

No. 685,203.

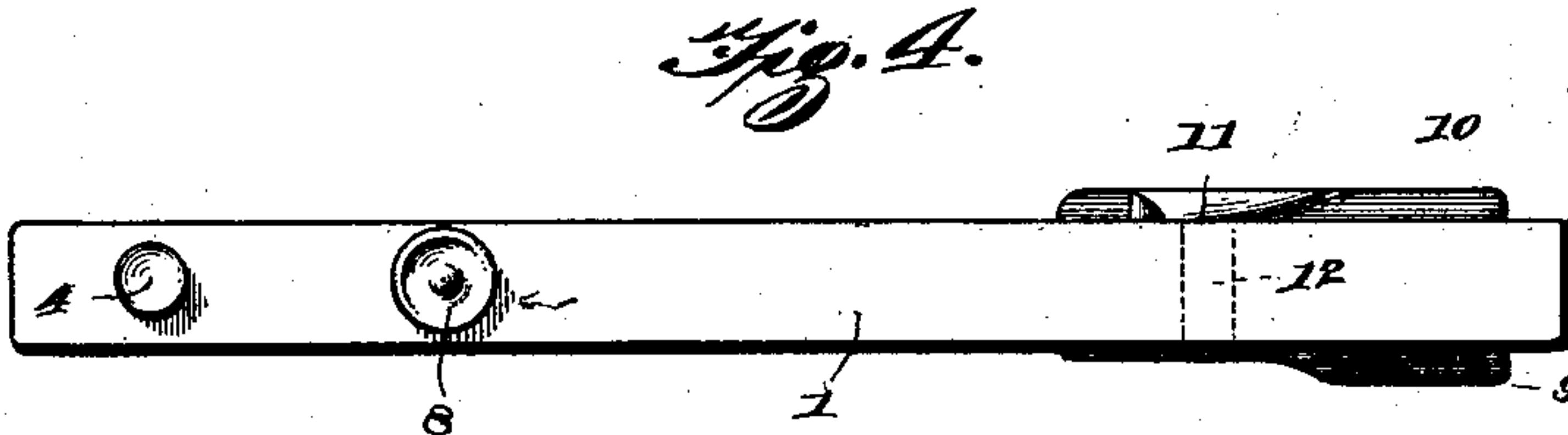
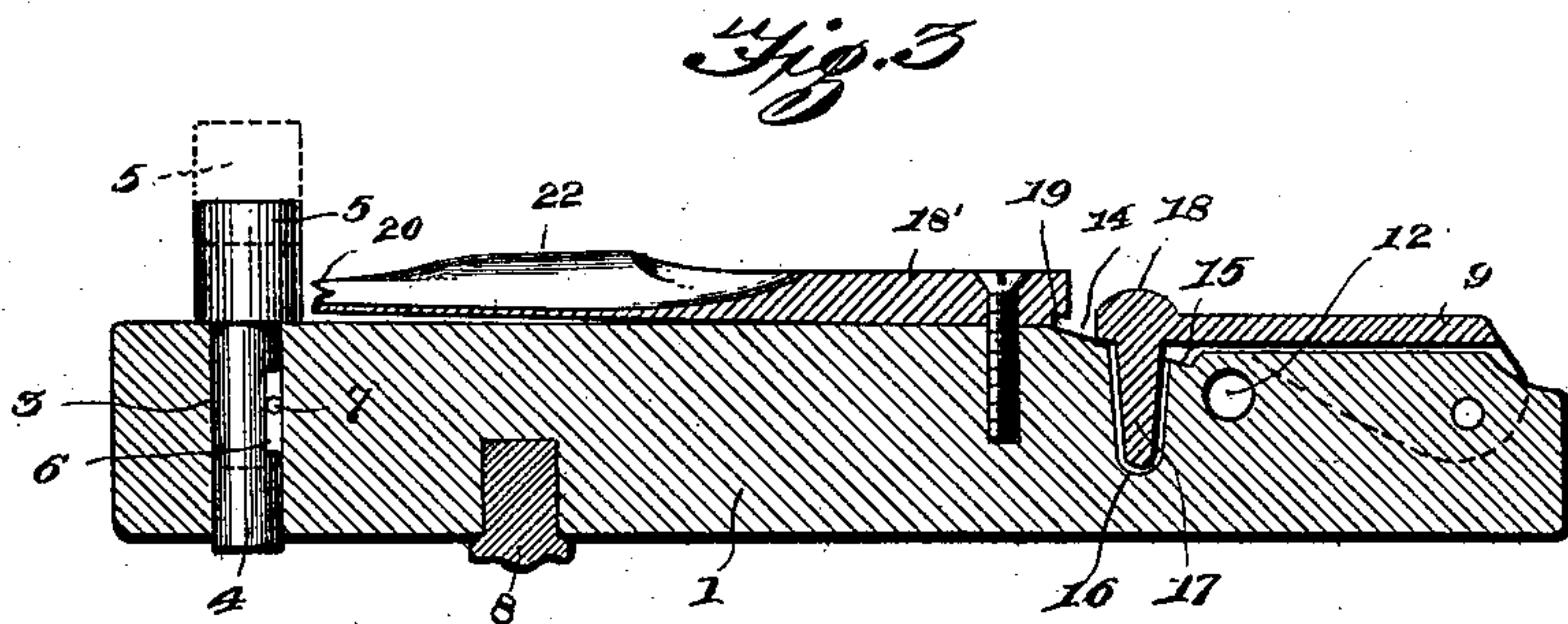
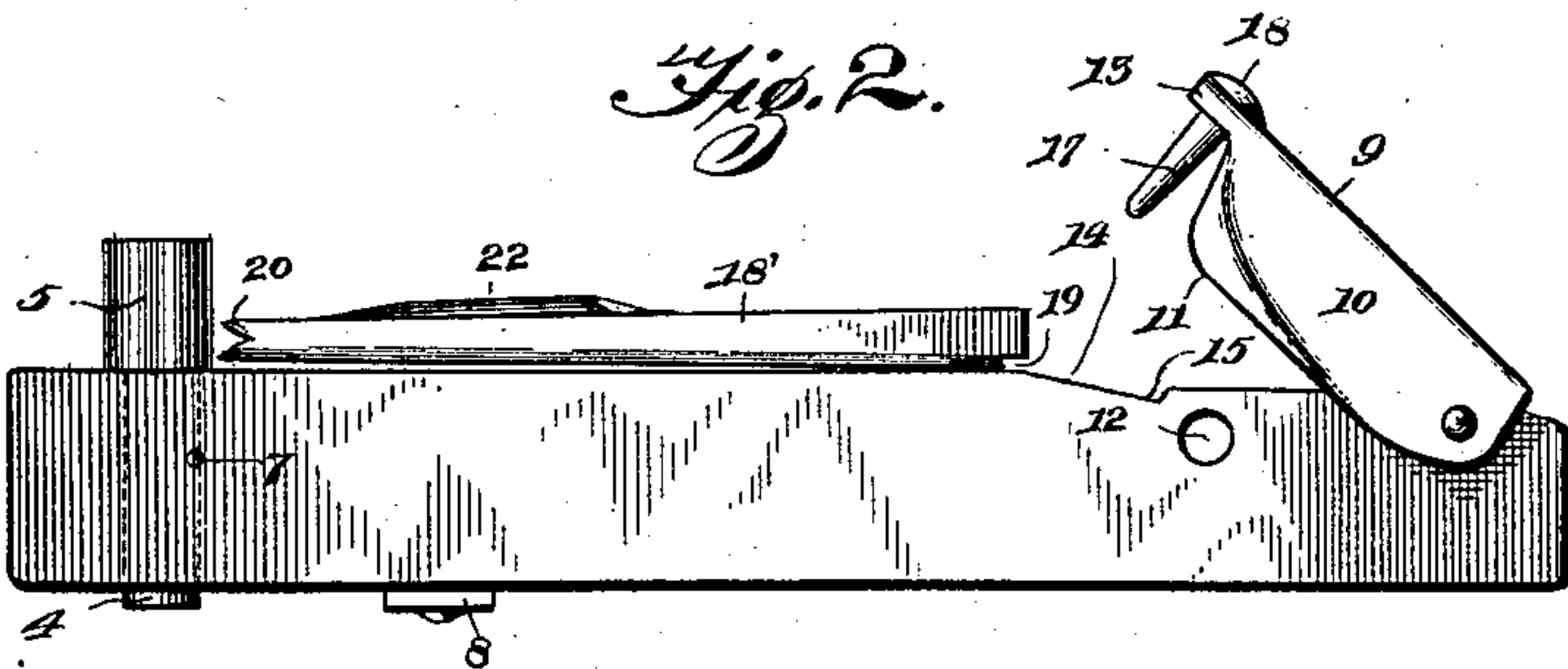
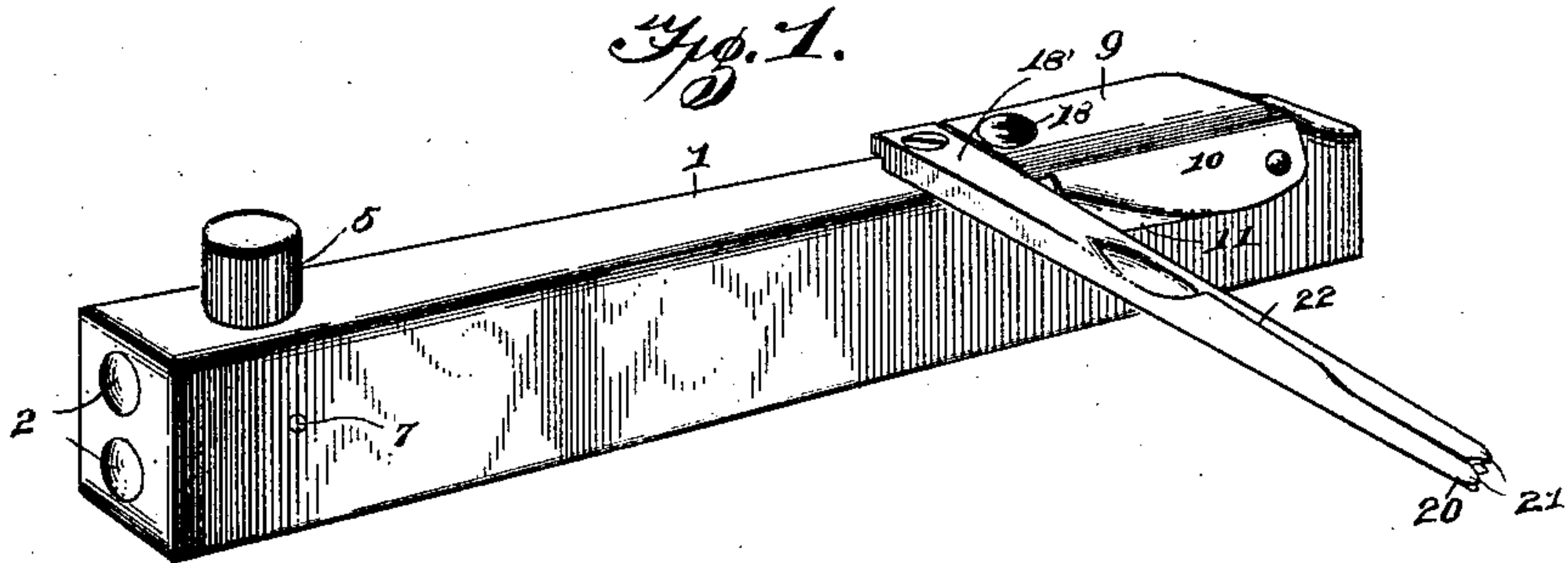
Patented Oct. 22, 1901.

B. J. DOWNING.

WASHER ENLARGING DEVICE FOR LEATHER WORKING TOOLS.

(Application filed Dec. 11, 1900.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

BURTON J. DOWNING, OF ANTELOPE SPRINGS, COLORADO.

## WASHER-ENLARGING DEVICE FOR LEATHER-WORKING TOOLS.

SPECIFICATION forming part of Letters Patent No. 685,203, dated October 22, 1901.

Application filed December 11, 1900. Serial No. 39,509. (No model.)

*To all whom it may concern:*

Be it known that I, BURTON J. DOWNING, a citizen of the United States, residing at Antelope Springs, in the county of Mineral and State of Colorado, have invented a new and useful Washer-Enlarging Device for Leather-Working Tools, of which the following is a specification.

This invention relates to a washer-enlarging device or tool particularly adapted for use in making and repairing harness and of such compact form and dimensions that it can be readily carried in the pocket or about the person of teamsters and others; and the object of the same is to provide a simple and effective combination device of the character set forth embodying a number of structural features and attachments for preparing and setting solid and tubular rivets, enlarging the size of openings through washers, and boring and reaming holes, and affording means for quickly repairing broken harness members or readjusting the latter without removing the harness from the horse or when at a distance from a harness-repairer and inconvenient to reach one.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a tool embodying the features of the invention and showing the boring-tool turned out in operative position. Fig. 2 is a side elevation of the tool, showing the rivet-cutting and washer-enlarging device elevated. Fig. 3 is a longitudinal vertical section of the tool, showing all the parts in closed position, a dotted position being illustrated in connection with one part. Fig. 4 is an edge elevation of the improved tool, showing the face of an anvil thereon for tubular rivets.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates the body of the tool, which is preferably of elongated rectangular form and constructed of suitable metal. The body is similar in appearance to the ordinary rivet-set and has at one end upsetting-cavities 2, and being of a solid metallic character is adapted to receive the blows of a ham-

mer or other implement at any point without injuring or fracturing the same. At one extremity of the body an opening 3 is formed therethrough, and therein a riveting-pin 4 is loosely mounted and has a reduced shank, which is slightly longer than the opening, so as to project slightly beyond one side edge of the body to more effectually accomplish the riveting operation. The pin is also provided with an enlarged head 5 to receive the blow of a hammer or other suitable implement, and the entire pin is movable longitudinally through the opening in which it is seated, as shown by dotted lines, in order to let the rivet end project into the opening and steady the same while being upset. The pin is limited in its longitudinal movement and also prevented from rotating by having a slot 6 formed therein and engaged by a transversely-extending key-pin 7, firmly seated in the body, and by preventing the pin 4 from turning the riveting operation can be more reliably and positively carried on. The key-pin 7 also holds the pin 4 continuously in connection with the body and always in position for use. In the edge of the body 1 from which the end of the pin 4 normally projects an anvil 8 is secured and has a cavities face to adapt it for upsetting hollow or tubular rivet-stems.

On the extremity of the body 1 opposite that having the pin 4 therein a combined rivet-cutting and washer-swaging member 9 is pivotally secured, and consists of a plate having a depending side flange 10 with a cutting edge 11, the said flange being movable close to one side of the body and one terminal of an opening 12, extending transversely through the latter to receive a rivet-stem for cutting purposes, so that a rivet of the desired length can be readily prepared. The rivet to be cut has the stem thereof inserted in the opening 12, and the cutting edge of the flange is placed thereagainst, and by striking the plate carrying the flange a sharp blow the stem of the rivet will be quickly severed, thus providing convenient means for quickly adapting a rivet for insertion through differing thicknesses of material. The flange 10 does not extend the full length of the plate, so that the inner free terminal 13 will have a clearance for another operation to be performed thereby, and the edge portion of the body over which said ter-



minal lies when closed down is formed with a recess 14, having an inner wall 15, which is inclined inwardly toward the end of the body to which the member 9 is attached, and from the center of the said wall a socket 16 extends transversely of the body to receive a swaging-punch 17, carried at the center of the said terminal 13 of the plate of the member. The punch 17 is rigidly fixed in the plate-terminal and has a head enlargement 18 above the plane of the outer side of the plate, so that blows delivered thereon will be transmitted to the punch without fracturing the said terminal. This swaging-punch is for the purpose of increasing the size of the opening in a washer, the latter being disposed in the recess 14, flat against the inclined wall 15, with its normal opening over the socket 16. After the washer has been so arranged the punch is brought inwardly toward the same and the terminal thereof inserted in the opening of the washer, and as the said punch is gradually tapered toward its free end the washer-opening will be increased in size by forcing the punch therethrough into the socket 16, provided the normal size of the washer-opening is less than some portion of the punch. By having the wall 15 inclined the opening in the washer will be disposed at a sufficient angle to compensate for the arc of movement of the punch 17, and thereby permit the latter to be forced through the washer-opening without irregularly increasing the size of the latter. By means of this attachment a washer having a small opening therein can be prepared to receive a thick rivet-stem that would not at first pass therethrough, and by increasing the size of the washer-opening, as set forth, one size of washers can be easily adapted to receive different sizes of rivet-stems.

On the body 1, adjacent to the recess 14, the inner end of a combined boring and reaming implement 18 is pivotally mounted, so that the said implement can be turned outwardly, as shown by Fig. 1, into operative position, and when not in use the said device is disposed longitudinally of the body, as shown by Figs. 2 and 3. The inner corner of the pivoted end of the implement 18 is formed with an angular recess 19 to continue the recess 14 to extend the latter and provide means for receiving different sizes of washers and also for holding certain sizes of the latter

in place while being swaged, as set forth. The free extremity of the implement 18 is mainly tubular and formed with circumferentially-arranged serrations 20 at the point 21 to facilitate entrance of the latter into the material in which a hole is to be formed, and at an intermediate point the implement also has an inwardly-curved slightly-outstanding curved cutting-blade 22 for reaming out or enlarging holes. In the operation of the implement either to first form the hole or to ream holes it is rotated, and thus new openings for buckle-tongues or apertures for rivets can be conveniently and quickly formed without injuring the strap or other device in which such construction is desired.

The entire device will be found particularly useful in many ways not heretofore mentioned and will form a valuable portion of the equipment of teamsters and others having to do with horses and harness and will also be found especially convenient in assembling odd rivets and washers when the corresponding sizes of such devices are not in hand. The device is also capable of being reduced to compact form for transportation about the person or in a suitable receptacle and combines in one article a number of devices heretofore produced in a cumbersome manner and unwieldy. The reduced form of the tool allows the harness to remain applied during repair, and the parts can be closely held during the riveting operations, and, as before indicated, the tool can be used as an ordinary rivet-set without injuring or interfering with any of the attachments set forth.

Having thus described the invention, what is claimed as new is—

In a tool of the character set forth, the combination of a body having an inclined recess in one edge portion thereof and a transverse socket leading from said recess, and a swaging member pivotally connected at one end to said body and carrying a punch at the free end to enter said socket.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BURTON J. DOWNING.

Witnesses:

EUGENE ZACCARINI,  
E. B. HUTCHINSON.