

No. 738,082.

PATENTED SEPT. 1, 1903.

G. W. SPRAGUE.
WRENCH.

APPLICATION FILED FEB. 11, 1901.

NO MODEL.

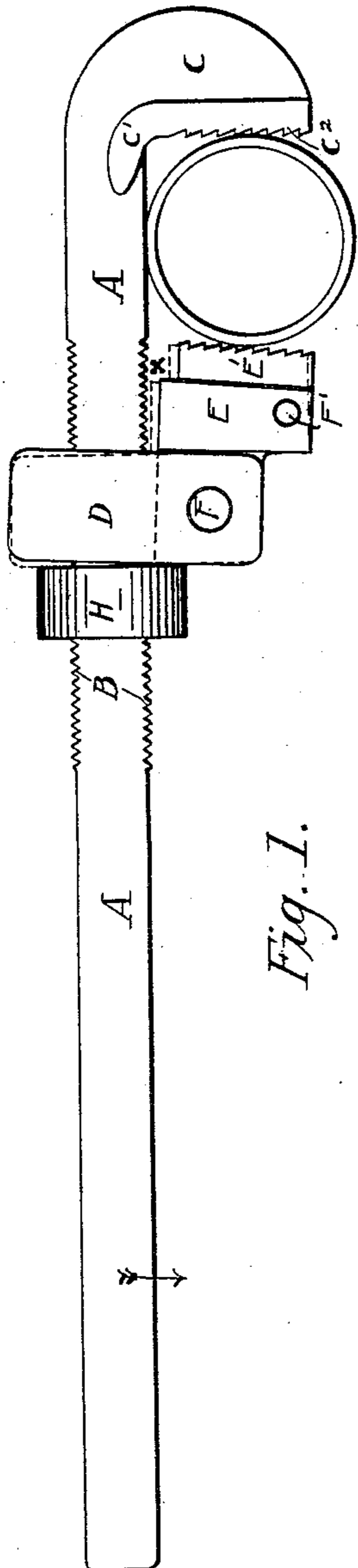


Fig. 1.

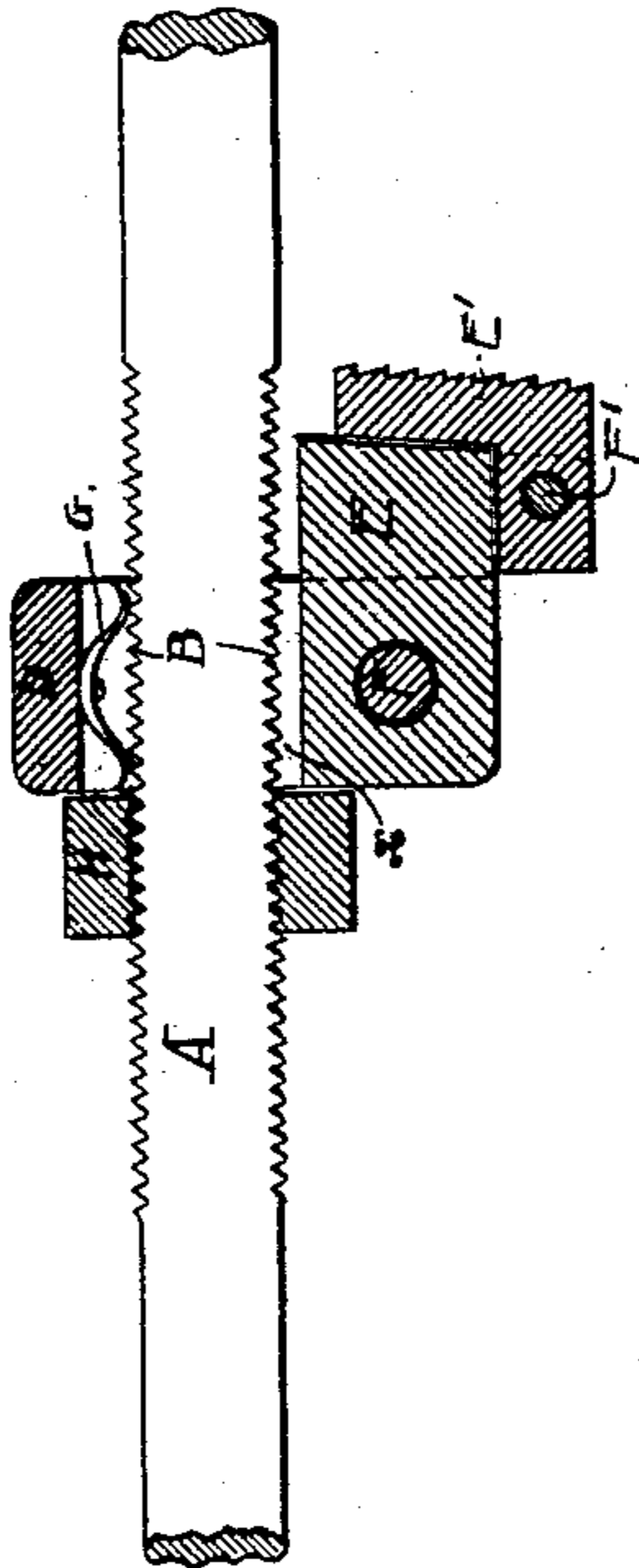


Fig. 2.

Witnesses.

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GEORGE W. SPRAGUE, OF MOLINE, ILLINOIS, ASSIGNOR OF ONE-HALF TO
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WRENCH.

SPECIFICATION forming part of Letters Patent No. 738,082, dated September 1, 1903.

Application filed February 11, 1901. Serial No. 46,842. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SPRAGUE, a citizen of the United States of America, and a resident of Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Wrenches; and I do declare the following specification, taken in connection with the drawings making a part of the same, to be a full, clear, and exact description thereof.

The object of my invention is to produce a wrench which while adapted to be used wherever the ordinary and well-known type of monkey-wrench may be employed is peculiarly adapted for use as a pipe-wrench—that is, for firmly grasping and holding with its jaws the pipe or anything having a smooth round surface.

My invention consists in the constructions, combinations, and arrangements hereinafter described and claimed.

In the accompanying drawings, in which like letters of reference indicate corresponding parts throughout, I have shown an embodiment of my invention, in which—

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a detail view showing the movable jaw and adjusting-collar in section.

Referring in detail to the drawings, A represents the handle or shank, which is partially screw-threaded, as at B.

C is the stationary jaw, which is preferably made integral with the handle A.

C' represents a strengthening-rib, which projects outwardly from the side of the jaw C. A similar rib projects from the opposite side.

C² represents the teeth of the stationary jaw.

D is the yoke which passes over the shank A and having secured near one of its lower ends and between its sides the jaw E. This jaw may be made integral with the yoke D; but in practice I find it advantageous to have the jaw and its supporting-collar made separately and connected by means of a rivet F, as shown in the drawings. This connection may be made in such manner as to allow of a slight movement of the jaw relative to the yoke, if desired. It is essential to the successful operation of my device that there be considerable space between the ends of the jaw E and the shank A, as shown at X in

Fig. 2, the yoke D having an internal length greater than the width of the shank A, whereby considerable play is allowed the yoke transversely of the shank A. As the teeth on the movable jaw E are subjected to considerable strain and wear through use, I have provided means for removing the worn-out contact-piece of the jaw E by making such contact-piece (marked E' in the drawings) separate from the main portion of said jaw E and securing it by means of a rivet F' to the jaw E. Thus by removing the rivet F' the contact-piece E' may readily be removed and another like piece substituted therefor.

G is a spring which I secure between one end of the yoke D and the shank A, its ends adapted to engage the grooves of the threads on the shank A and its function being to prevent slipping of the yoke on the handle. Other equivalent means will readily suggest themselves to the skilled mechanic for accomplishing the same object, or such means may be omitted entirely without seriously impairing the utility of the wrench.

H is the adjusting nut or collar, screw-threaded on its inner surface and adapted to engage the screw-threads on the shank. By turning said collar forward the movable jaw E will be brought closer to the stationary jaw, and by turning such collar backward the space between the movable and stationary jaws will be enlarged.

It will now be seen that when in use the weight of the jaw E will cause the yoke to assume a slanting position, rendered possible by reason of the space X, its lower rear edge touching the collar H and its upper rear edge slightly away from the collar, as shown in Fig. 1. Thus the space between the outer ends of the two jaws will be greater than the space between the inner ends of the same, allowing the jaws to be readily placed over the pipe, and without manipulation of the adjusting-collar and by merely drawing the handle in the direction of the arrow the contact of the jaw E with the pipe will cause the yoke to be thrown squarely against the collar, so as to bring the two jaws parallel one to the other, and thus reduce the space between the same. In this way the jaw E will be forced against and caused to firmly grip the pipe.

When it is desired to release the grip of the jaws upon the pipe, a reversal of the pressure on the handle and a slight turn in the opposite direction will cause the automatic relative movement of the two jaws to be re-
 5 traced, widening the space between the same, causing the outer ends of the two jaws to be thrown farther apart, thus allowing the pipe to be readily released without manipulation
 10 of the screw-threaded collar. It will thus be seen that when the operator is engaged in holding or turning a number of pipes of approximately the same size the wrench may be applied and released and applied again in-
 15 definitely without at any time manually adjusting the position of the movable and fixed jaws relative to each other.

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

1. In a wrench, the combination of a shank partially screw-threaded and provided with a fixed jaw substantially perpendicular there-
 25 to, a yoke slidably mounted on the shank and having an internal length greater than the width of the shank to permit material play of said yoke transversely of the shank, a mov-
 30 able serrated jaw carried adjacent the forward end of said yoke and so constructed that when the wrench is held in operative position to engage a pipe or other article the weight of
 35 said jaw will tilt the yoke on the shank, and cause the forward end of said jaw to recede from and the inner end of said jaw to approach the fixed jaw, whereby the two jaws are held
 with their faces converging toward the shank, and a threaded adjusting-collar mounted on the shank and bearing against said yoke, substantially as described.

40 2. In a wrench, the combination of a shank partially screw-threaded and provided with a fixed jaw substantially perpendicular there-
 45 to, a yoke slidably mounted on the shank and having an internal length greater than the width of the shank to permit material play of said yoke transversely of the shank, a mov-
 50 able serrated jaw movably supported adjacent the forward end of said yoke, and so constructed that when the wrench is held in operative position to engage a pipe or other arti-
 cle the weight of said jaw will tilt the yoke on the shank, and cause the forward end of said jaw to recede from and the inner end of

said jaw to approach the fixed jaw, whereby the two jaws are held with their faces con-
 55 verging toward the shank, and a threaded adjusting-collar mounted on the shank and bearing against said yoke, substantially as described.

3. In a wrench, the combination of a shank
 60 partially screw-threaded and provided with a fixed jaw substantially perpendicular there-
 to, a yoke slidably mounted on the shank and having an internal length greater than
 65 the width of the shank to permit material play of said yoke transversely of the shank, a mov-
 able serrated jaw carried adjacent the forward end of said yoke and so constructed that
 when the wrench is held in operative position to engage a pipe or other article the weight
 70 of said jaw will tilt the yoke on the shank and cause the forward end of said jaw to recede from and the inner end of said jaw to ap-
 proach the fixed jaw, whereby the two jaws are held with their faces converging toward
 75 the shank, a removable abrading-face secured on the movable jaw, and a threaded adjust-
 ing-collar mounted on the shank and bearing against said yoke, substantially as described.

4. In a wrench, the combination of a shank
 80 partially screw-threaded and provided with a fixed jaw substantially perpendicular there-
 to, a yoke slidably mounted on the shank and having an internal length greater than
 85 the width of the shank to permit material play of said yoke transversely of the shank, a mov-
 able serrated jaw movably supported adja-
 cent the forward end of said yoke and con-
 90 structed so that when the wrench is held in operative position to engage a pipe or other arti-
 cle the weight of said jaw will tilt the yoke on the shank, and cause the forward end of
 said jaw to recede from and the inner end of said jaw to approach the fixed jaw, whereby
 95 the two jaws are held with their faces con-
 verging toward the shank, a removable abrading-face secured on the movable jaw, and a
 threaded adjusting-collar mounted on the shank and bearing against said yoke, sub-
 100 stantially as described.

In witness whereof I have hereunto set my hand this 7th day of February, 1901.

GEORGE W. SPRAGUE.

Witnesses:

C. F. HOLMES,
 I. C. ANDERSON.