No. 629,558. Patented July 25, 1899.

# J. GOGLEY.

## METAL PUNCH.

(Application filed Mar. 18, 1899.)

(No Model.)

Fig. 1.

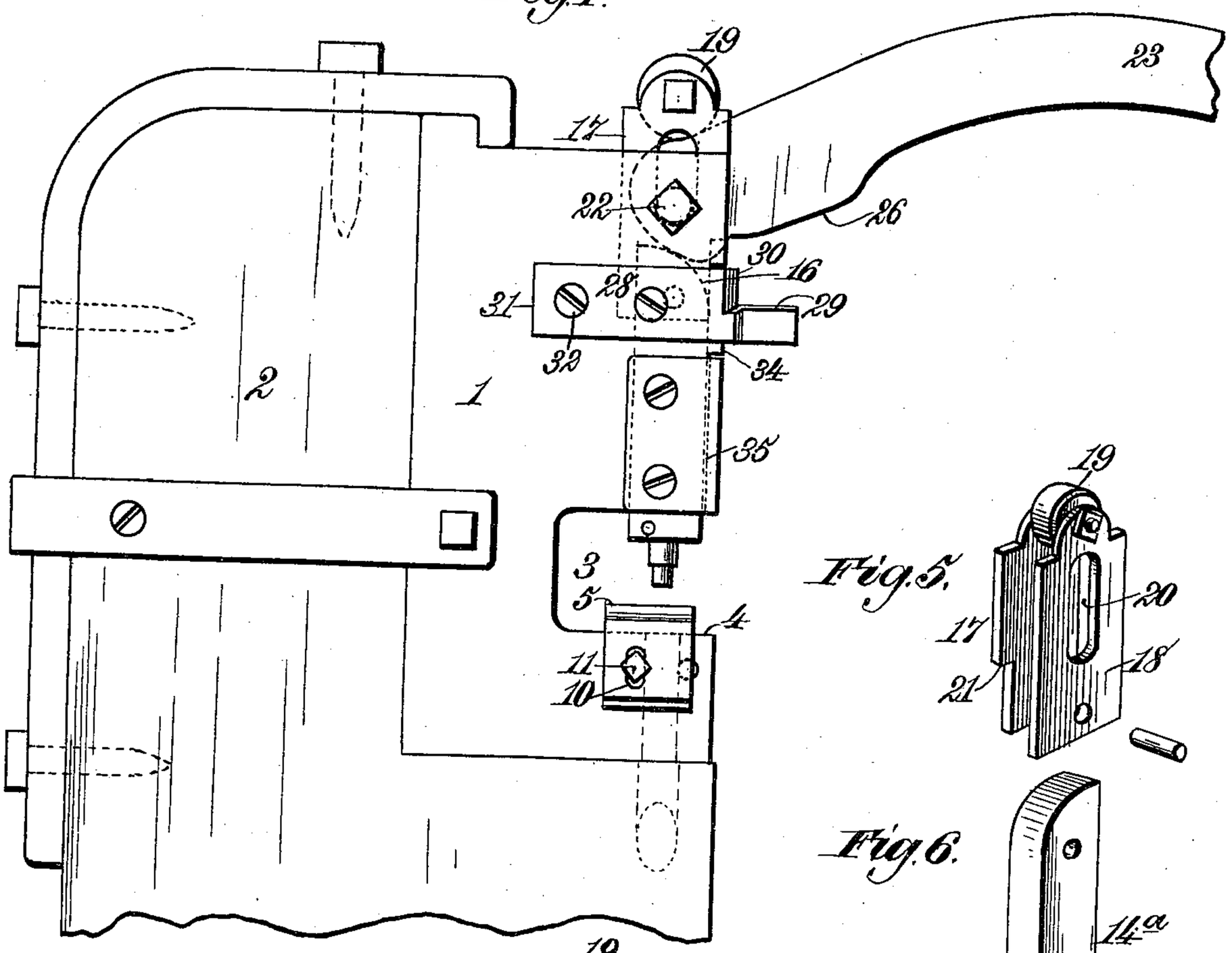



Fig. 5.




Fig. 6.

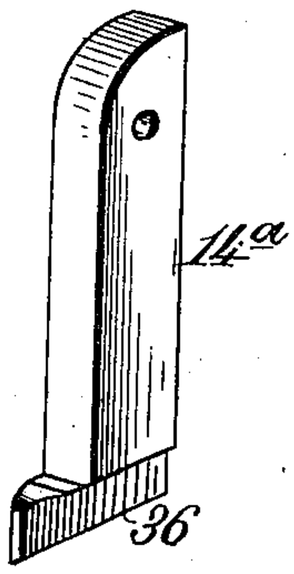



Fig. 7.

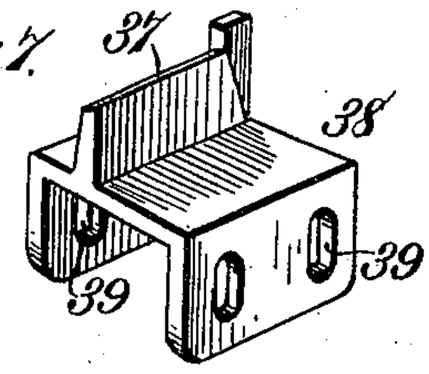



Fig. 3.

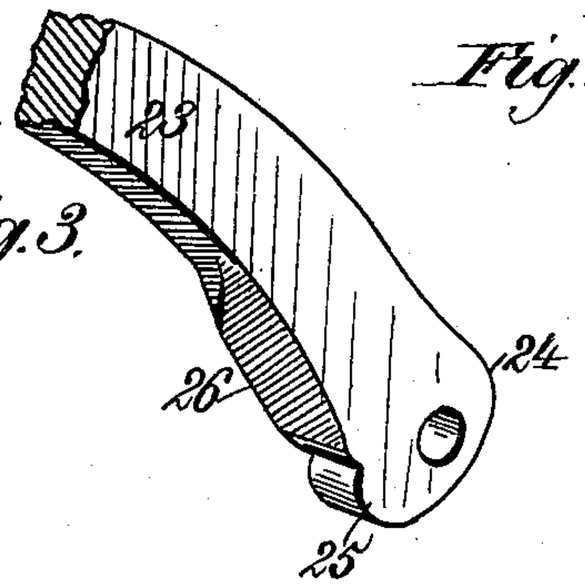



Fig. 2.

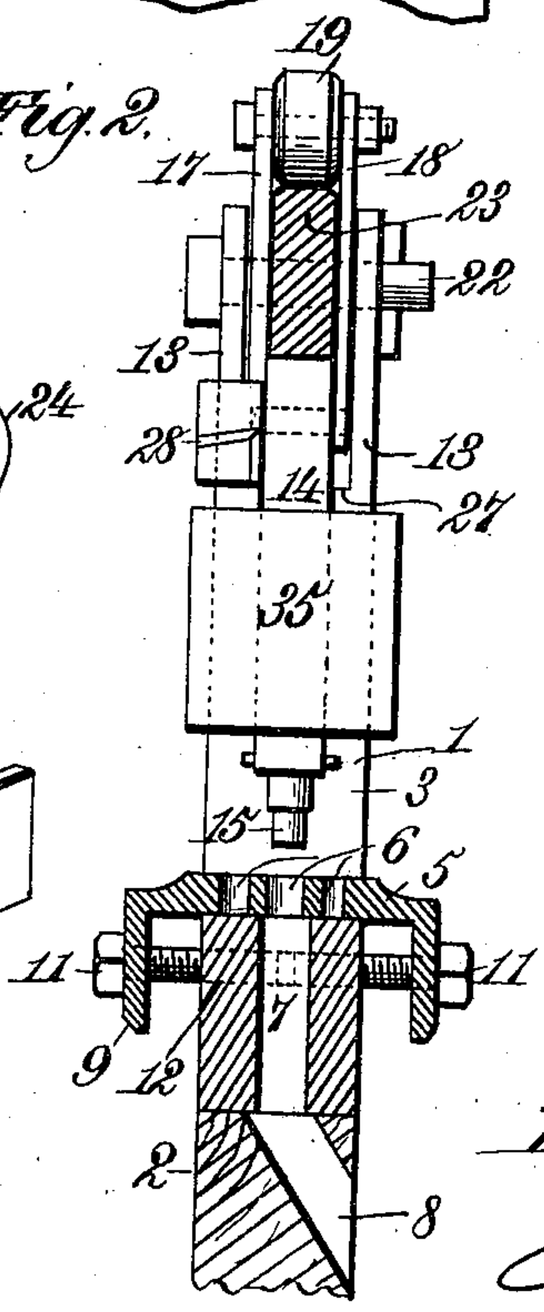
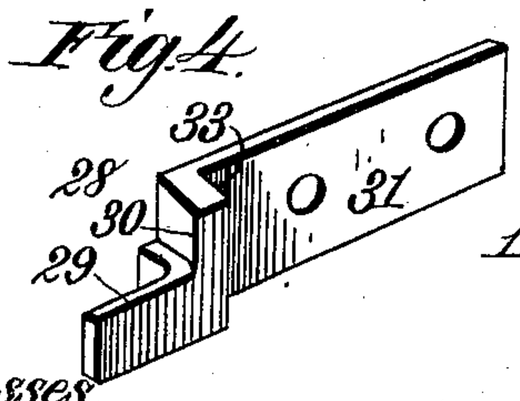



Fig. 4.




Witnesses.
Robt Everett.
F. B. Keefer.

Inventor.
Jacob Gogley.
By James L. Norris.
Atty.

# UNITED STATES PATENT OFFICE.

JACOB GOGLEY, OF EVERETT, PENNSYLVANIA.

## METAL-PUNCH.

SPECIFICATION forming part of Letters Patent No. 629,558, dated July 25, 1899.

Application filed March 18, 1899. Serial No. 709,647. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB GOGLEY, a citizen of the United States, residing at Everett, in the county of Bedford and State of Pennsylvania, have invented new and useful Improvements in Metal-Punches, of which the following is a specification.

My invention relates to metal-punches, the object of the same being to provide a device of this kind which is simple in construction and in which a high degree of power may be obtained upon the punching mechanism.

A further object of the invention is to provide a combined cutter and punch either or both of which may be operated by the depression of the actuating-lever.

A still further object of the invention is to provide a vertically and horizontally adjustable die-plate by means of which the same may be adapted to be used with punches of different sizes and wear upon the engaging part of the punch compensated for.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be set forth in the appended claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of my improved punch. Fig. 2 is a front view of the same, partly in section. Fig. 3 is a detail perspective view of a portion of the operating-lever. Fig. 4 is a similar view of the cutting-blade on the main frame. Fig. 5 is a similar view of the plates and roller connecting the upper end of the tool-holder. Figs. 6 and 7 represent detail perspective views of modifications.

The body 1 of the punch is suitably secured to the block 2 or other support and is formed with an inwardly-extending slot 3, leading from its forward edge, the said slot providing on its lower wall a bed 4, to which is secured a die-plate 5, having an opening 6 therein, which when the die-plate is in place registers with a corresponding opening 7 in the bed, which leads downwardly through the bottom of the body 1 and discharges through an inclined opening 8 in the block 2. The die-plate I have stated is provided with an opening 6. It may, however, be provided with a plurality of such openings of different sizes which are adapted to be respectively located above the opening 7 in the bed 4 for the purpose of accommodating the device for use with punches of different sizes. In order that the different openings 6 may be located one at a time over the opening 7, means must be provided for adjusting the die-plate 5 transversely of the bed 4. The means provided by me consists in forming at the opposite ends of the die-plate 5 downwardly-extending flanges 9 9, which are parallel to each other and form a space between them which is wider than the bed 4. These flanges 9 have vertically-elongated slots 10 10 therein, through which pass the adjusting and securing bolts or screws 11 11, the threaded portion of said screws entering threaded openings 12 12 in the sides of the bed 4. As the space between the flanges 9 9 of the die-plate is longer than the width of the bed 4, it is obvious that said die-plate may be moved in one direction or the other across the bed if the screws 11 are loosened and may be locked in adjusted position by said screws. The elongated slots 10 in the flanges 9 also provide means whereby the die-plate 5 may be adjusted vertically. This adjustment is for the purpose of accommodating the device to punches of any length within certain limits and to compensate for the wear upon the engaging or active face of said punch—that is to say, if the end of the punch becomes worn from constant use it would not under ordinary circumstances be of sufficient length to pass entirely through the work operated upon and instead of cutting a disk from said work would merely produce a depression therein. By raising the die-plate 5, however, which may be readily performed by reason of the provision of the elongated slots 10, and locking the same in its raised position by means of the bolts or screws 11 the wear upon the punch may be compensated for.

Above the bed 4 the body 1 of the device is formed with two parallel side cheeks or plates 13 13, between which the tool-holder 14 is located and guided in its movements. The said tool-holder is provided with means whereby a punch 15 may be secured in its lower end, or the said punch may be formed integral with it, if desired. The same consists, essentially, of a rectangular block or bar having its upper end cut upon a convex curve, as shown at 16.

Pivoted to the sides of the tool-holder at a point adjacent to its upper end are two flat plates or links 17 18, carrying a roller 19 at their upper ends and provided with registering elongated slots 20 20. The lower forward edge of the plate or link 17 is cut away, as shown, forming a shoulder 21 for a purpose which will hereinafter appear. Fulcrumed upon a pin 22, connecting the side plates or cheeks 13 13, and located between said cheeks is an operating-lever 23, having cam-faces 24 25 formed on the upper and lower sides, respectively, of its pivotal point. A short distance to the rear of its pivotal point and upon its lower side edge said lever is provided with a sharpened cutting portion 26. It will be understood, of course, that the tool-holder 14 and the plates 17 and 18 pivoted thereto are intended to slide freely back and forth in the guides formed by the parallel cheeks 13 13. The downward movement of these parts is effected by the depression of the free end of the operating-lever 23, the cam-surface 25 thereof engaging the curved upper end 16 of the tool-holder 14 and riding thereover in a manner readily understood. The downward movement of said tool-holder is limited by the engagement of the lower end of the plates 17 and 18 with the internal shoulders 27 on the cheeks 13 13. The upward or return movement of the tool-holder and the parts connected therewith is effected by reversing the action of the lever 23, so as to bring the cam-surface 24 thereof into engagement with the roller 19, which connects the plates 17 and 18 at their upper ends. The pivot bolt or pin 22 it will of course be understood passes through the slots 20 in the plates 17 and 18, and this of course serves to limit the upward movement of said tool-holder.

Bolted or otherwise secured to one of the cheeks 13 of the body 1 is a projecting blade or cutter 28, which coöperates with the cutting edge 26 on the operating-lever 23 when the latter is depressed. The said blade is formed with two cutting edges 29 and 30, which are located at right angles to each other, and with the cutting edge 26 of the lever serve to increase the effectiveness of the device as a severing means for metallic rods or bars by providing three cutting-surfaces, which prevent the slipping of the part operated upon and separate the same by their cuts, which extend in directions opposed to or at an angle to each other. The blade 28 is formed with a rearwardly-extending shank 31, through which the securing-bolts 32 pass. The forward end of said shank is recurved upon itself, forming an inwardly-extending lip or flange 33, which engages the inner surface of the cheek 13 and prevents outward derangement of the blade. The downward movement of said blade is resisted not only by the securing-bolts 32, but by the engagement of the lower edge of said blade with a lug or shoulder 34, which projects slightly in advance of the normal forward edge of the cheek 13. The lip 33, which engages the inner surface of the cheek 13, forms an abutment against which the shoulder 21 on the plate 17 bears when the tool-holder 14 and the parts connected therewith are depressed. The housing for the tool-holder 14, which is partially produced by the parallel cheeks 13 of the body 1, is completed by the flanged plate 35, which is secured to said cheeks along their front edges and serves as a guide or guard to prevent the forward outward movement of said tool-holder.

In the form of my invention illustrated in Figs. 6 and 7 of the drawings it will be observed that in lieu of the tool-holder 14, with the punch 15 secured to its lower end, I have shown a cutter 36, formed upon the lower end of the tool-holder 14ª, which coöperates with a corresponding cutter 37, secured to the bed 4 at the point ordinarily occupied by the die-plate 5. The side flanges 38 on the cutter 37 are provided with a plurality of slots 39, by means of which the securing and adjusting bolts which correspond with the bolts 11 in the other form of my invention may act to lock said cutter in a position nearer to or farther removed from the cutter 36, or the forward or rear end thereof may be adjusted and locked for the purpose of changing the angle at which the active faces of the cutters 36 and 37 approach and recede from each other.

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

1. In a punch, the combination with a tool-holder, of a die-plate adjustable transversely and in the direction of the length of said tool-holder, and means for locking said die-plate in adjusted position.

2. In a punch, the combination with the bed and a reciprocating tool-holder, of a die-plate having side flanges embracing said bed and separated to a greater degree than the side of said bed, the said flanges being provided with vertically-elongated slots, and securing means extending through said slots, as and for the purpose described.

3. In a punch, the combination with the bed having an opening therethrough, and a reciprocating tool-holder carrying a punch in line with said opening, of a die-plate having a plurality of openings adapted to register one at a time with the opening in said bed, the said die-plate being provided with side flanges embracing said bed and separated to a greater degree than the sides of said bed, the said flanges being provided with vertically-elongated slots, and screws extending through said slots and entering threaded openings in the sides of said bed.

4. In a punch, the combination with the body thereof having a slot leading inwardly from its forward edge forming a bed which bed is provided with an opening extending longitudinally therethrough, of a reciprocating tool-holder carrying a punch or like implement, a die-plate having a plurality of openings there-

in, adapted to register with the opening in said bed, and having side flanges thereon which embrace said bed, providing a space between them wider than said bed, and screws extending through openings in said flanges and engaging threaded openings in the sides of said bed.

5. In a punch, the combination with the body having parallel side cheeks formed thereon above the bed, of a reciprocating tool-holder fitting between and guided by said cheeks and having its upper end cut upon a convex curve, parallel side plates pivoted to said tool-holder and provided with registering elongated slots, a roller connecting the upper ends of said plates, and an operating-lever fulcrumed upon a pin connecting said side cheeks and passing through the elongated slots in said plate, the said lever being provided with cam-surfaces on opposite sides of its pivotal point adapted to engage, respectively, with the curved upper end of said tool-holder and with said roller, as and for the purpose set forth.

6. In a punch, the combination with the body having parallel side cheeks formed thereon above the bed, of a reciprocating tool-holder fitting between and guided by said cheeks and having its upper end cut upon a convex curve, parallel side plates pivoted to said tool-holder and provided with registering elongated slots, a roller connecting the upper ends of said plates, an operating-lever fulcrumed upon a pin connecting said side cheeks and passing through the elongated slots in said plate, the said lever being provided with cam-surfaces on opposite sides of its pivotal point adapted to engage, respectively, with the curved upper end of said tool-holder and with said roller, and with a cutting edge just in the rear of its pivotal point, and a cutting-blade secured to one of said cheeks provided with means for preventing its outward or downward movement, and with two cutting edges which are adapted to coöperate with the cutting edge on said lever, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JACOB GOGLEY.

Witnesses:
J. GRANVILLE MEYERS, Jr.,
F. B. KEEFER.