H. R. HEYL.

DEVICES FOR INSERTING METALLIC STAPLES.

No. 195,603. Patented Sept. 25, 1877.

Fig. 1.

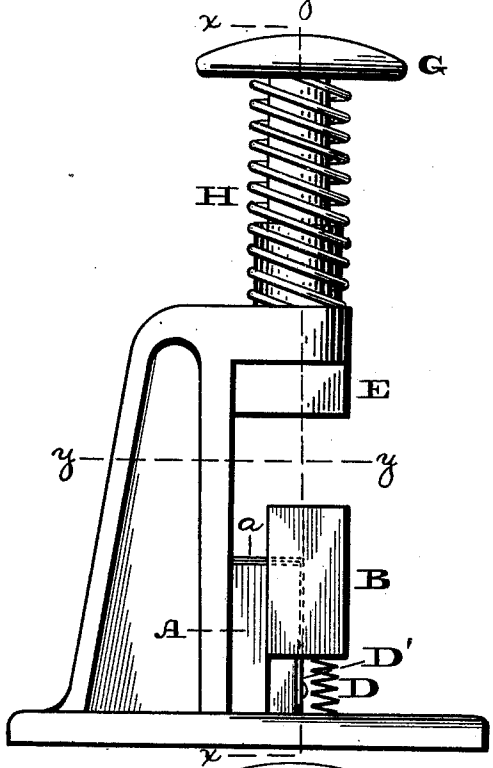


Fig. 2.

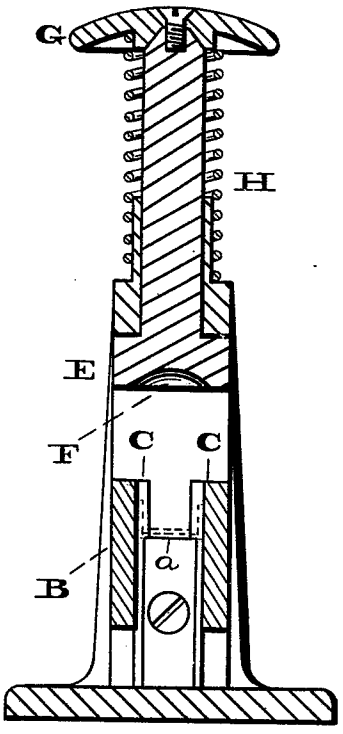


Fig. 3.

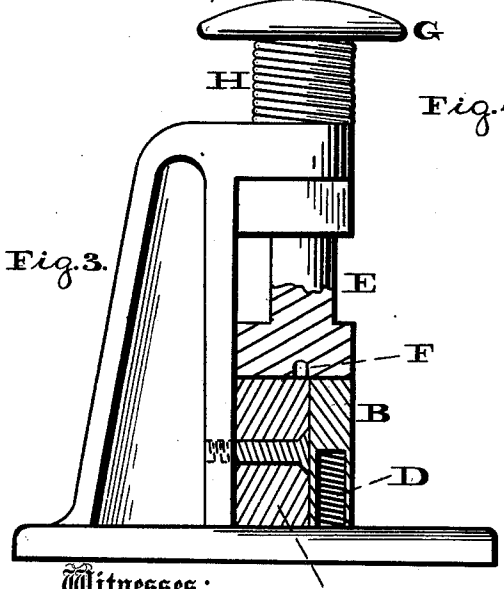


Fig. 4.

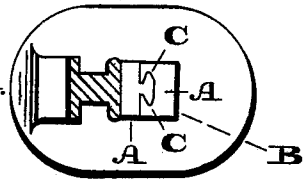
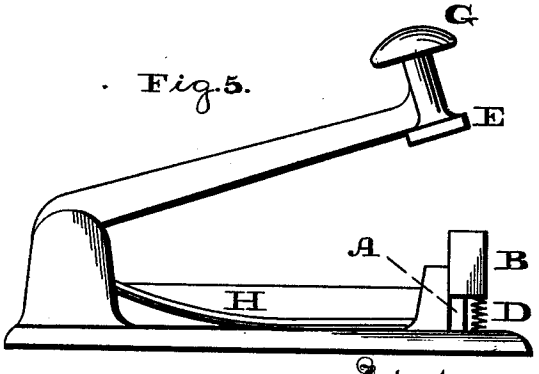


Fig. 5.



Witnesses:

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Fig. 6.



Fig. 7.



Fig. 8.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN DEVICES FOR INSERTING METALLIC STAPLES.

Specification forming part of Letters Patent No. **195,603**, dated September 25, 1877; application filed September 20, 1877.

To all whom it may concern:

Be it known that I, HENRY R. HEYL, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Paper-Fasteners, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figures 1 and 5 are side elevations of the fastener embodying my invention. Fig. 2 is a vertical section in line *x x*, Fig. 1. Fig. 3 is a side elevation, partly sectional. Fig. 4 is a horizontal section in line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of an implement of the form of a hand-stamp by which metallic staples may be forced through sheets of paper documents, and secured by clinching the legs on the reverse side.

Referring to the drawings, A represents a stationary anvil, which is secured to or formed with an arm rising from a suitable stand of convenient form for use upon a writing-desk, and B represents a sliding guide-block fitted to the anvil A by a sliding joint, and having grooves C C, which match with the tongue of the anvil, the upper face of the block being flat. The normal position of the guide B is elevated, and in order to keep it in this position, or from dropping prematurely, I employ a spring, D, which may press up under the guide, or a spring, D′, which may press against it, and thus produce the necessary friction. E represents a reciprocating driver, whose under face is flat, and in the same is a concave recess, F, said driver having a knob, G, for receiving the blows of the hand, and provided with a spring, H, for causing the return or elevation of the driver.

The operation is as follows: A staple is placed within the grooves C C, with its crown resting on the anvil A, the points thus being upward. The papers to be united are now placed upon the face of the guide B over the staple-points, and, by a sharp blow of the hand upon the knob G, the driver is forced downward upon the papers. The guide B gives way, and the staple-legs come up through the papers into the recess F, where they are bent over preparatory to the final clinching. The hand is now released from the knob of the driver, the latter then rising, and the papers are drawn somewhat forward, until the staple-crown rests upon the face of the guide B, when another blow is imparted to the driver, and the flat portion of its face descends forcibly on the staple-legs, so as to bend the latter close to the paper, thus completing the operation.

It will be seen that the grooves C C serve to support and guide the staple-legs during their penetration through the papers, and the recess F is so shaped that, as the staple-legs enter thereinto, they will strike the concave or slanting walls of said recess, and thus be bent inward toward each other sufficiently to insure their being bent down properly when again struck between the faces of the guide B and driver E.

A plate, *a*, may be advantageously employed to overlap the staple-crown for preventing the latter from binding while the legs are being forced through the papers.

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

1. The reciprocating driver E, constructed with a flat face recessed, substantially as described, whereby the projecting ends of staples may be first bent over by entering the recess and then flattened down by pressure from the flat face.

2. The self-adjusting guide-block B, having staple-guiding grooves C C and a flat face, upon which to complete the clinching of the staple, substantially as and for the purpose set forth.

3. The combination of the stationary staple support or anvil A with the sliding guide B, grooved to partially embrace and guide the staple-legs, substantially as and for the purpose set forth.

4. The combination of the stationary staple support or anvil A with the reciprocating slotted or recessed hammer, operating to insert a staple through layers of stock to be united and simultaneously bend over its projecting ends, substantially as and for the purpose set forth.

HENRY R. HEYL.

Witnesses:

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