provided with a fastening-plate M′ engaged upon the front face of the arm C^3, and button-holding jaws m^2 and m^3 pivotally connected with said plate, substantially as set forth.

20. In a button-setting instrument, the combination of two pivotally-connected jaws one of which is formed with arms C^2, C^3, a reciprocatory die, and a button-holding device provided with rearwardly-projecting button-holding jaws m^2 and m^3 formed with elongated V-shaped button-holding grooves, substantially as set forth.

21. In a button-setting instrument, the combination of two pivotally-connected jaws, a reciprocatory die, and a button-holding device provided with oscillatory button-holding jaws, and an adjusting-screw P to simultaneously adjust the lower ends of said jaws toward and away the one from the other, substantially as set forth.

22. In a button-setting instrument, the combination of a reciprocatory die, a button-holding device provided with a plate M′, button-holding jaws, a swinging spring-actuated plate N and an adjusting-screw connected with one of said button-holding jaws and with said swinging plate, the jaws and adjusting-screw actuating the plate N in opposition to the spring, substantially as set forth.

23. In a button-setting instrument, the combination of a button-holding device provided with adjustable button-holding jaws, and operating mechanism to set the lower ends of said jaws toward and away the one from the other, said jaws being also adjustable independent of said adjusting operating mechanism, substantially as set forth.

24. In a button-setting instrument, the combination with two pivotally-connected jaws, one of which is formed with an arm C^3 constructed with an elongated slot Q, a button-holding device having button-holding jaws, a swinging plate provided with a shoulder projecting into said slot, and means for connecting said swinging plate with the button-holding jaws, substantially as and for the purpose set forth.

25. In a button-setting instrument, the combination of two pivotally-connected jaws, one of which is formed with a cam-slot, a seat for a fastening, a reciprocatory die, a button-

holding device provided with oscillatory button-holding jaws, a swinging plate provided with a shoulder projecting into said slot, and means to connect said swinging plate with said button-holding jaws to bind the button-holding jaws upon a button in the movement of the die toward the seat, and permitting the button-holding jaws to be spread apart at the limit of the reverse stroke of the die, substantially as set forth.

26. In a button-setting instrument, the combination of a button-holding device, and an additional button-holding attachment engageable with the first-named button-holding device, substantially as set forth.

27. In a button-setting instrument, the combination of a reciprocatory die, a button-holding device, an additional button-holding attachment engageable with the first-named button-holding device, said button-holding device and attachment simultaneously movable with said die, substantially as set forth.

28. In a button-setting instrument, the combination of a button-holding device provided with button-holding jaws, and an additional button-holding attachment engageable with said jaws, substantially as set forth.

29. In a button-setting instrument, the combination of a button-holding device provided with adjustable button-holding jaws, and an additional adjustable button-holding attachment engageable with said jaws, substantially as set forth.

30. In a button-setting instrument, the combination of a button-holding device provided with button-holding jaws, an additional button-holding attachment provided with a plate to engage the jaws of the first-named button-holding device, and means to hold the plate in engagement with said jaws, substantially as set forth.

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

FRANKLIN S. McKENNEY.

Witnesses:
N. S. WRIGHT,
M. A. MARTIN.