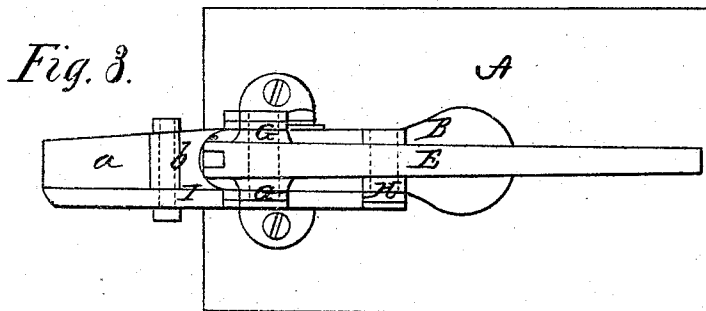
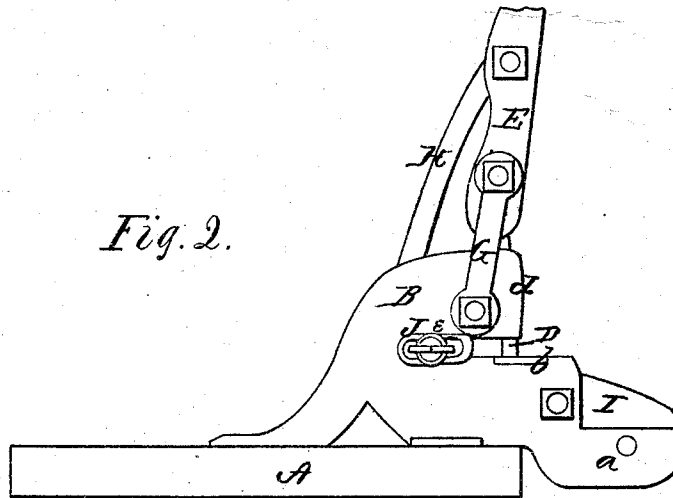
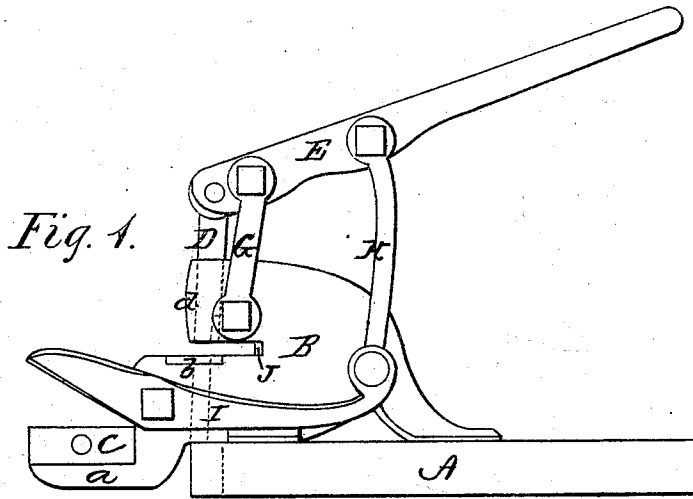


S. R. HOUSER.

Machines for Punching and Shearing.

No. 143,510.

Patented Oct. 7, 1873.



Witnesses.
George E. Upham,
Jos. B. Loomis.

Inventor.
Samuel R. Houser.
Chipman & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

SAMUEL R. HOUSER, OF UPPER SANDUSKY, OHIO.

IMPROVEMENT IN MACHINES FOR PUNCHING AND SHEARING.

Specification forming part of Letters Patent No. **143,510**, dated October 7, 1873; application filed August 16, 1873.

To all whom it may concern:

Be it known that I, SAMUEL R. HOUSER, of Upper Sandusky, in the county of Wyandot and State of Ohio, have invented a new and valuable Improvement in Combined Punch and Shears; and I 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, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my machine in side elevation, showing the shears open and punch raised. Fig. 2 is a view of the other side, showing the shears closed and the punch pressed down. Fig. 3 is a plan view of the machine.

My invention relates to that class of machines where a punch and shears are combined for the use of coopers, wagon-makers, and others; and it consists in the construction and novel arrangement of parts, whereby a simple, cheap, and durable machine for the purposes intended is obtained, as will be hereinafter more fully set forth.

Like letters of reference indicate corresponding parts.

A represents the bed-piece of the machine, or the top of a work-bench or table to which the machine is attached. B represents the frame of the machine, cast solid in one piece, of substantially the form shown in the drawing, with a projecting lip, *a*, to which the stationary blade C of the shears is firmly secured by a screw or other suitable means, so that it can readily be removed for sharpening, when desired. Above the lip *a*, and back of the same, is the bed *b* for the punch, and above the same is the head *d*, with a vertical hole through the same for the punch to work up and down, said bed *b* and head *d* being formed in the frame B. D represents the punch, constructed in any of the known and usual ways, and passed through the hole in the head *d* of the frame B. The upper end of the punch is pivoted in the forked front end of a lever, E, which is pivoted between two arms, G G. These arms pass downward, and are pivoted

by a single bolt, one on each side of the head *d* in rear of the punch. At a suitable point back of the arms G G another arm, H, is pivoted to the lever E, and the lower end of this arm is pivoted to the rear end of the movable shear-blade I. This blade is in turn pivoted to the side of the frame B back of the lip *a*.

It will readily be seen that by moving the lever E forward the shears close and the punch is forced down, and by turning the lever backward the shears are opened and the punch raised.

J represents an L-shaped gage, one end of which is inserted under the head *d* back of the punch, and the other end is slotted and held by a set-screw, *e*, to the side of the frame B.

By coopers this machine is used to cut off hoop-iron, of proper length for hoops. When cut off the two ends are placed one above the other under the punch, and both punched at once. They are then riveted together on the front end of the bed *b* before removed from the operator.

The gage J with its set-screw is to set for different widths of hoop or other iron, so as to place the hole where desired.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a combined punching and shearing machine, the frame B cast in one piece, as described, with the lip *a*, bed *b*, and head *d*, as and for the purposes set forth.

2. The combination of the punch D, lever E, arm H, and movable shear-blade I, as and for the purposes herein set forth.

3. The combination of the frame B, stationary blade C, punch D, lever E, arms G G and H, movable blade I, and gage J, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SAMUEL R. HOUSER.

Witnesses:

ALEXANDER W. BRINKERHOFF,
D. D. HARE.