J. R. LONG.

WRENCH.

APPLICATION FILED NOV. 9, 1909.

955,974. Patented Apr. 26, 1910.

Fig. 1.

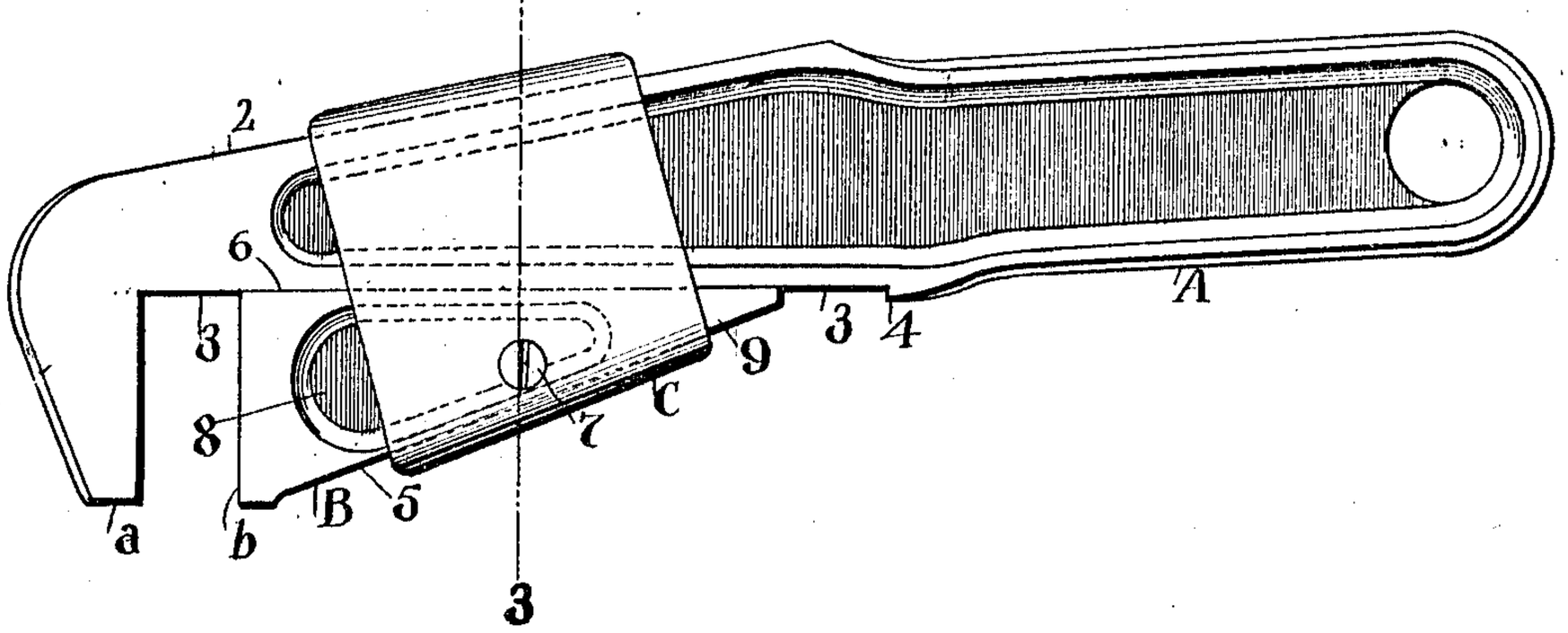


Fig. 2.

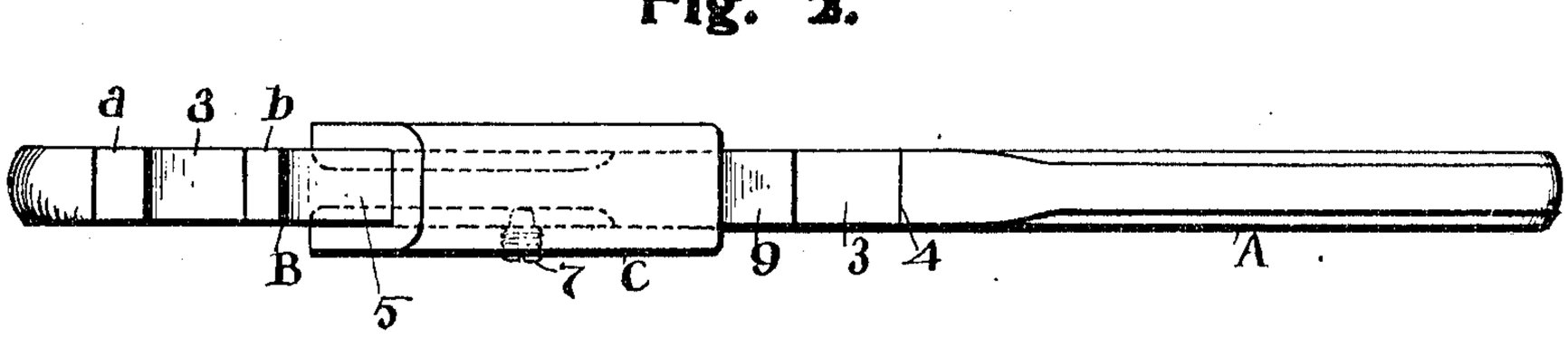
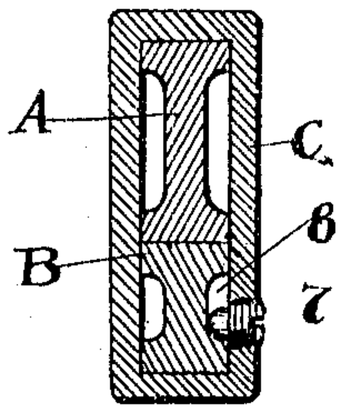


Fig. 3.



ATTEST

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WRENCH.

955,974. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed November 9, 1909. Serial No. 526,992.

To all whom it may concern:

Be it known that I, JOHN R. LONG, citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

In the accompanying drawings, Figure 1 is a side elevation of my improved wrench, and Fig. 2 is a plan view thereof. Fig. 3 is a cross section on line 3—3, Fig. 1.

The parts are indicated by A, B and C respectively. Thus, A is the main part or member of the wrench and is shown as having a handle at one end and an integral jaw *a* on the other end and a shank leading up to this jaw from about its middle having opposite edges 2 and 3 in straight lines from about its middle up to said jaw. The inner edge 3 is straight from stop or shoulder 4 outward to said jaw and at right angles to the face of the jaw, while the outer edge 2 is inclined toward the jaw and in respect to edge 3 and gives a decided outward taper effect to the shank of said part A.

This taper is important in its relation to the reverseiy tapered edge of jaw member B, and the construction and operation of yoke C thereon. Thus, the shank of jaw B is substantially wedge shape in side elevation having a decidedly inclined tapered outer edge 5, running back from jaw *b* and a straight inner edge 6 slidably mounted upon the straight inner edge 3 of the handle bar A, and yoke C is uniformly flared from its inner to its outer edge to conform to these tapers and adapt it to operate as herein set forth.

The foregoing construction brings the faces of the two opposed jaws *a* and *b* squarely opposite each other and holds them always at right angles to the inner straight edges of said parts, while yoke C and inner jaw member B are independently and jointly slidable upon member A within fixed limits. As to this, the stop or shoulder 4 limits the rearward sliding movement of member B, while the screw 7 set in the side of the yoke limits the backward movement of the yoke on said member B. Said screw enters a cavity, groove or recess 8 in the side of shank 9 of said member B.

This novel and original manner of connecting the parts B and C has the practical value of making said parts operatively dependent, in a sense, and affords a more perfect and satisfactory control thereof than formerly. In my original wrench of this type No. 890,146, June 9, 1908, the yoke and member corresponding to B were wholly separate as to sliding relations and a stop pin on the extremity of the shank of the sliding jaw member confined the yoke. This was found to be objectionable for various reasons. For example, the said pin battered the edge of the yoke and caused the yoke to pinch the sides of the shank by the bulging of the stock. The pin also was injurious to the fingers in handling the wrench and the yoke had to be thick enough at that edge to provide for said pin, which made the wrench heavy and clumsy, and, finally, it required a long shank with considerably less inclination on the back of shank 9 than with this improvement to get the necessary adjustments. That caused a wedging lock of the yoke on said shank which was difficult to release.

By the present invention I have been able to materially improve the operation of the wrench because by dispensing with the said pin and engaging the parts by screw 7 at or in their sides, I can materially shorten and lighten shank 9 and get a largely increased taper to its top edge 5. This considerably reduces the traveling distance of said part B and yoke C to get the same width of opening between jaws as before, and also very materially improves the operation because the parts cannot now wedge together as they did formerly and make separation difficult. Again, by using the side stop screw 7 I can make both the tapering edges of the yoke alike, whereas formerly the taper had to be considerably greater at one edge than at the other and which made against easy release of the yoke when it had been wedged fast. Now the steep incline 5 locks the yoke but does not wedge as formerly and a slight knock against an object opens the wrench. The screw 7 is so placed that when the wrench jaws are opened to their full capacity the said screw comes into the small end of recess 8, and when the yoke is in this position the extremity of the shank 9 is substantially flush with the correspond-

ing edge of the yoke and engages stop 4. By removing said screw the parts are easily separated.

What I claim is:

1. In a wrench, a handle member tapered at one end and having a fixed jaw at said end, a loose jaw having a tapering form, a flaring yoke to slidably confine said loose jaw upon said tapered handle end, and a removable part on said yoke to limit the play of said loose jaw in respect to the yoke.

2. A wrench consisting of two jaw members slidably mounted one upon the other and having shanks with reversely tapered outer edges, and a yoke flaring uniformly at both edges uniting said members and provided with an inside projection operatively engaged in a longitudinal recess in the side of one of said members.

3. A wrench having a main member with a handle at one end and a jaw on the other end and tapered edgewise on its back from about its middle to said jaw and provided with a shouldered top on its inner edge and middle, and a sliding jaw member mounted on said inner edge and having a substantially wedge shaped shank adapted to contact with said shouldered stop and having a recess lengthwise on its inside, and an outwardly flaring yoke embracing said jaw members and provided with a removable screw through its side engaged in the recess in said shank and locking said parts operatively and separably together.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN R. LONG.

Witnesses:

C. JEPPSON,

K. KENNEDY.