No. 664,846. Patented Jan. 1, 1901.

J. ESPENLAUB & W. B. MILLIS.

PUNCH.

(Application filed June 20, 1899.)

(No Model.)

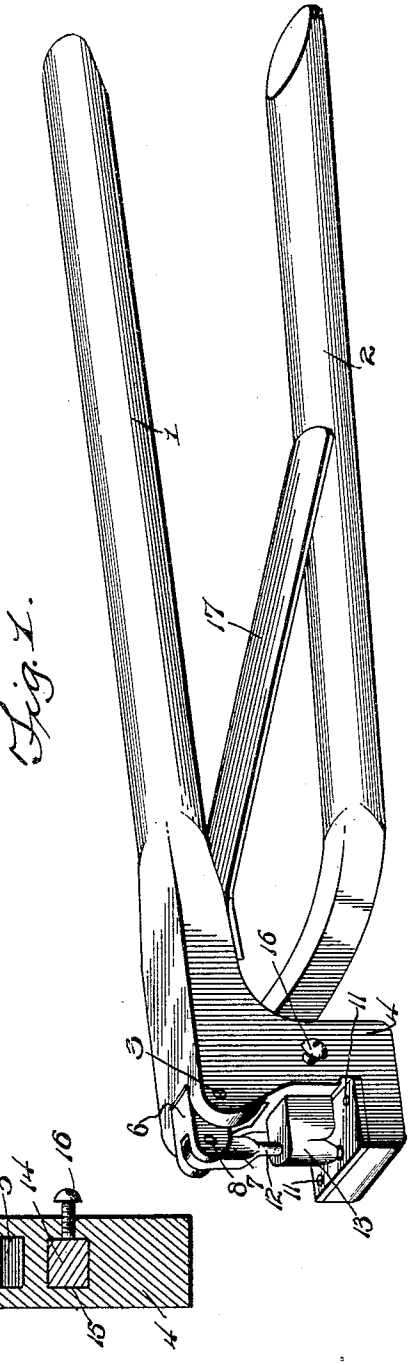


Fig. 1.

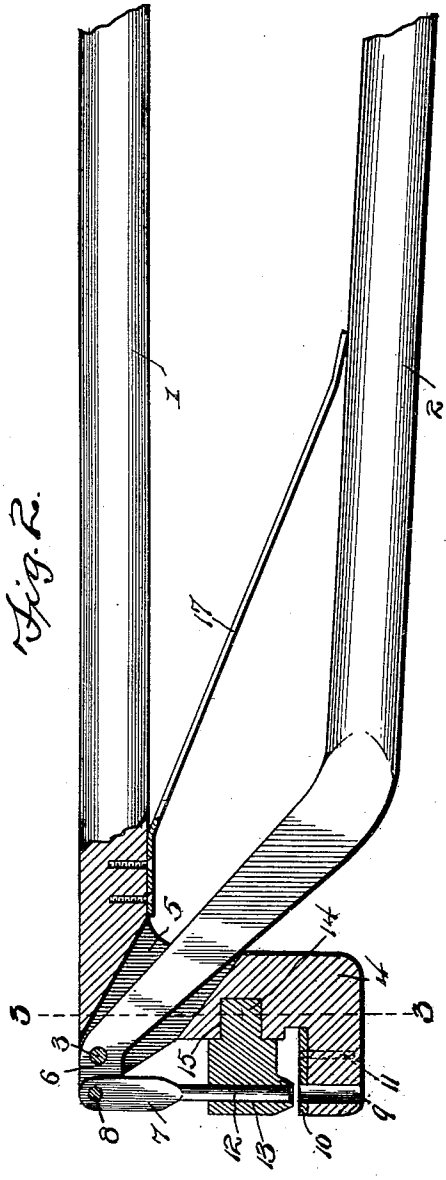


Fig. 2.

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN ESPENLAUB AND WILLIAM B. MILLIS, OF EVANSVILLE, INDIANA.

PUNCH.

SPECIFICATION forming part of Letters Patent No. 664,846, dated January 1, 1901.

Application filed June 20, 1899. Serial No. 721,238. (No model.)

To all whom it may concern:

Be it known that we, JOHN ESPENLAUB and WILLIAM B. MILLIS, citizens of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented a new and useful Punch, of which the following is a specification.

The invention relates to improvements in punches.

The object of the present invention is to improve the construction of punches and to provide a simple, inexpensive, and efficient one designed more especially for operating on sheet-metal trimmings of trunks and analogous receptacles and capable of being used on such parts where it is impossible to operate with a large bench-punch.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a punch constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail sectional view on line 3 3 of Fig. 2.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 and 2 designate bars or members pivotally connected at their outer ends by a rivet 3 or other suitable fastening device and having inner handle portions. The bar or member 1, which has its outer end enlarged to form a head, is provided thereat with a substantially L-shaped arm 4, and it has an opening 5 at the inner end of the arm for the reception of the adjacent end of the bar or member 2. The opening 5 is arranged diagonally of the device at the angle formed by the inner portion of the arm and the body of the bar or member 1, which is provided at opposite sides of the opening with perforated ears for the reception of the pivot 3, and the other bar or member 2 is provided near its pivoted end with an angular bend, and the outer portion extends into the opening 5. The pivot is arranged near the ends 6 of the bar or member 2, which is disposed longitudinally of the device when the parts are arranged as illustrated in Fig. 2 of the accompanying drawings, and the outer end 6, which projects beyond the bar or member 1, as clearly shown in Fig. 1, is bifurcated to receive one end of a die or plunger 7, which is pivoted to the bar or member 2 by a transverse fastening device 8. The outer portion of the L-shaped arm 4 is arranged at right angles to the punch and is provided opposite the same with an aperture 9, and its face is covered with a plate 10, of steel or other suitable material. The plate 10 is detachably secured to the outer portion of the L-shaped arm 4 by screws 11, and the plunger, which is enlarged at its pivoted end, has a rounded portion 12, which passes through an opening of the guides 13, located between the pivoted end of the plunger and the outer portion of the L-shaped arm. The guide 13, which is spaced from the wear-plate 10 of the arm, is provided with a reduced portion or shank 14, which is detachably secured in a socket or recess 15 of the inner portion of the L-shaped arm by a clamping-screw 16, extending inward from one side of the same.

The bars or members 1 and 2 are normally held separated by a spring 17, secured at one end to the bar or member 1, adjacent to the opening 5, and having its other end free and bearing against the inner side of the bar or member 2. The spring holds the plunger within the guide 13, which is spaced from the outer portion of the arm, and this space or opening is adapted to receive the sheet metal or other material to be operated on, and it will be readily apparent that by compressing the handle portions of the bars or members the plunger will be driven through the sheet metal.

It will be seen that the punch is exceedingly simple and inexpensive in construction, that it is adapted to be readily operated with one hand, and that it is capable of operating on parts of sheet metal and other material which cannot be readily placed within a large bench-punch.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A hand-punch for operating on sheet

metal comprising the bar 1, provided at its outer enlarged end with an integral transversely-disposed L-shaped arm 4 and having pair of outwardly-projecting ears located at opposite sides of an opening at the angle formed by the arm 4 and the bar 1, the bar 2 extending through the opening at the outer end of the bar 1 and pivoted between its ends to the said perforated ears and projecting outward beyond the same, the plunger 12 pivoted to the outer end of the bar 2 and located beyond and arranged parallel with the inner portion of the L-shaped arm and disposed in alinement and coöperating with an opening of the outer portion of the L-shaped arm, the guide 13 having an opening to receive the plunger and provided with a shank fitting in a socket of the inner portion of the arm 4 at a point between the ends thereof, said guide maintaining the plunger in alinement with the opening of the outer portion of the arm, a fastening device located at one side of the arm 4 and detachably securing the shank of the guide in the socket and permitting the guide to be removed, whereby the plunger is adapted to swing outward beyond the punch without detaching it from the bar 2, and without separating the bars, and a spring secured to the enlarged end of the bar 1 at the inner side thereof and engaging the bar 2, substantially as described.

2. A hand-punch for operating on sheet metal comprising the bar 1 provided at its outer end with an L-shaped arm extending transversely and projecting outwardly beyond it, the outer portion of the arm being provided with an opening, the bar 2 extending through the inner portion of the arm and pivoted to the bar 1, the transversely-disposed exteriorly-arranged plunger pivoted to the outer end of the bar 2, and the guide mounted detachably on the inner portion of the arm and extending therefrom and receiving the plunger, and adapted to be removed to permit the plunger to swing outward without separating the bars 1 and 2, substantially as described.

3. A hand-punch for operating on sheet metal comprising the bar 1 provided at its outer end with the L-shaped arm 4 extending transversely from it and projecting outwardly beyond it, the bar 2 having its outer end bent and extended through the inner portion of the L-shaped arm, and projecting beyond the bar 1 and pivoted to the latter, the transversely-disposed exteriorly-arranged plunger pivoted to the outer end of the bar 2 at a point beyond the bar 1 and adapted to swing outward beyond the same without separating the bars and coöperating with the outer portion of the L-shaped arm, and a guide located on the exterior of the L-shaped arm between the outer portion thereof and the outer end of the bar 2, and provided with a reduced shank detachably fitted within a socket of the inner portion of the arm, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN ESPENLAUB.
WILLIAM B. MILLIS.

Witnesses:
ANNA CONRAD,
JOHN W. SPENCER.