No. 751,079. PATENTED FEB. 2, 1904.

# A. A. KRAEUTER.

## BELT PUNCH.

APPLICATION FILED MAY 8, 1902.

NO MODEL.

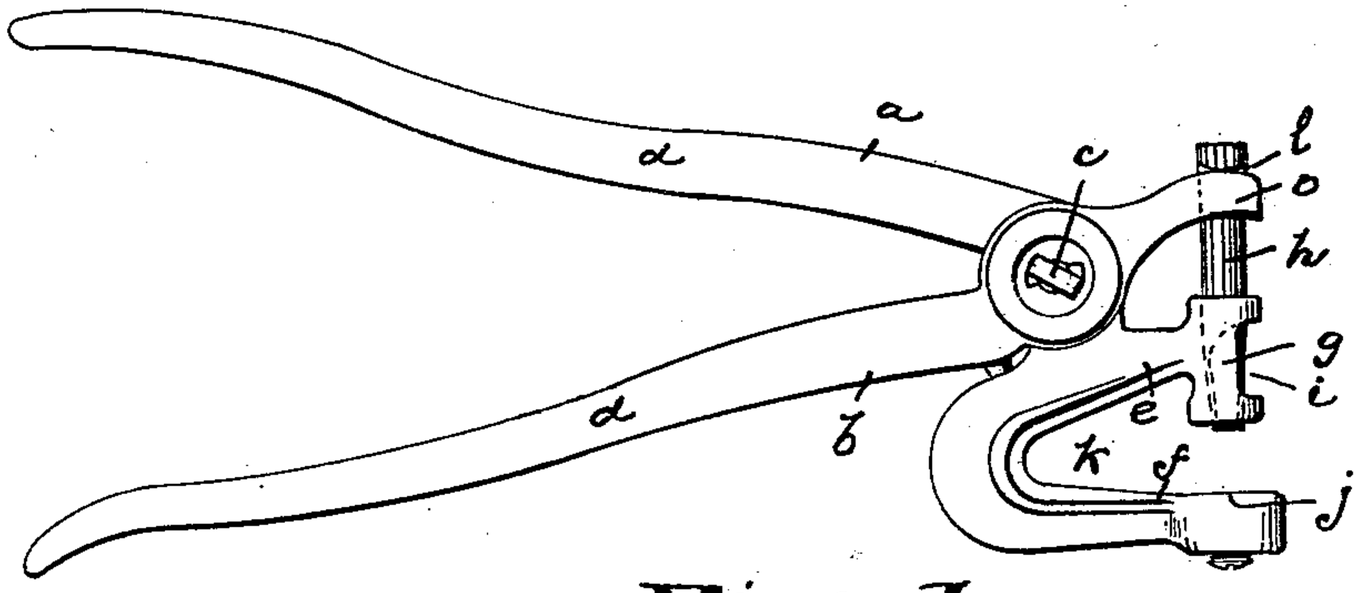


Fig. 1.

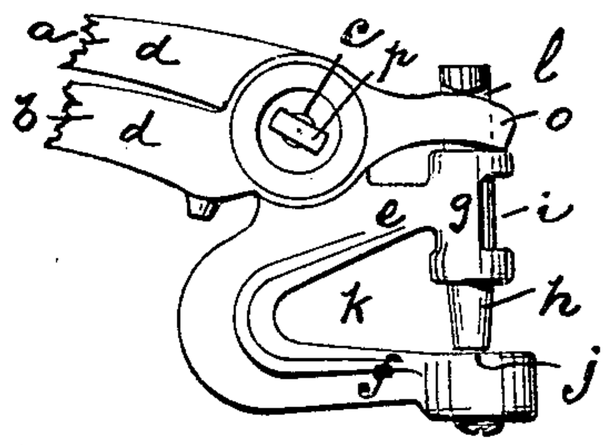


Fig. 2.

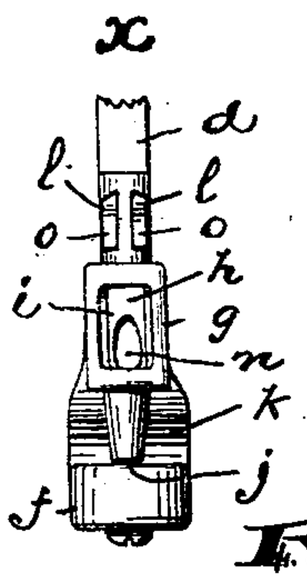


Fig. 3.

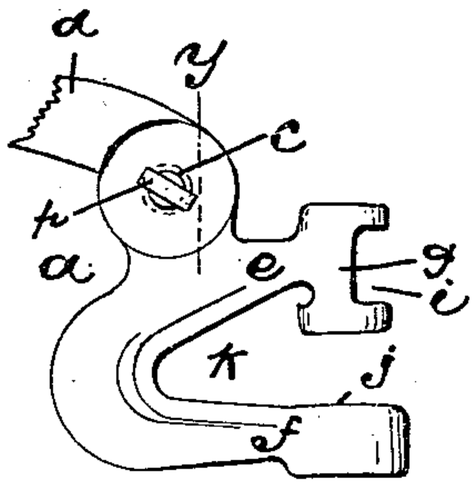


Fig. 5.

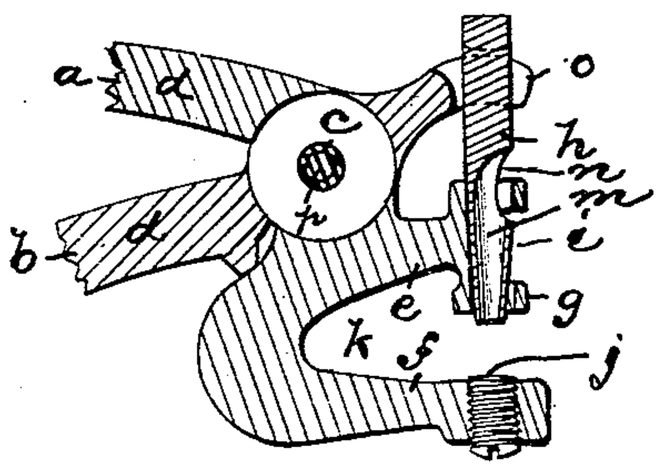


Fig. 4.

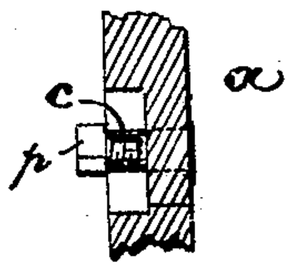


Fig. 6.

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No. 751,079. Patented February 2, 1904.

# UNITED STATES PATENT OFFICE.

ARTHUR A. KRAEUTER, OF NEWARK, NEW JERSEY.

## BELT-PUNCH.

SPECIFICATION forming part of Letters Patent No. 751,079, dated February 2, 1904.

Application filed May 8, 1902. Serial No. 106,429. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR A. KRAEUTER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Belt-Punches; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to perforate leather belts with greater perfection preliminary to lacing the ends thereof together, whereby the lacing may be performed with greater uniformity and neatness and with increased strength to resist the tensile strain on said belt, to perforate the belt at a reduced expenditure of hand-power, and to secure other advantages and results, some of which will be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved belt-punch and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter fully described, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of my improved punch. Fig. 2 is a detail view of the same, showing the punching members in closed relation. Fig. 3 is a front end view of the punching parts of the same. Fig. 4 is a vertical section taken on line *x* of Fig. 3. Fig. 5 is a detail view showing a portion of one of the hand-levers, and Fig. 6 is a section taken at line *y*.

In said drawings, *a b* indicate two hand-levers pivoted together at the fulcrum *c* and each provided with a handle *d*, by which the said levers may be operated to effect a punching operation. The punch member *a* at its forward extremity is provided with two prongs *e* and *f*, Fig. 5, one of which is tubular at *g* to receive the sliding punch *h*, the front of the tube being open, as at *i*, to permit the out-passage of the punchings from the said tubular punch *h*, and the other prong *f* of which provides the anvil *j*, against which the said tubular punch bears. The space *k*, between the prongs *e f*, is disposed below the fulcrumal pivot *c* and extends from the line of the tubular punch *h* a considerable distance back beyond the vertical line of the said pivot *c*. In other words, the member *a* is forward of the fulcrum bent backward beneath the other member and then forward again, as at *f*, to form the U-shaped space *k*. Thus the lace-holes in the belt can be made a considerable distance in from the end of the belt, and two parallel rows of such holes may be made in said belt at considerable distances apart, which conduces to strength in joining the ends. At the same time there is no sacrifice of leverage by a setting back of the fulcrum *c* because of punching so far in from the edge; but the U-shaped part may extend as far back as desired without affecting the fulcrum, as will be seen from the drawings. The fulcrum can be as close to the punch *h* as desired to obtain power and ease of cutting and yet the holes be punched practically any required distance from the edge of the belt or other article being operated upon. The anvil of the member *f* of the punch may be adjustable and may be a screw within a threaded aperture in the prong *f*, as clearly shown in Fig. 4.

The longitudinal passage *m* of the punch *h* begins at a distance back from the cutting end to curve to one side, and so opens laterally out at the front thereof, as shown. The curve is gradual and the opening coincides with the opening *i* in the slideway *g*, so that the punchings may find an easy out-passage. Furthermore, the upper wall of the opening *i* in the slideway is so located that as the punch *h* is raised from its anvil said wall will engage and expel any partially-ejected punching which may be clinging to the punch, as may be seen by a comparison of Figs. 3 and 4.

The punch *h* is held by its slideway *g* in a position exactly at right angles to the anvil, so that the cutting edge of said punch will

coincide with the face of said anvil and the hole in the thick leather will be clearly cut and be exactly at right angles to the face of the belt instead of at a slight inclination thereto.

The upper solid end of the punch is notched at opposite sides thereof, as at *l*, to receive the forked end of the lever *d*, the prongs *o* of the said forked end lying in said notches and being adapted to raise and lower the punch from and toward the anvil. Preferably said shoulders are not square across the punch, but are convexly rounded, as shown, and the said forked end of the lever member *b* is slightly hooked or downcurved, whereby said parts naturally retain their proper relative positions in action and without any tendency to displacement or binding.

The fulcrum *c* is preferably formed integral with the member *a*, although it may be rigidly secured thereto. It is made hollow and interiorly threaded to receive a screw *p*, having a cross-head. The member *b* at its fulcrumal center is provided with a slot to permit the passage of the cross-head, and thus by simply turning the cross-head out of coincidence the levers are held together in pivotal relation. By turning the cross-head into coincidence with the slot the lever *a* may be lifted away from the lever *b*, so that the prongs *o* can be withdrawn from the opposite notches *l*, and when thus withdrawn the tubular punch can easily and quickly be withdrawn from its tubular sheath *g* for the purpose of sharpening or a punch of different size substituted for the one removed. The exchange of punches can thus be effected with great rapidity and convenience.

Having thus described the invention, what I claim as new, is—

1. In a punch, the combination of upper and lower lever-like members crossed and pivoted together, a U-shaped part disposed in the same plane as said members with its open end forward and attached by its upper prong, midway of its length, to fulcrumal portion of the upper lever-like member, an anvil at the end of the lower prong of said U-shaped part, and a punch slidably supported in the end of the upper prong and engaged by the upper lever-like member.

2. In a punch, the combination of two lever-like members pivoted together, one of said members being beyond said pivot bent backward beneath the other in the plane of the members and having an end portion projecting forward again, and the other member projecting forwardly beyond the fulcrum, an anvil upon the first said member, and a punch connected to the other member and adapted to move therewith to engage the said anvil.

3. In a belt-punch, the combination of two pivoted members, one having a U-shaped extension the upper prong of which forms a tubular slideway apertured or open intermediate of its ends at the front side and the lower prong of which forms an anvil, a tubular punch arranged in said slideway and having its bore or internal passage curved laterally at a distance from the cutting end and opening out through the side of the punch, said opening of the punch being adapted to coincide with said aperture of the slideway and the upper wall of the latter being adapted to expel a partially-ejected punching as the punch is raised from its anvil, and the other member being connected to said punch to slide the same.

4. In a belt-punch or the like, the combination of two lever-like members crossed and pivoted together, both members being recessed at their adjacent sides each to receive the other, an integral post or stud at the center of the recess of one member and being hollow and interiorly threaded, a screw fitting said post and having a narrow transverse head longer than the diameter of the post, and the other member being apertured to receive said post and having opposite radial extensions of said aperture to admit said head when brought into alinement.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of April, 1902.

ARTHUR A. KRAEUTER.

Witnesses:

CHARLES H. PELL,

C. B. PITNEY.