A. A. MUTCHMOR.

WRENCH.

APPLICATION FILED FEB. 15, 1921.

1,434,911. Patented Nov. 7, 1922.

Fig. 1.

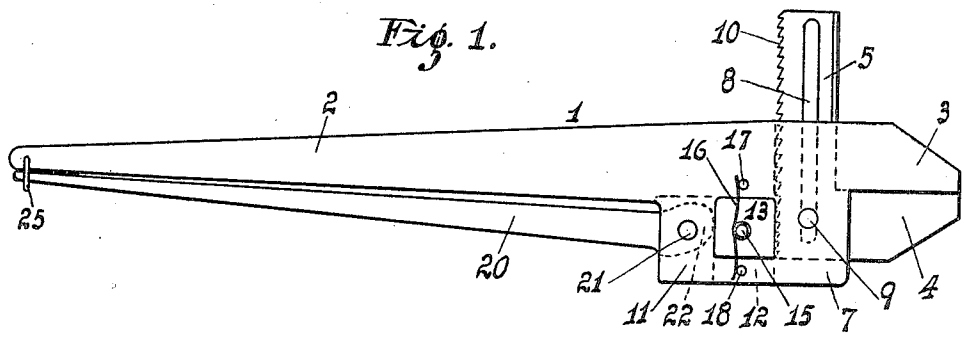


Fig. 2.

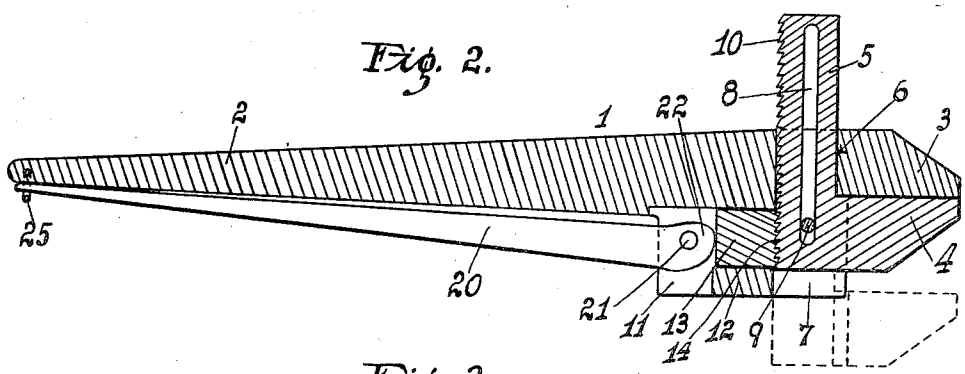


Fig. 3.

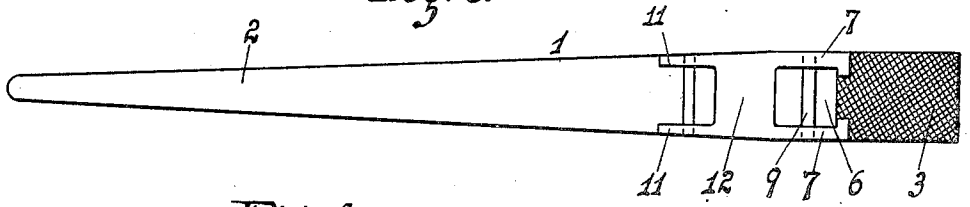


Fig. 4.

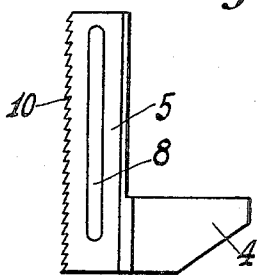


Fig. 5.



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UNITED STATES PATENT OFFICE.

ARTHUR A. MUTCHMOR, OF OAKLAND, CALIFORNIA.

WRENCH.

Application filed February 15, 1921. Serial No. 445,234.

To all whom it may concern:

Be it known that I, ARTHUR A. MUTCHMOR, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention is an improved wrench which combines the following features, solidity, adaptability, simplicity, durability, will not loosen, will hold tightly, will stay when once set and may be manufactured cheaply.

Referring to the annexed drawing in which my invention is illustrated and which forms a part of this specification:

Figure 1 is a side view of my wrench.

Figure 2 is a longitudinal section of my wrench.

Figure 3 is an under side view of my wrench with the removable jaw and the locking cam lever removed.

Figure 4 is a side view of the movable jaw.

Figure 5 is a side view of the locking block.

In the drawing 1 indicates the wrench frame which includes the wrench handle 2 and stationary jaw 3. The movable jaw 4 has a shank 5 at its inner end which slides through an opening 6 extending transversely through the frame 1 at the inner end of the stationary jaw 3. Guides 7 extend from the inner side of the frame 1 at the inner end of the jaw 3 at the sides of the opening 6 between which guides the jaw 4 and its shank 5 slide. The shank 5 has a longitudinal slot 8 through which a pin 9 extends, which pin is secured in the guides 7, said pin being adapted to engage the outer end of the slot 8 to prevent the jaw 4 and its shank 5 from coming off the frame 1. Ratchet teeth 10 are formed on the rear edge of the jaw shank 5. Lugs 11 extend from the inside of the frame 1 rearwardly of the guides 7 and a guide 12 is formed between the outer ends of the guides 7 and lugs 11. A locking block 13 is slidably mounted between the guide 12 and the inner face of the frame 1, the forward edge of said block being formed with ratchet teeth 14 which engage the ratchet teeth 10 of the jaw shank 5. Pins 15 project from the sides of the block 13, around which pins are coiled springs 16, the ends of which engage pins 17 and 18 extending from the sides of the guide 12 and the frame 1 respectively. The springs 16 yieldingly hold the block in its forward position with its teeth 14 in engagement with shank teeth 10. A cam lever 20 is fulcrumed between the lugs 11 on pivot 21 which is secured at its ends in said lugs. On said lever is a cam 22 for engaging the rear edge of the block 13 to force the same forwardly and the teeth 14 thereof into locking engagement with the teeth 10 of the shank 5 to lock the jaw 4 against movement. A ring 25 is pivoted through the rear end of handle 2 and may be swung over the end of the lever 20 to hold the cam 22 in engagement with block 13 and the teeth thereof in engagement with the teeth 10 of jaw shank 5, thus locking the jaw 4 in any position with relation to jaw 3. When the cam 22 is swung out of locking engagement with block 13, the jaw 4 may be moved toward the jaw 3 because the springs 16 will yield and allow the teeth 10 to escape the teeth 14, but said teeth will prevent the jaw 4 from being moved away from the jaw 3.

Having described my invention, I claim:

1. A wrench including a frame, a stationary jaw and a handle on said frame, a movable jaw, a shank on said movable jaw mounted in said frame so that said movable jaw may slide toward or away from said stationary jaw, teeth on said shank, a sliding block mounted in said frame, teeth on said block, a cam on said frame for engaging said block and forcing the teeth thereof into locking engagement with the teeth on said shank to lock said movable jaw, a cam lever for actuating said cam, said shank having a longitudinal slot extending nearly its length, and a pin secured on the frame extending through said slot to prevent the movable jaw from coming off the frame.

2. A wrench including a frame, a stationary jaw and a handle on said frame, a movable jaw, a shank on said movable jaw mounted in said frame so that said movable jaw may slide toward or away from said stationary jaw, teeth on said shank, a sliding block mounted in said frame, teeth on said block, a cam on said frame for engaging said block and forcing the teeth thereof into locking engagement with the teeth on said shank to lock said movable jaw, a cam lever for actuating said cam, and spring means for yieldingly holding said block in its forward position with its teeth in engagement with the teeth of said shank.

3. A wrench including a frame, a stationary jaw, and a handle on said frame, a movable jaw, a shank on said movable jaw mounted in said frame so that said movable jaw may slide toward or away from said stationary jaw, ratchet teeth on said shank, a sliding block mounted in said frame, ratchet teeth on said block, a cam on said frame for engaging said block and forcing the ratchet teeth thereof into locking engagement with the teeth on said shank to lock said movable jaw, a cam lever for actuating said cam and spring means for yieldingly holding said block in its forward position with its ratchet teeth in engagement with the ratchet teeth of said shank, so that the movable jaw may be moved toward the stationary jaw but cannot be moved away therefrom.

4. A wrench including a frame, a stationary jaw and a handle on said frame, a movable jaw, a shank on said movable jaw mounted in said frame so that said movable jaw may slide toward or away from said stationary jaw, teeth on said shank, a sliding block mounted in said frame, teeth on said block, a cam on said frame for engaging said block and forcing the teeth thereof into locking engagement with the teeth on said shank to lock said movable jaw, pins extending outwardly from the sides of said block, pins projecting from the sides of the wrench, and springs coiled respectively around said block pins with their ends engaging the pins on the wrench for holding said block with its teeth in engagement with the teeth of said shank.

In testimony whereof I affix my signature.

ARTHUR A. MUTCHMOR.