J. Wright.

Punch.

No. 91,400. Patented Jun. 15, 1869

Fig. 1

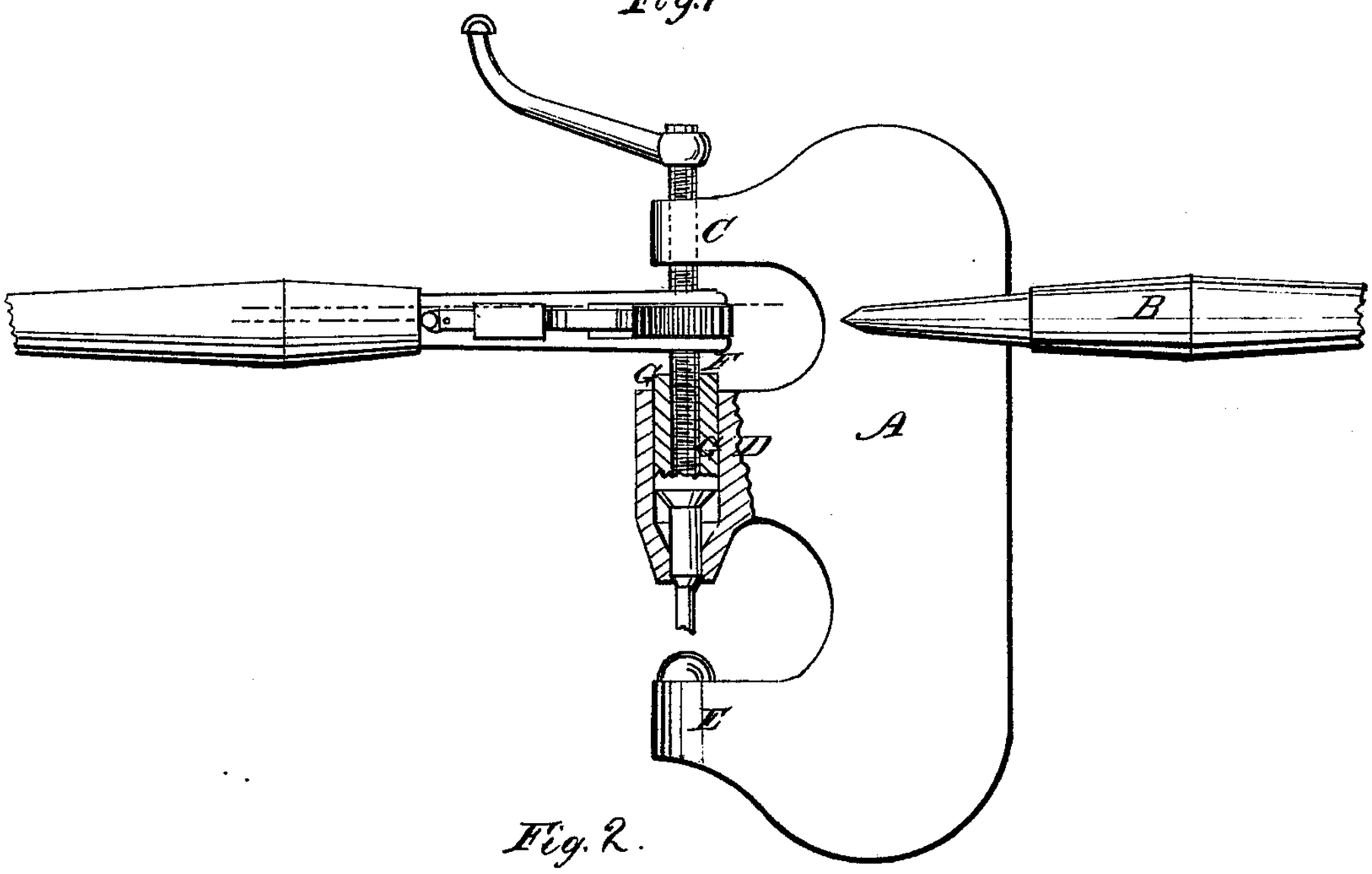


Fig. 2.

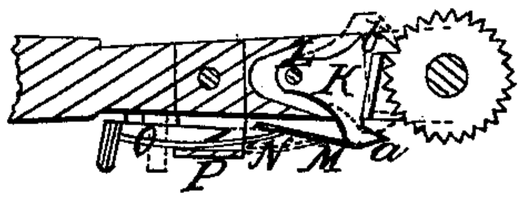
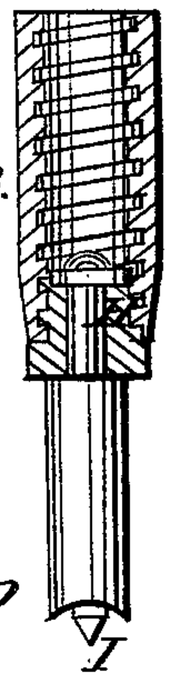


Fig. 3.



Witnesses.

Sinclman

Geo. H. Brooks

Inventor

J. Wright

Punch

UNITED STATES PATENT OFFICE.

JOHN WRIGHT, OF MIDDLEPORT, OHIO, ASSIGNOR TO HIMSELF AND J. W. WELLS, OF SAME PLACE.

IMPROVEMENT IN PUNCHES.

Specification forming part of Letters Patent No. **91,400,** dated June 15, 1869.

To all whom it may concern:

Be it known that I, JOHN WRIGHT, of Middleport, in the county of Meigs and State of Ohio, have invented a new and useful Improvement in Punches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in portable screw and ratchet punches, designed to provide an implement capable of operating more rapidly and conveniently than any now in use.

The invention consists in an arrangement of right and left threaded screw for effecting a quick movement of the punch.

It also consists in an improved arrangement of ratchet mechanism for operating the screw in either direction.

It also consists in certain improvements in the method of connecting the punch to the sliding nut, by which motion is imparted to the punch.

Figure 1 represents an elevation of my improved punch, partly in section. Fig. 2 represents a horizontal section of the ratchet-lever; and Fig. 3 represents a section, showing the connection of the punch with its support.

Similar letters of reference indicate corresponding parts.

The stock A is provided with a handle, B, for holding the tool by the left hand for operation upon the article to be punched in any position it may happen to occupy; also, with three lugs, C D E, for supporting the operating-screw, punch, and article to be operated on, respectively.

The operating-screw F is provided with right and left screw-threads, running from the center each way, and with a ratchet-wheel and pawl and pawl-lever connected thereto at the center.

The upper end of the screw works through the threaded nut C, screwing downward when it is turned to the left. The lower end works in a threaded sleeve, G, sliding in the lug D and supporting the punch, screwing the said sleeve down when moving in the said direction. This gives to the sleeve and the punch a movement double that due to the pitch of the thread of the screw. When the latter is turned in the opposite direction, the punch will be elevated with the same speed.

It is important, for the preservation of the punch, that it be so connected to the sleeve that it may oscillate on its vertical axis to some extent when it comes into contact with the metal; and for this purpose I connect the punch to the sleeve by means of a hollow nut, H, made in two parts, engaging in an annular groove in the upper end of the punch and screwing into the lower end of the sleeve.

In practice, I provide the punches with yielding center punches I.

For operating the ratchet-wheel in either direction, I provide a double pawl, K, pivoted to the slotted handle at L, and having a lip, M, connected at one side and projecting rearward beyond the pivot L. I provide, also, a spring, N, attached to a sliding stock, *o*, working in a guide, P, on the handle. The free end of this spring bears on the lip M, and when adjusted so as to bear on the lip between the pivot and the wheel will engage the point *a* of the pawl with the wheel; and when adjusted to the opposite side of the pivot it will engage the point *b* of the pawl with the wheel.

The screw rises up through the lug C, and is provided with a crank, by which it may be operated rapidly to adjust it to bear on the metal previous to punching, by the operation of the ratchet and handle, and for withdrawing the punch.

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

1 The combination of the right and left threaded operating-screw, sleeve supporting the punch, screwed lug C, lug D, and ratchet and pawl, when arranged substantially as specified.

2. The double pawl K, provided with the lip M, sliding spring N, ratchet-lever, and wheel, combined and arranged substantially as specified.

3. The arrangement of the sleeve G, double hollow nut H, and punch, all substantially as specified.

4. The arrangement of the right and left threaded screw F, sleeve G, punch-lugs C and D, and hand-crank, all substantially as specified.

JOHN WRIGHT.

Witnesses:
P. HUGG,
S. P. COX.