J. A. & H. A. House,

Button-Hole Cutter.

No. 53,619. Patented Apr. 3, 1866.

Fig. 1.

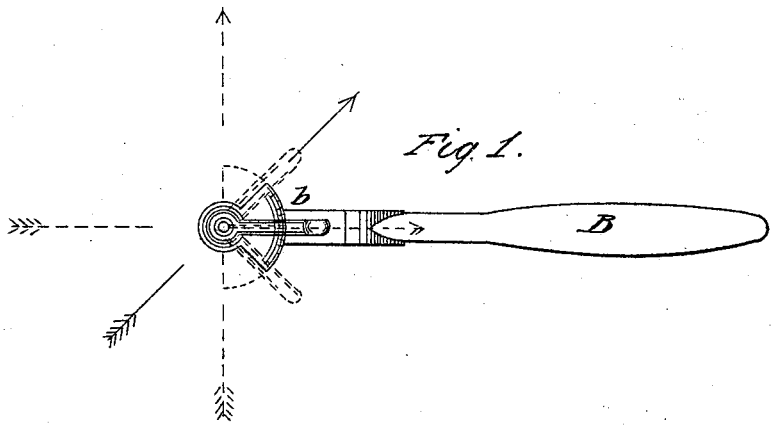


Fig. 2.

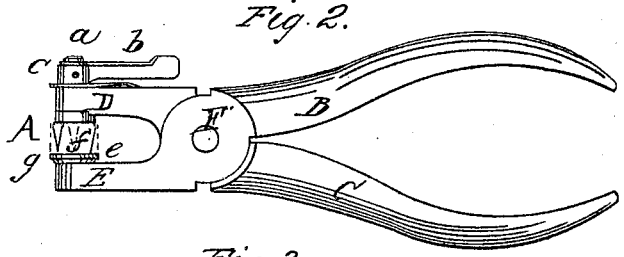


Fig. 3.

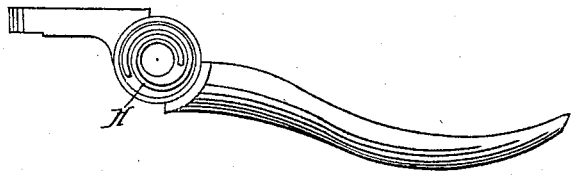
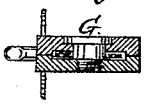


Fig. 4.



Witnesses

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Theodore Lang.

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AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JAMES A. HOUSE AND HENRY A. HOUSE, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN BUTTON-HOLE CUTTERS.

Specification forming part of Letters Patent No. **53,619**, dated April 3, 1866.

To all whom it may concern:

Be it known that we, JAMES A. HOUSE and HENRY A. HOUSE, both of the town of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Instruments for Cutting Button-Holes; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents a top view of our instrument, showing the cutter-lever in various positions. Fig. 2 is a side elevation, showing the cutter in various positions. Fig. 3 is an inside view of one-half of the pliers, showing the opening-spring; and Fig. 4 is a vertical section through the joint of the instrument.

It is the object of our invention to construct self-opening pliers that shall cut button-holes at varying angles to the selvage; and to this end our invention consists in constructing pliers with a concealed spring in the joint, with one jaw terminating in a flat surface, while the other jaw carries a pivoted cutter having attached to it a scaled lever, so that the cutter, by simply moving the lever, can be set at any angle desired, and button-holes be cut by simply closing the cutter of one jaw upon the flat surface of the other.

To carry out the object of our invention we construct a pair of pliers or forceps, A, consisting of two levers, B and C, the long arms of which constitute handles, while the short arms terminate in jaws D and E. These levers are united at F by a screw, G, that constitutes the fulcrum of both levers; and a spiral spring, H, fastened at one end to the inner face of the lever B at the joint F, passes around the fulcrum G and has its opposite end fastened to the inside of the lever C at the joint, which renders the jaws of the pliers or forceps self-opening; and the joint is fitted neatly with projections from the lever, which limit the width to which the jaws can open; and the spring being concealed is not liable to injury, and leaves the forceps in a condition to be neatly finished on their outer surface.

The jaw D is the short arm of the lever C, and has a hole drilled vertically through it to receive the shank *a* of the cutter K, which terminates in a chisel-edge of the width to suit the length of button-hole desired. The shank *a* of the cutter carries on its top a lever, *v*, that is secured to the shank by a pin, *c*, and this lever carries on its under side a scaled quadrant-plate, *d*, which moves over the surface of and in contact with the upper side of the jaw D.

The lower jaw, E, of the lever B is furnished with a plane surface to receive a soft-metal disk, *e*, with a plane surface to support the material in which the button-hole is to be cut.

The operation of our invention is obvious: The movement of the lever *b* and the quadrant-plate determines with precision the position of the cutter at any desired angle to the selvage or edge of the goods in which button-holes are to be cut; and when the goods are placed on the plane surface or face of the lower jaw and the levers B and C are compressed by the hand of the operator the cutter will descend and pass through the goods, and when the hand is relaxed the spring will cause the jaws of the pliers to open instantly and permit a repetition of the operation. As illustrated in the drawings, when the lever *b* is placed in the direction of the black arrow in Fig. 1 the cutter will appear as at *f* in Fig. 2 and the button-hole be cut parallel with the selvage. When the lever *b* is in the direction marked with red in Fig. 1 the cutter will be in the direction *g*, also marked with red lines as in Fig. 2, and the button-hole will be cut at a right angle to the selvage. Thus the change of the position of the lever enables the button-hole to be cut at any desired angle to the selvage.

When it is desired to vary the length of the button-hole it is only required to remove the pin *c* from the shank of the cutter, and after withdrawing it supply its place with a cutter of the width desired. The flat plate of the lower jaw may be secured in position by a pin, or, if preferred, a dovetailed slot may receive a dovetailed projection from the under side of the plate; and in either mode it is obvious that plates of varying widths may be introduced to match the cutters of varied width, or that worn plates may be removed with facility and new ones put in the place.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The axially-adjustable cutter, substantially as described, for cutting button-holes at any desired angle to the selvage.

2. The combination of the axially-adjustable cutter in one jaw of the pliers with the adjustable plate in the other jaw of the pliers, when both are removable, to cut button-holes of varying size, substantially as set forth.

In testimony whereof we have hereunto subscribed our names.

JAMES A. HOUSE.
HENRY A. HOUSE.

Witnesses:
GEORGE C. BISHOP,
SAMUEL BURR.