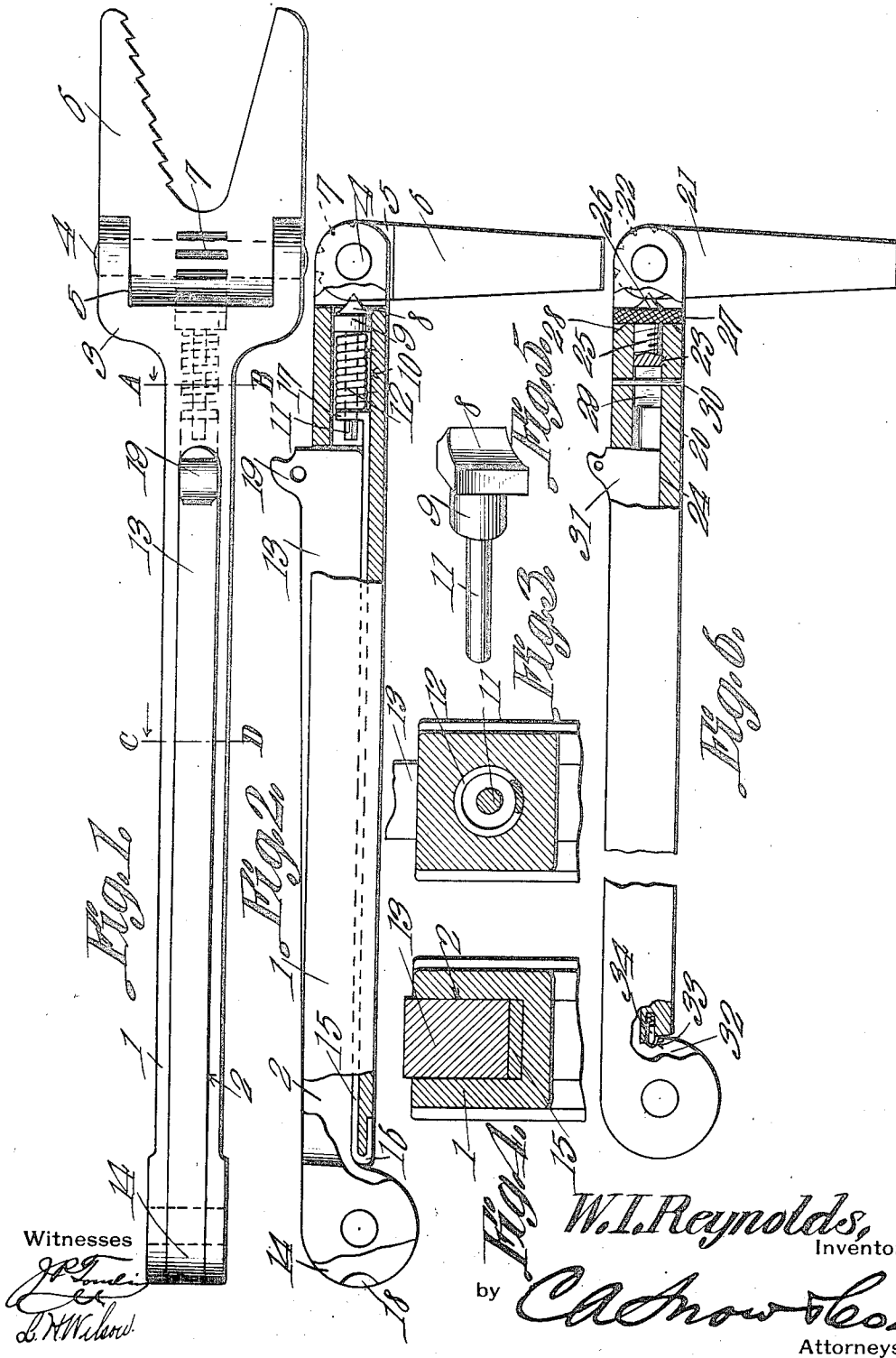


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WRENCH.
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UNITED STATES PATENT OFFICE.

WILLIAM I. REYNOLDS, OF ROCKY FORD, COLORADO.

WRENCH.

1,060,494.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM I. REYNOLDS, a citizen of the United States, residing at Rocky Ford, in the county of Otero and State of Colorado, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to alligator wrenches, one of its objects being to provide a wrench having its head mounted to swing relative to the shank whereby, when desired, said head can be placed in engagement with a nut or the like, while the head is extended at an angle from the shank, there being a handle normally housed within the shank and which can be shifted therefrom for use while the head is angularly disposed.

A further object is to provide means under the control of the handle whereby the head is held against accidental movement relative to the shank while the wrench is in use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings:—Figure 1 is a plan view of a wrench embodying the present improvements. Fig. 2 is a side elevation thereof, parts being shown in section. Fig. 3 is an enlarged section on line A—B Fig. 1. Fig. 4 is an enlarged section on line C—D Fig. 1. Fig. 5 is a perspective view of the locking dog. Fig. 6 is a view partly in side elevation and partly in section of a modified form of wrench.

Referring to the figures by characters of reference 1 designates a shank having a longitudinal channel 2 in one face and located at one end of this shank is a yoke 3 for the reception of a pivot pin 4. This pin is engaged by the reduced end 5 of the head 6 of the wrench, said head having the ordinary type of alligator jaws, one of the jaws being preferably formed with a smooth

working face while the other jaw has a toothed working face. The end portion 5 of the head is substantially semi-cylindrical and has a series of teeth or serrations 7 extending longitudinally thereof and any one of which is adapted to be engaged by the reduced end 8 of a block 9 which is slidably mounted in an opening 10 communicating with one end of the channel 2. A stem 11 projects from the block 9 and is surrounded by a coiled spring 12.

Pivotally mounted in that end of the channel 2 farthest removed from the recess 10, is one end portion of a handle 13, said end portion being in the form of an eye 14. A strip 15 of suitable metal is slidably mounted on the inner wall of the channel 2 and one end thereof is folded as at 16 so as to form a rounded end which constantly bears against the peripheral portion of the eye 14. The other end of the strip 15 has an extension 17 projecting at right angles therefrom and forming an eye through which the stem 11 extends loosely. This eye 17 bears against the spring 12 under all conditions. Handle 13 is normally housed within the channel 2 and when thus positioned, the rounded end of the strip 15 bears on the eye 14, this position of the parts being indicated by dotted lines in Fig. 2. With the parts thus arranged the spring 12 is compressed against block 9 of the locking dog and said dog is held in engagement with a tooth or serration 7 and locks the head 6 against movement on its pivot pin 4.

It is to be understood that whenever it is desired to use the wrench with its head extending laterally at an angle to the shank, the handle 13 is swung out of channel 2 until a recess 18 in the eye 14 registers with the strip 15 whereupon spring 12 expands and block 9 is loosened. The head 6 is then adjusted and the handle returned to channel 2. The recessed portion of the eye 14 is thus moved from contact with the end of strip 15 and said strip is therefore shifted longitudinally so that the eye 17 will compress spring 12 against the block 9 and thus force the reduced or sharpened portion 8 of the dog into engagement with the teeth or serrations of the head. Obviously, therefore, the head cannot be swung on its pivot but will be securely locked as long as the handle 13 is in its normal position. To readjust the head it is first necessary to

again shift the handle 13 from the channel 2 and into alinement with the shank 1 whereupon the recess 18 will be brought into position to receive the end of strip 15 and the spring 12 will shift the strip longitudinally, thus relieving the head of the dog of the excess pressure of spring 12 and permitting the dog to shift out of engagement with the teeth or serrations 7. In order to facilitate moving the handle out of its channel, an eye or grip 19 may be formed at the free end of the handle, as shown in Figs. 1 and 2.

Instead of providing the jaw locking means heretofore described, the wrench may be constructed as shown particularly in Fig. 6. As shown in this figure the shank 20 is channeled and a jaw head 21 is pivotally connected to one end of the shank as in Figs. 1 and 2, that portion of the head adjacent the pivot being formed with teeth or serrations 22. An opening 23 extends from one end of the channel 24 in the shank and slidably mounted in this opening is a locking pin 25 having one end tapered, as shown at 26, so as to engage any one of the teeth or serrations 22. This pin 25 has one end portion screw threaded as shown and engaged by a nut 27 which extends through slots 28 formed in the shank. Thus by rotating the nut, it will be seen that the pin 25 will be shifted longitudinally into or out of engagement with the teeth or serrations on the head 21. In order to prevent the pin 25 from rotating with the nut, a slot 29 is formed longitudinally therein and a guide pin 30 extends through the slot and also through the shank. The handle 31 is pivotally connected to the other end portion of the shank and the eye 32 thereof has a recess 33 which, when the handle is seated in the channel, is adapted to receive a spring pressed locking pin or catch 34 mounted within the shank. It will be understood that when the handle 31 is pulled out of the channel 24, the wall of the recess 33 will push the pin 34 back out of engagement with the eye, but when the handle is moved back into the channel, the pin 34 will spring automatically into the recess 33 and thus secure the handle in the channel.

What is claimed is:—

1. A wrench including a shank, a jaw mounted to swing relative thereto, a locking element slidable longitudinally of the shank, and a handle movably connected to the shank, said handle being adapted, when shifted into normal position, to move said element into engagement with the jaw to lock it against movement relative to the shank.

2. A wrench including a shank, a jaw carrying head mounted to swing relative thereto, a handle pivotally connected to the shank and normally housed therein, and means operated by the handle when shifted into normal position, for locking the head against movement relative to the shank.

3. A wrench including a shank, a jaw carrying head pivotally connected thereto, a handle pivotally connected to and normally housed within the shank, a locking element slidably mounted within the shank and normally engaging the head, and means under the control of the handle for holding said locking element in engagement with the head while the handle is inside of its housing, to prevent movement of the head relative to the shank.

4. The combination with a longitudinally channeled shank, of a jaw carrying head mounted to swing relative thereto and having a toothed portion, a locking element slidably mounted within the shank and normally engaging said toothed portion, a handle normally housed within the channel in the shank and pivotally connected to said shank, said handle including a recessed eye mounted within the shank, and a strip movably mounted within the channel and engaging the locking element at one end and the eye at the other end, one end of said strip being adapted to be seated within the recess in the eye when the handle is moved out of normal position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM I. REYNOLDS.

Witnesses:

MELVILLE C. WALKER,
C. E. REYNOLDS.