

(No Model.)

F. E. BURGEVIN.
WRENCH.

No. 521,582.

Patented June 19, 1894.

Fig. 1.

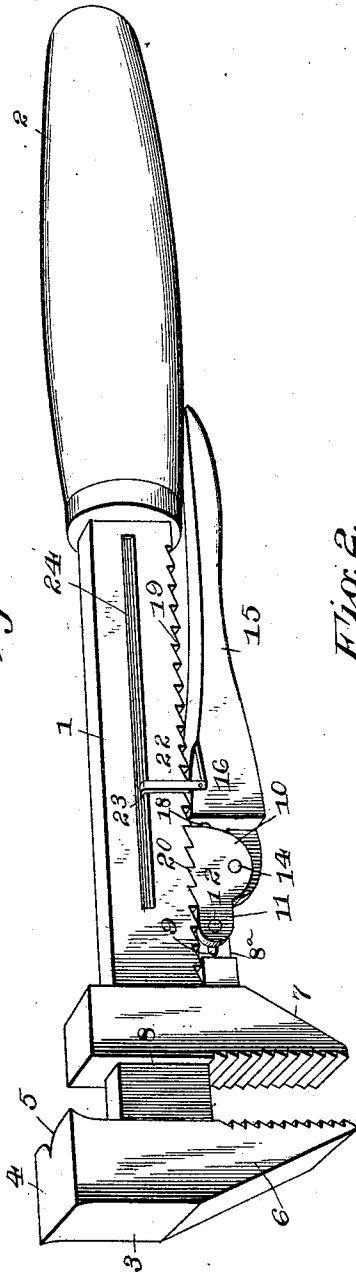


Fig. 2.

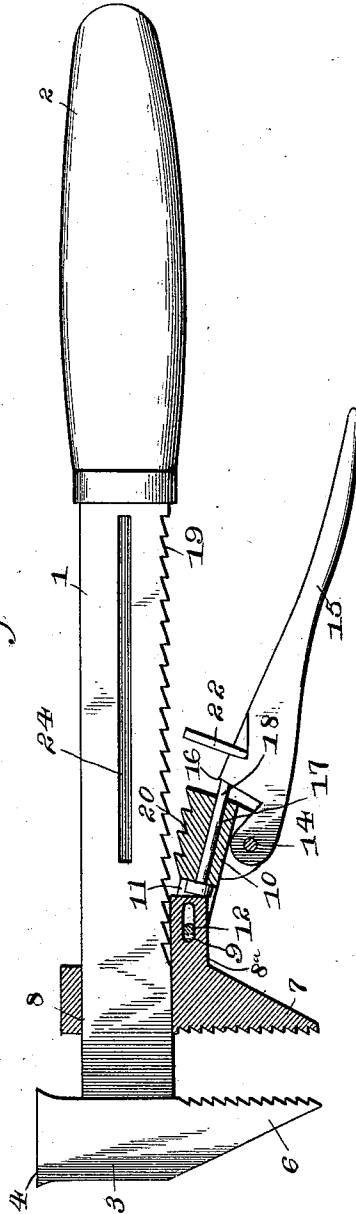
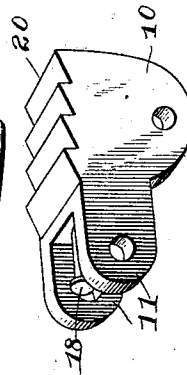


Fig. 3.



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FRANCIS EDMUND BURGEVIN, OF BURGEVIN, INDIAN TERRITORY.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 521,582, dated June 19, 1894.

Application filed January 31, 1894. Serial No. 498,619. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS EDMUND BURGEVIN, a citizen of the United States, residing at Burgevin, Choctaw Nation, Indian Territory, have invented a new and useful Wrench or Combination-Tool, of which the following is a specification.

My invention relates to improvements in wrenches, and the objects in view are to produce a wrench of simple, cheap and durable construction, wherein the same is adapted to serve the functions of a wrench, a hammer-face, a nail-puller, hand-vise, or as pliers for twisting rods or pipes, and to be capable of a rapid adjustment to suit the dimensions of any object to be grasped and to be securely and rigidly locked and clamped thereupon.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a wrench embodying my invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a detail in perspective of the locking-block.

Like numerals of reference indicate like parts in all the figures of the drawings.

In the practice of my invention I produce a stock or shank 1, the same being rectangular in cross-section, and either shaped at one end to form, or provided with a handle 2, and at its opposite end with an integral, laterally-disposed fixed head 3. The head 3 is extended at one side of the stock 1 to form a hammer-face 4, for which purpose it is preferably flared slightly, and the said face may if employed be provided with a groove 5 for engaging the heads of nails that may lie above the surface of an object and therefore be capable of being engaged by such groove and withdrawn. The head 3 is furthermore projected laterally at the opposite, or what I shall, for the purpose of convenience, term the under side, of the stock 1, and thus forms a rigid jaw 6, which is pointed or reduced toward its outer extremity, and has its inner face provided with a series of transverse teeth, as shown.

Arranged to slide upon the stock 1 is the movable jaw 7, the same having a transverse

bore 8 which loosely receives the stock 1 and whose walls are plain, so as to permit said jaw to readily slide upon the stock from the handle to the fixed jaw. The jaw 7 like the jaw 6 is reduced toward its outer extremity, and is likewise serrated or toothed to correspond therewith. The inner end of the jaw 7 is preferably slightly reduced at 8^a, and in this reduced portion there is formed a longitudinally disposed elongated slot 9. A locking-block 10 is provided at its forward end with a pair of jaw-embracing ears 11, through which a transverse pin or pintle 12 extends, the same also passing through the slot 9 and thus loosely pivoting the said block 10 to the jaw 7, and by reason of the pin or pintle being located in the elongated slot the said block is capable of a swinging and a longitudinal movement with relation to the jaw 7. The outer face of the block is provided with bearing-ears, and through the same there is passed a transverse pin or pintle 14, the same also passing through a perforation formed in the forward end of a lever 15 designed to lie upon the stock. This lever 15 is pivoted at its outer forward end to the block 10, and is provided with an eccentrically operating shoulder 16 at its inner forward end, the same being designed to abut against the end of the block 10. The block 10 is provided with a longitudinal bore 17, which extends throughout its length, and arranged for sliding in said bore and slightly longer than the same is a headed rod 18. That side of the stock adjacent to the lever 15 is provided with a series of inclined teeth 19, the same being disposed outward or toward the head of the wrench, and the block 10 upon its under surface or that side adjacent to the stock is provided with a series of inclined teeth 20, reversely disposed with relation to the disposition of the teeth 19, corresponding therewith in width and adapted to engage the same, whereby the block and stop are interlocked. I may loosely pivot at 21 in the side of the lever 15 a spring-catch 22, whose inner bent end 23 may be engaged with or sprung into a groove 24 with which the side of the stock 1 may be provided, so that the lever 15 will be held against the stock and prevented from becoming injured by accidentally engaging

with other objects. The slot 9 is preferably about twice the width of the teeth 19, so that as will hereinafter appear, the jaw 7 may be moved a distance agreeing with twice the width of a tooth 19.

The operation of my invention is as follows:—In order to grip a pipe, rod, nut, or any object, the lever 15 is swung, together with the block 10, laterally upon the pin 12, and the jaw 7 pushed to the desired point, so that the object is engaged between the jaws 6 and 7. The block is now swung inward independent of the lever 15, so that its teeth 20 become engaged with the teeth 19 of the stock, after which the lever 15 is drawn inward, the pin 14 connecting it with the block serving as a fulcrum upon which the lever operates. The inward movement of the lever causes its shoulder 16 to meet with the inner end of the rod 18, and the latter is moved forward so that its outer end abuts against the inner end of the jaw 7, causing the latter to move forward and thus grip, clamp, or impinge upon the object arranged between the jaws. By this arrangement I am enabled to move the jaw the distance, in the present instance, of two teeth 19, so for instance, the teeth may be formed one-eighth of an inch apart and I would therefore prefer to move the jaw 7 about one-fourth of an inch, so that any object could be securely gripped. Of course after the block 10 has become locked with the teeth of the stock and the spring-catch engaged with the groove, the wrench may be manipulated without fear of any accidental disengagement with or loosening of the jaws upon the object. In order to release the object it is simply necessary to swing the lever 15 outward.

From the foregoing it will be seen that I have provided a wrench wherein an adjustment is produced that is quick and effective, and causes the jaws to tightly and securely grip any object, so that the wrench is adapted for removing or applying nuts, twisting rods or pipes, or for use as an ordinary hand-vice. The pointed ends of the jaws may be driven into wood and caused to embrace the head of a nail sunken therein and thus withdraw the same from the wood, or if the groove 5 cannot be used to advantage in withdrawing a nail whose head projects above the surface in which it is driven, the jaws 6 and 7 may be employed for this purpose. Of course I may omit the hammer-face 4 and the groove 5; I may also form the jaws 6 and 7 plain or untapered and untoothed, and in fact I may vary the details in numerous ways without departing from the spirit of my invention or sacrificing any of the advantages thereof.

The special function of the spring-catch is to maintain the lever in contact with or juxtaposition to the handle when the device is used as a hammer, or otherwise than as a wrench, in order to prevent said lever from swinging outward and being injured when it is not convenient for the operator to hold the same in

place. It will be understood, furthermore, that this construction may under certain circumstances be omitted.

Having described my invention, what I claim is—

1. In a wrench, the combination with a toothed stock terminating in a fixed head forming a jaw, of a movable jaw slidably mounted upon said stock, a locking-block pivotally connected to the movable jaw and provided with teeth to engage the teeth of the stock, the pivot whereby the movable jaw and locking block are connected being arranged in a slot in the former whereby the jaw is capable of a limited longitudinal movement independent of the block, a lever fulcrumed upon the locking-block, and connections between the lever and the movable jaw, whereby when the free end of the former is drawn toward the stock the jaw is advanced toward the fixed head, substantially as specified.

2. In a wrench, the combination with a stock terminating at its outer end in a fixed head forming a jaw, and provided with teeth at one of its sides, of a movable jaw loosely mounted on the stock, a toothed locking block slidably and pivotally connected with said movable jaw and provided with a bore, a push-rod longer than and arranged in the bore, and a lever eccentrically pivoted to the locking-block with relation to the rod and having a shoulder for bearing against the inner end thereof, substantially as specified.

3. In a wrench, the combination with a stock terminating at its outer end in a fixed head forming a jaw and provided with teeth at one of its sides, of a movable jaw loosely mounted on the stock, a toothed locking-block slidably and pivotally connected with such movable jaw and provided with a bore, a push-rod longer than and arranged in the bore, a lever eccentrically pivoted to the locking block with relation to the rod and having a shoulder for bearing against the inner end thereof, and means for locking the lever in a closed position against the stock, substantially as specified.

4. In a wrench, the combination with a stock terminating at its outer end in a fixed head forming a jaw and provided with teeth at one of its sides, of a movable jaw loosely mounted on the stock, a toothed locking-block slidably and pivotally connected with said movable jaw and provided with a bore, a push-handle longer than and arranged in the bore, a lever eccentrically pivoted to the locking-block with relation to the rod and having a shoulder for bearing against the inner end thereof, a groove formed in the side of the stock, and a spring-catch carried by the lever for engaging the groove, substantially as specified.

5. In a wrench, the combination with a rectangular stock having one face provided with inclined teeth and terminating at its outer end in a head forming a jaw, of a plainly bored sliding jaw loosely mounted on the

stock and provided adjacent to the teeth and
at its inner end with a reduced longitudinally
slotted portion, the slot of which is of greater
length than the width of the teeth, the lock-
5 ing-block provided at its forward ends with
perforated ears engaging the reduced and
slotted portion of the jaw and provided at its
inner side with teeth corresponding with those
of the stock and at its outer rear side with ears,
10 a transverse pin passed through the slot of the
jaw, and the forwardly disposed ears, a lever
pivoted between the ears at the rear side of

the block, a bore formed in the block, a headed
rod longer than the bore mounted in the same
and adapted to be borne upon and operated 15
by the lever, and means for locking the lever
against the stock, substantially as specified.

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

FRANCIS EDMUND BURGEVIN.

Witnesses:

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L. E. MERRYMAN.