(No Model.)

H. F. WELKE.

BUTTON FASTENER.

No. 572,846. Patented Dec. 8, 1896.

Fig. 1.

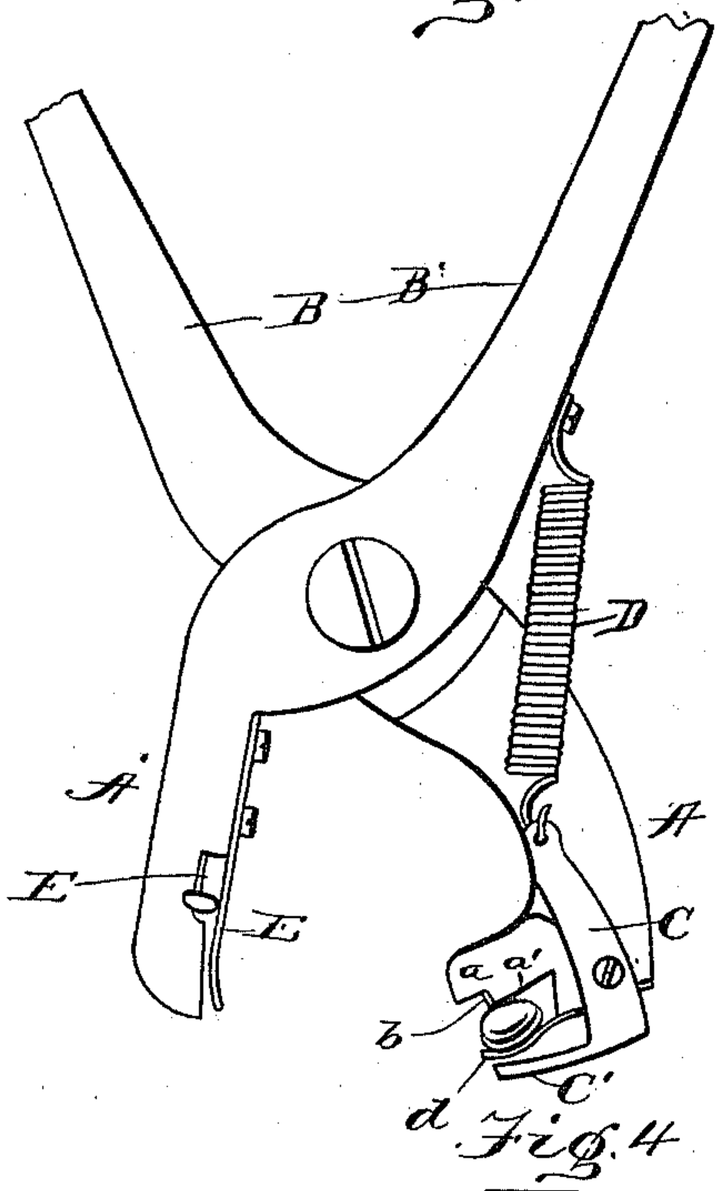


Fig. 3

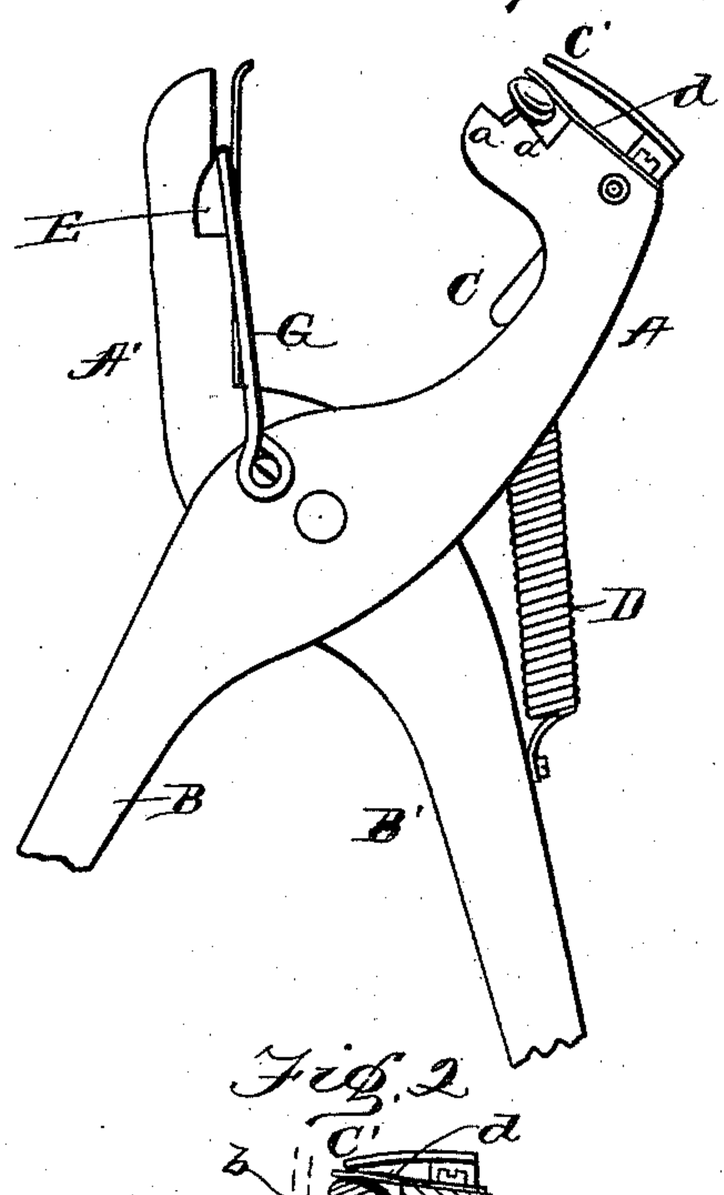


Fig. 2

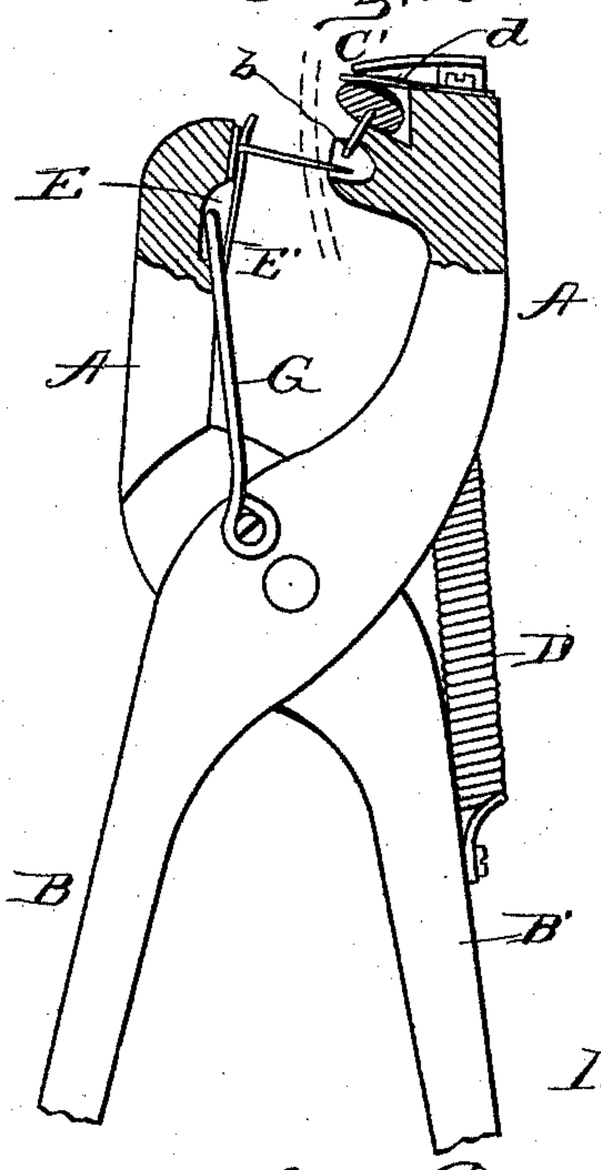


Fig. 4

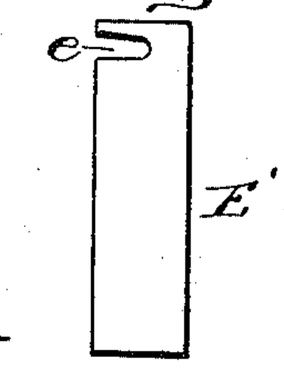


Fig. 5

Fig. 6

Fig. 8

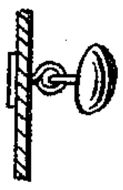


Fig. 9

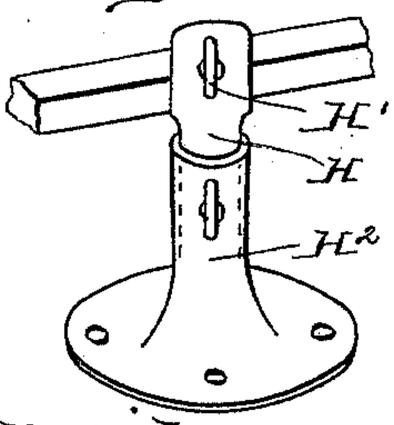
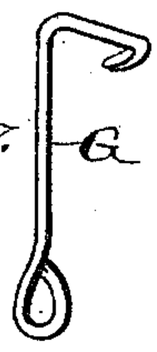


Fig. 7



Witnesses

J. M. Fowler Jr.

Alex. Mahon

Inventor

Hermann Friedrich Welke

by Henry P. Blair.

Attorney

UNITED STATES PATENT OFFICE.

HERMANN FRIEDRICH WELKE, OF HAGEN, GERMANY.

BUTTON-FASTENER.

SPECIFICATION forming part of Letters Patent No. 572,846, dated December 8, 1896.

Application filed April 27, 1895. Serial No. 547,389. (No model.) Patented in Germany February 18, 1894, No. 78,464.

To all whom it may concern:

Be it known that I, HERMANN FRIEDRICH WELKE, a subject of the King of Prussia, German Emperor, residing at Hagen, Westphalia, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Button-Fasteners, (for which Letters Patent were granted to me in Germany, No. 78,464, dated February 18, 1894;) and I do hereby 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.

My invention relates to that class of button-fasteners provided with spring-actuated jaws, one to hold the button and the other the pin, and which are caused to move toward each other to force the pin through the material and form a loop therein through the shank of the button.

The invention consists, first, in a novel construction of recess for receiving the button, in combination with a spring to rest upon the head of the button and a spring-actuated lever-arm acting in connection with the spring whereby the button is firmly held in proper position relative to the pin.

It further consists in so connecting the lever-arm and its actuating-spring with the device that said spring shall act to normally hold the jaws open for action.

It further consists in the combination, with the spring-plate for holding the pin, of a hook-arm pivotally connected with one of the arms with its hook end to move in a slot or groove under the spring-plate, whereby the same shall act to hold the spring away from the face of the jaw when the jaws are open to permit the ready insertion of the pin and to be withdrawn from action with the spring-plate as the jaws are closed to cause the plate to tightly grip the pin-head.

It further consists in certain novel features in the construction and arrangements of parts, all as hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of the jaws with a part of the handles broken away, taken from the side to show the hook-arm with the jaws in their open position. Fig. 2 is a similar view showing the jaws closed with the end of the jaws in section. Fig. 3 is a similar view to Fig. 1, taken from the opposite side. Fig. 4 is a plan view of the spring-plate for holding the pin. Fig. 5 is a view of the spring-plate for holding the button; Fig. 6, a perspective view of the pin; Fig. 7, a perspective view of the hook-arm; Fig. 8, a view showing the button applied to the material. Fig. 9 is a perspective view of the standard.

The jaws A A′ and handles B B′ may be of any usual or preferred configuration, except in the particulars hereinafter referred to.

The forward end of the jaw A, which receives the button, consists of a double-stepped portion *a a′*, with the forward face beveling or inclining inward with the recess or socket *b*, which guides and forms the pin into loop-form, located in rear of the face or stepped portion *a′*.

Connected to the forward face of the jaw A is a spring-plate *d*, which overhangs the stepped portion *a′* and forms, in connection with the face of the stepped portion, a cavity for receiving the head of the button.

Pivotally connected to the side of the jaw A is a lever-arm C, with its forward end bent at an angle to overhang the face of the spring-plate *d*. The rear end of this lever-arm has connected to it a spiral spring D, which in turn is connected in rear of the pivotal connection of the jaws with the handle B′ of the jaw A′ and said parts acting in such manner that as the jaws are closed the spring will act on the lever-arm and cause the toe C′ of the angle-arm of the lever to engage the spring-plate *d* and act in connection therewith to firmly hold the button fast during the process of forcing the pin through the shank of the button and compressing or forming the same into shape, thus avoiding assistance from the hand of the operator to hold the button. The spring D also acts to draw the jaws open after the operation is completed ready for reaction.

The upper face of the jaw A′ is made flat and is provided near its forward end with a notch or recess E, made in concave form, hereinafter referred to. Connected to this face is a flat spring-plate E′, which plate near its forward end is provided with a notch or recess *e*, opening outward to the side of the jaw, the notch being of such depth that when the pin

is placed therein the point shall be directly in line with the center of the shank of the button or in proper position relative to the recess or socket *b*. By this arrangement of the slot it will be seen that the pin will be held firmly in direction longitudinally of the jaw, which, as will be readily seen, will always insure the proper entrance of the pin into the socket *b* and around and through the loop of the button, as all tendency to move the pin in this action is longitudinally relative to the jaws. A hook-arm G is pivotally connected with the arm A′ with its hook or bent end to enter the notch or recess E, which notch, as before stated, is made in concave form, and the length of the hook-arm and its pivotal connection with the arm A is such that when the jaws are fully open to commence operation the hook-arm will be forced forward and up the inclined face of the recess and act to raise or elevate the spring-plate to force said spring away from the jaw and when closed to draw it away from such action and permit the spring to exert its entire force. By this construction and arrangement it will be seen that the pin can be readily put in place and that as soon as the action is commenced the spring will immediately act and firmly grip the head of the pin. This arrangement also facilitates the removal of the goods from the jaws after the button has been applied, as when the jaws are opened after applying the button the hook-arm G again engages the spring and forces it away from the jaw.

The device may be connected to a standard H by an adjustable pivotal connection H′, which may in turn be mounted in a base H^2, which may be connected to the work-bench, the arrangement of parts permitting the device to be adjusted vertically to change its height relative to the table or its oscillation relative to the base.

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

1. In a device for connecting buttons to articles, the combination with the jaw for holding the button, a recess to receive the button, a concavity formed in said jaw to form or guide the pin, a spring to rest upon the head of the button and a spring-actuated lever-arm acting in connection with the spring substantially as and for the purpose set forth.

2. In a device for connecting buttons to articles, a spring to engage the head of the button, a lever-arm having a forward extension to engage the spring, a spring connected to said lever-arm and to the operating-handles, and acting substantially as and for the purpose set forth.

3. In a device for connecting buttons to articles, the pin-holding jaw, a recess formed therein having a concave face, a spring-plate to hold the pin arranged over said recess, an arm to play in said recess, and connected with the opposite jaw, substantially as described whereby to automatically control the tension of the spring as set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

HERMANN FRIEDRICH WELKE.

Witnesses:
F. H. STRAUSS,
A. STRAUSS.