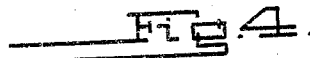
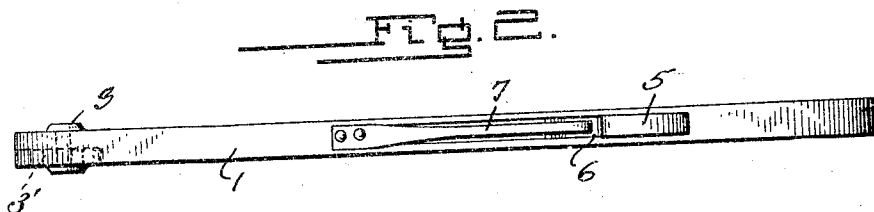
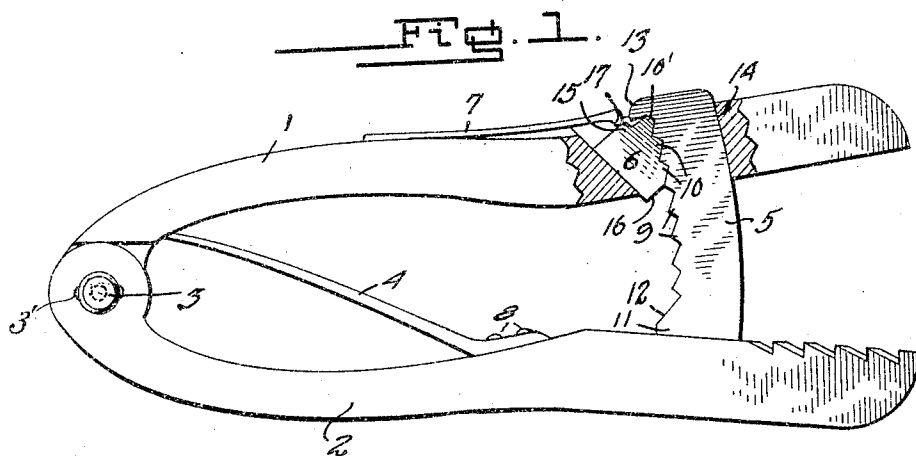


C. M. DAVIS.
WRENCH.
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1,094,536.



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WRENCH.

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To all whom it may concern:

Be it known that I, CLAUDE M. DAVIS, citizen of the United States, residing at Longbeach, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates in general to wrenches and has particular reference to that class known as alligator wrenches.

In reducing my invention to practice my principal object has been to provide such means as will at once act to hold the wrench jaws in adjusted position and will automatically return the jaws to a position of maximum separation after manipulation of the wrench.

A further object is to construct my wrench with such regard to proportion, construction and arrangement and number of parts that it will be highly efficient in its operation, cheap to manufacture and durable.

The above and additional objects are accomplished by such means as are illustrated in their preferred embodiment in the accompanying drawing described in the following specification and then more particularly pointed out in the claims which are appended hereto and form a part of this application.

With reference to the drawing: Figure 1 is a side elevation with parts of the structure broken away to clearly illustrate the assembled relation of the various elements. Fig. 2 is an edge view. Fig. 3 is a side elevation with the ratchet carrying jaws shown in section to illustrate the position assumed by the ratchet block immediately before the jaws are in a position of closure. Fig. 4 is a similar view showing the jaws in closed position and disclosing the manner in which the ratchet block is automatically drawn out of engagement with the rack bar.

Proceeding now to the description of the drawing, throughout the several views of which similar reference numerals designate corresponding parts, the preferred embodiment of my invention includes co-acting jaw members 1 and 2 pivotally connected adjacent their extremities as by rivet 3, extending through the elongated slot 3' in jaw member 2, which permits oscillation as well as longitudinal reciprocation of one member

relative to the other; a jaw spring 4; a rack bar 5; ratchet 6; and, a leaf spring 7.

The general formation of the jaws 1 and 2, is of the customary type and needs no description. The leaf spring 4 is suitably connected to one of the jaws as by rivets 8. This leaf spring is disposed so that its free end bears against the jaw 1 adjacent its pivotal point and acts to normally hold the jaw in an open position. The rack bar 5 is arcuate in shape, the concave edge being provided with teeth 9. The member 5 is fixedly mounted in a socket provided in the jaw 2 and is disposed for engagement of the teeth 9 with the teeth 10 of a wedge member 6. At the fixed end, the member 5 is provided with a projection 11 having an inclined face 12 for a purpose to be hereinafter set forth. A block engaging projection 13 is provided at the free end of the member 5 and is adapted for engagement with the upper tooth 10' of the member 6. The rack bar 5 operates in a transversely extending recess 14 formed in the upper jaw 1 and in alinement with the rack receiving socket of jaw 2. This recess is formed with an inclined face at its rear end whereon is slidably mounted the wedge member 6. It is to be noted that the slot 3' permits the rack 5 to closely contact with the opposite curved wall of the recess, especially when the member 6 acts as a wedge.

As illustrated in Fig. 1, the spring 7 bears against the shoulder 15 of the block 6 when the jaws are open and acts to hold the block member 6 in engagement with the rack bar. It will be seen that when the teeth of the rack bar are in engagement with the ratchet block, it will be impossible for the jaws to be reopened. However, when the jaws have assumed a position of approximate closure, the face 16 of the ratchet block will contact with the face 12 of the projection 11 and upon further closing of the jaws the progress of the portion 16 along the inclined face 12 will result in the disengagement of the ratchet block teeth with the teeth 9 of the member 5. It will also be seen that simultaneously with this disengagement the lug 17 of the spring 7 will engage the accessory wall of the shoulder 15 thereby holding the block 6 out of engagement with the rack bar. At this point, however, the spring 4 returns the jaws to an open position and

the member 13 contacts with the tooth 10' thereby throwing the spring 7 out of engagement with the vertical wall of the shoulder 15 and allowing the block 6 to assume its original operative position.

It will thus be seen that I have provided simple and effective means for automatically securing the jaws in adjusted position. Upon closing the jaws the wedge is forced into engagement with the spring and out of engagement with the rack: to reengage the wedge with the rack the spring is manually lifted from engagement with the wedge.

It will, of course, be understood that the accompanying drawing and above description comprehend only the general and preferred embodiment of my invention, and that various minor changes in details of construction and arrangement of parts may be made within the scope of the appended claims and without sacrificing any of the advantages of my invention.

What is claimed is:

1. A wrench including a pair of connected co-acting clamping jaws, a rack bar carried by one of said jaws, the other of said jaws having a recess formed therein for the reception of said rack bar, and a block freely mounted within said recess for binding engagement with said rack bar, for the purposes set forth.

2. A wrench including a pair of connected coacting clamping jaws, a rack bar carried by one of said jaws, the other of said jaws having a recess formed therein provided with an inclined wall, said bar adapted to be received in said recess, a block freely mounted within said recess and slidably engaging said inclined wall for binding engagement with said rack bar, and a leaf spring carried by said second-named jaw for engagement with said block, for the purpose set forth.

3. A wrench including a pair of connected coacting clamping jaws, a rack bar carried by one of said jaws, the other of said jaws having a recess formed therein provided with an inclined wall, said bar adapted to be retained within said recess, a block having a shoulder formed thereon freely mounted within said recess and slidably engaging said inclined wall for binding engagement with said rack bar, and a leaf spring having a lug formed thereon for engagement with the shoulder upon said block when said block is forced upwardly within said recess by said rack bar and being fur-

ther adapted to engage said block to hold the same in binding engagement with said rack bar upon downward movement of said block, for the purpose set forth.

4. A wrench including a pair of pivotally connected co-acting clamping jaws, a spring member carried by one of said jaws and engaging with the other jaw for normally holding the jaws in an open position, the first of said jaws being provided with a recess, an arcuate rack bar mounted in said recess, said rack bar operating in a transversely extending recess provided in the second of said jaws, a locking block slidably seated in the said recess of the said second jaw, means whereby the said locking block is normally held in engagement with the said rack bar and means carried by the said block and rack bar whereby they may be automatically disengaged to permit the return of the jaws to an open position.

5. A wrench including a pair of co-acting pivotally connected clamping jaws, a spring carried by the first of said jaws, and operatively engaging the second of said jaws to normally hold the jaws in an open position, an arcuate rack bar carried by the first of said jaws, said rack bar being provided at its secured end with an inclined faced shoulder and at its other and free end with a block engaging projection, said rack bar being mounted for sliding movement through a transversely extending opening provided in the second of said jaws, a ratchet tooth locking block slidably mounted in said transversely extending opening, said block being provided with an inclined face at its recess engaging portion and a spring engaging shoulder at its ratchet toothed portion, said block being further provided with an extension adjacent said shoulder adapted for engagement with the block engaging projection carried by said rack bar, a spring carried by said second jaw and disposed to hold the said block in engagement with the said rack bar and being further adapted to co-act with the said inclined faces of the block and rack bar to hold the block out of engagement with the rack bar when it is desired.

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

CLAUDE M. DAVIS.

Witnesses:

S. B. HOUGH,
C. J. WALKER.