

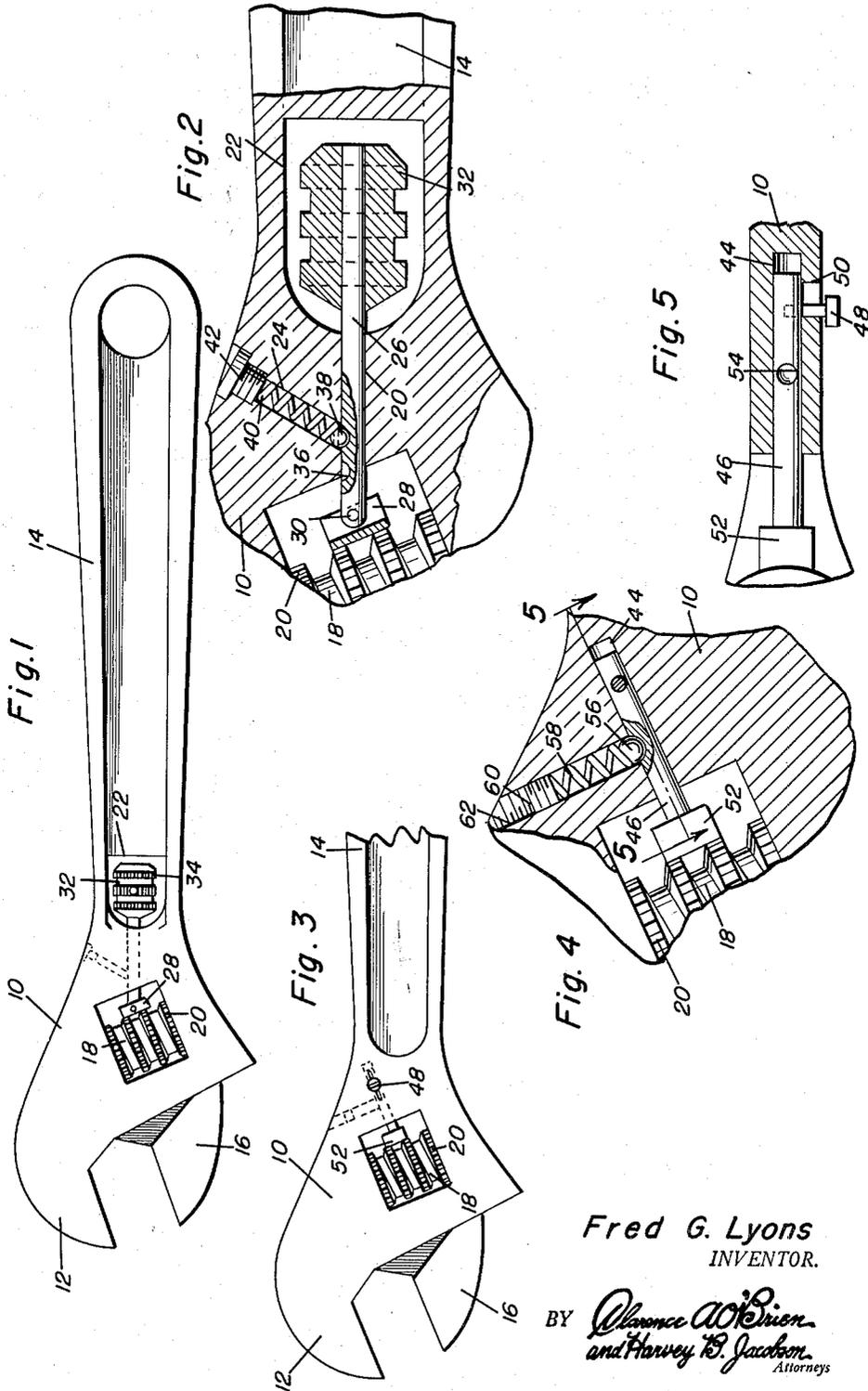
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LOCK FOR ADJUSTING WORM OF A MOVABLE JAW WRENCH

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2,714,323

**LOCK FOR ADJUSTING WORM OF A MOVABLE JAW WRENCH**

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1 Claim. (Cl. 81-165)

This invention relates to a wrench and more specifically provides a crescent type wrench with a locking means for securing the jaws of the wrench in adjusted position.

An object of this invention is to provide a locking member for contacting the thumb screw adjusting means for locking the jaws in position.

Another object of this invention is to provide a locking member for engaging the adjustment means of a wrench.

A further object of this invention is to provide a locking means for a crescent type wrench wherein the locking means is provided with a handle portion for actuation of the locking member.

Yet another object of this invention is to provide a wrench having an adjustment lock which is simple in construction, easy to operate and inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side view showing a crescent wrench with the locking member in operative position engaging the thumb screw adjustment;

Figure 2 is a detailed, vertical section, showing the specific structure of the locking means;

Figure 3 is a side view similar to Figure 1, showing a modified form of the wrench locking device;

Figure 4 is a fragmental, detailed section, showing the specific structure of the locking means of the structure of Figure 3; and

Figure 5 is a top plan section taken substantially along section line 5-5 of Figure 4, showing details of the operating handle for the locking means.

Referring now specifically to the drawings, it will be seen that the numeral 10 generally designates the body portion of the wrench having a stationary jaw 12, a handle portion 14, a movable jaw 16 and an adjusting screw 18. The adjusting screw 18 engages teeth on the movable jaw 16 and the threads on the screw 18 move the jaw 16 in a manner which is conventional in the crescent type wrenches. It will be seen that the adjusting screw 18 has the outer periphery of the threads knurled, as indicated by the numeral 20, for easier manipulation of the adjusting screw 18. As best seen in Figures 1 and 2, the body portion 10 is provided with a longitudinal bore 22 extending in angular relation to the adjusting screw 18 and the handle 14 is provided with an enlarged recessed portion 22. The body portion 10 is provided with a second bore 24 which is disposed angular to and in communication with the first longitudinal bore 20. An elongated rod member 26 is slidably mounted in the bore 20 and a thumb screw engaging shoe 28 is pivotally attached to one end of the rod 26 by a suitable pivot pin 30. An enlarged finger gripping por-

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tion 32 having knurled surfaces 34 is secured to the opposite end of the rod member 26 and disposed in the recess 22 whereby the rod 26 may be reciprocated in the bore 20 thereby selectively engaging the knurled portion 20 of the thumb screw 18 with the locking shoe 28. As clearly shown in Figure 2, the rod 26 is provided with aligned depressed portions 36 on the upper face thereof and a ball detent 38 is disposed in the bore 24 and a coil compression spring 40 is seated against the ball 38 and a closure screw 42 compresses the spring 40 thereby urging the ball detent 38 into selective depressed portions 36. It will be noted that the detent 38 maintains the rod 26 in a locked or unlocked position as desired by the person using the wrench.

Referring now specifically to Figures 3-5 wherein like numerals refer to like parts, it will be seen that the body portion 10 is provided with a bore 44 which is perpendicular to the axis of the thumb screw 18 and the rod 46 is provided with a laterally extending projection 48 disposed in a slot 50 in the body portion 10 with the projection 48 extending to the outside of the wrench wherein the slidable member 46 may be moved within the limits of the elongated slot 50. The locking shoe 52 is rigidly secured to the other end of the rod 46 and the upper surface of the rod 46 is provided with a single depressed portion 54 for receiving a ball detent 56 held therein by a compression spring 58 and a screw threaded closure 60 inserted in the bore 62 which is at right angles to the bore 44 thereby holding the locking member 52 in engagement with the knurled portion 20 of the adjusting screw 18. It will be noted that in the device of Figures 1 and 2, the axis of the thumb adjusting screw 18, the axis of the slidable member 26 and the axis of the bore 24 are all arranged at acute angles to each other and the device of Figures 3-5 have the respective axes arranged in perpendicular relation to each other with the axis of the thumb screw 18 being parallel to the axis of the bore 62.

The operation of the devices will be readily understood. After the movable jaw 16 is adjusted to its desired position, the finger gripping handle portion 34 or 48 is moved toward the adjusting screw 18 thereby bringing the locking shoes 28 or 52 into contact with the thumb adjusting screw 18 thereby maintaining the movable jaw 16 in adjusted relation to the stationary jaw 12. This specific construction provides a smooth wrench surface and an easily operable locking means as the person using the wrench may easily lock and unlock the thumb adjusting screw by merely slipping his hand down on the handle 14 and manipulating the slidable rod with his fingers without necessitating the use of both hands. It has long been a problem to maintain this type of wrench in adjusted position during repeated use of the wrench and the specific locking means of this invention provides a wrench which eliminates the problem of constantly readjusting the wrench. Obviously, the wrench of this invention may be constructed of suitable tool steel used in the conventional wrench structures and the particular locking feature of this wrench may be utilized in any type wrench having a finger engageable adjusting means.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A locking device for a movable jaw wrench having a

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rotatable worm for adjusting the movable jaw and a body, said device comprising an abutment member for engaging the periphery of the worm, a shank extending from said abutment member, the body of said wrench having a first elongated bore terminating in an opening adjacent the worm, said first bore slidably receiving said shank, said shank having a plurality of longitudinally spaced and aligned indentations, the body of the wrench having a second bore therein extending in angular relation to the first bore and in communication therewith, a ball detent movably positioned in said second bore for selective engagement with the indentations in the shank, a coil spring disposed in said second bore with one end thereof for urging the ball detent towards the indentations, an adjustable stop member positioned in said second bore in engagement with the other end of the spring for adjusting the force exerted on the ball detent by the spring, the body of the wrench having an enlarged opening extending therethrough in remote relation to the worm and receiving the remote end of the

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shank, and a handle attached to the remote end of said shank for longitudinal movement in the enlarged opening for selectively engaging the abutment member with the worm for selectively locking the movable jaw in adjusted position, said ball detent releasably retaining the shank in adjusted longitudinal position.

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