J. J. WILKINSON.

WRENCH.

APPLICATION FILED MAR. 5, 1921.

1,403,825. Patented Jan. 17, 1922.

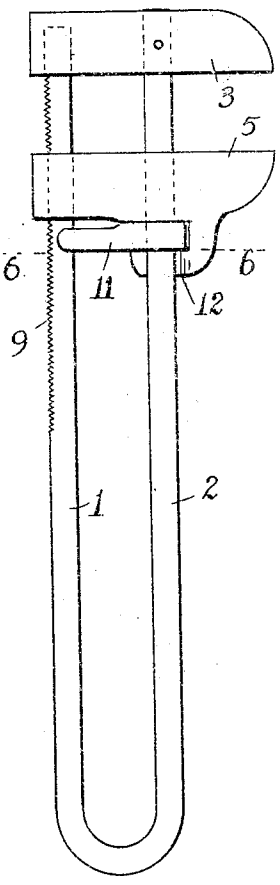


Fig. 1

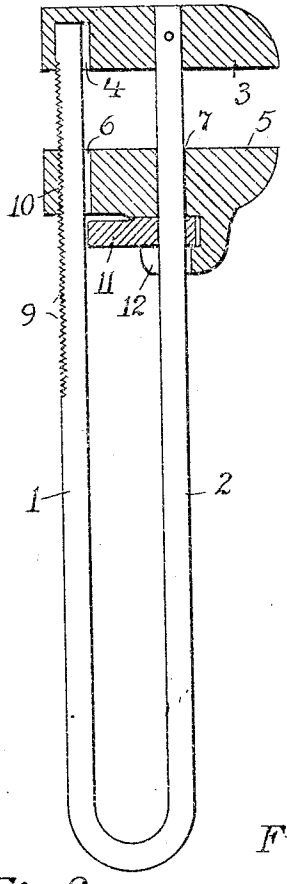


Fig. 2

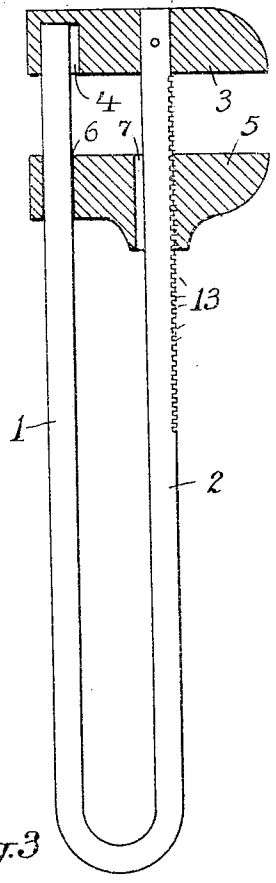


Fig. 3

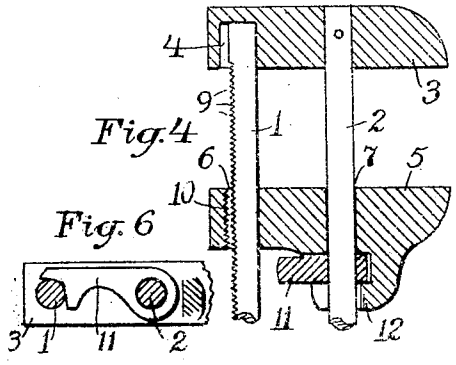


Fig. 4

Fig. 6

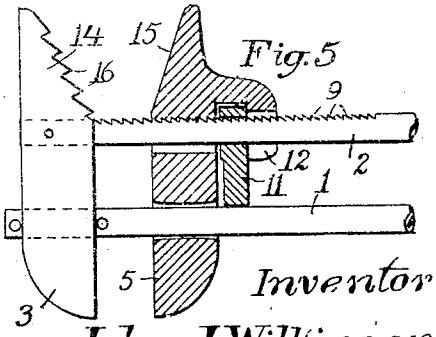


Fig. 5

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WRENCH.

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To all whom it may concern:

Be it known that I, JOHN J. WILKINSON, a citizen of the United States, and a resident of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Wrenches, of which the following is a full, clear, and exact specification.

The object of this invention is the construction of a wrench having a fixed and a sliding jaw, which can be adjusted instantly through a wide range of separation, and which shall at the same time be of minimum expense to manufacture. To this end, I provide the two jaws with a handle comprising two substantially parallel arms resiliently pressed apart into locking engagement with the sliding jaw, but adapted, when pressed toward each other, to release the sliding jaw and permit it to be shifted to a desired distance from the stationary jaw.

In the drawings forming part of this specification, Fig. 1 is a side view of a wrench embodying my invention. Fig. 2 is a sectional view of the same. Fig. 3 is a sectional view of a modified form of the invention. Fig. 4 is a sectional view of the head-portion of the wrench showing the arms pressed toward each other. Fig. 5 is a partially sectional view of the invention adapted for use as a pipe wrench. Fig. 6 is a cross section through 6—6 in Fig. 1.

The parallel arms 1 and 2 which I prefer to provide for this wrench are formed by bending a length of metal rod over upon itself, the arm 2 being rigidly attached to the stationary jaw 3, and the arm 1 being loosely received in a recess 4 of this jaw to permit the two arms to receive a limited relative oscillation. The recess 4 does not reach through the jaw, but its bottom rests against the end of the arm 1 and thereby relieves the bending strain which would otherwise act upon the arm 2 when the wrench is being used.

The sliding jaw 5 is provided with two holes 6 and 7 loosely fitting the arms 1, 2, the hole 6 being made larger in diameter than the arm 1 and notched along its wall away from the hole 7. The arm 1 being correspondingly notched, as at 9, to engage the notches 10 in the hole 6, and the two arms being adapted to spring strongly apart, the sliding jaw will remain at any distance from the stationary jaw limited by the extent of the serrations 9. By pressing the arms toward each other and thereby disengaging the serrations 9 and 10, the jaw 5 will slide freely toward or from the other jaw to any point desired.

While under moderate strains the sliding jaw 5 will hold its position without yielding, yet I prefer to provide a locking means by means of which it will be impossible for the serrations to become accidentally disengaged. This locking means consists of a cam 11 rotatably mounted on the arm 2 between the jaw 5 and a retaining finger 12, as shown in Figs. 1 and 4. When the cam is turned down between the arms, the latter can not be pressed toward each other, and the serrations 9, 10 will remain in engagement, but by throwing the cam out of its place, the arms can be easily pressed toward each other and the sliding jaw moved to the point desired.

In the form of the wrench illustrated in Fig. 3, it is the arm 2 which is serrated, and the hole 7 which is enlarged and serrated. The serrations or teeth 13 here shown on the arm 2 are square, thereby ensuring that the sliding jaw will not slip even without the locking cam 11.

Instead of having the working faces of the jaws 3 and 5 parallel for use in turning bolts and nuts, these faces may be inclined, as at 14, 15, and one of them provided with teeth 16 to enable the same to be used as a pipe wrench. As also shown in Fig. 5, the jaws may be provided with both parallel and oblique operating surfaces to enable the same instrument to be employed for both purposes.

What I claim is:

1. A wrench comprising two parallel arms resiliently pressed apart, a jaw fixed to the extremity of one arm and receiving the end of the other arm, the latter arm being held against longitudinal displacement in said jaw but permitted a limited lateral play, and a jaw having two holes through it freely penetrated by said arms, one of said holes being enlarged to permit the two arms to be pressed slightly toward each other, one of said holes being formed with serrations and the arm therein being correspondingly serrated and so disposed that when the two arms are pressed toward each other said serrations are disengaged but when normally supported the serrations engage and hold the two jaws from relative recession.

2. A wrench comprising two substantially

parallel spaced arms pressing away from each other, a jaw fixed to the extremity of one arm and loosely holding the end of the other arm, and a jaw having two holes slidably receiving said arms, one of the holes being larger than the rod therein and serrated, and the arm therein being correspondingly serrated, said serrations being adapted to be disengaged when the arms are pressed toward each other, and a cam pivoted upon one of said arms and adapted when pressed in between the two arms to prevent the disengagement of said serrations.

3. A wrench comprising two parallel spaced arms consisting of a single length of metal rod bent over upon itself, a stationary jaw attached near its mid-length to one of said arms and having a blind recess receiving the end of the other arm, and a sliding jaw having two holes penetrated by said arms, one of the holes being serrated at the side away from the other hole, and the arm penetrating said hole being correspondingly serrated to engage the serrations in said hole, the arms normally pressing apart to retain said serrations in engagement.

In testimony that I claim the foregoing invention, I have hereunto set my hand this 4th day of March, 1921.

JOHN J. WILKINSON