

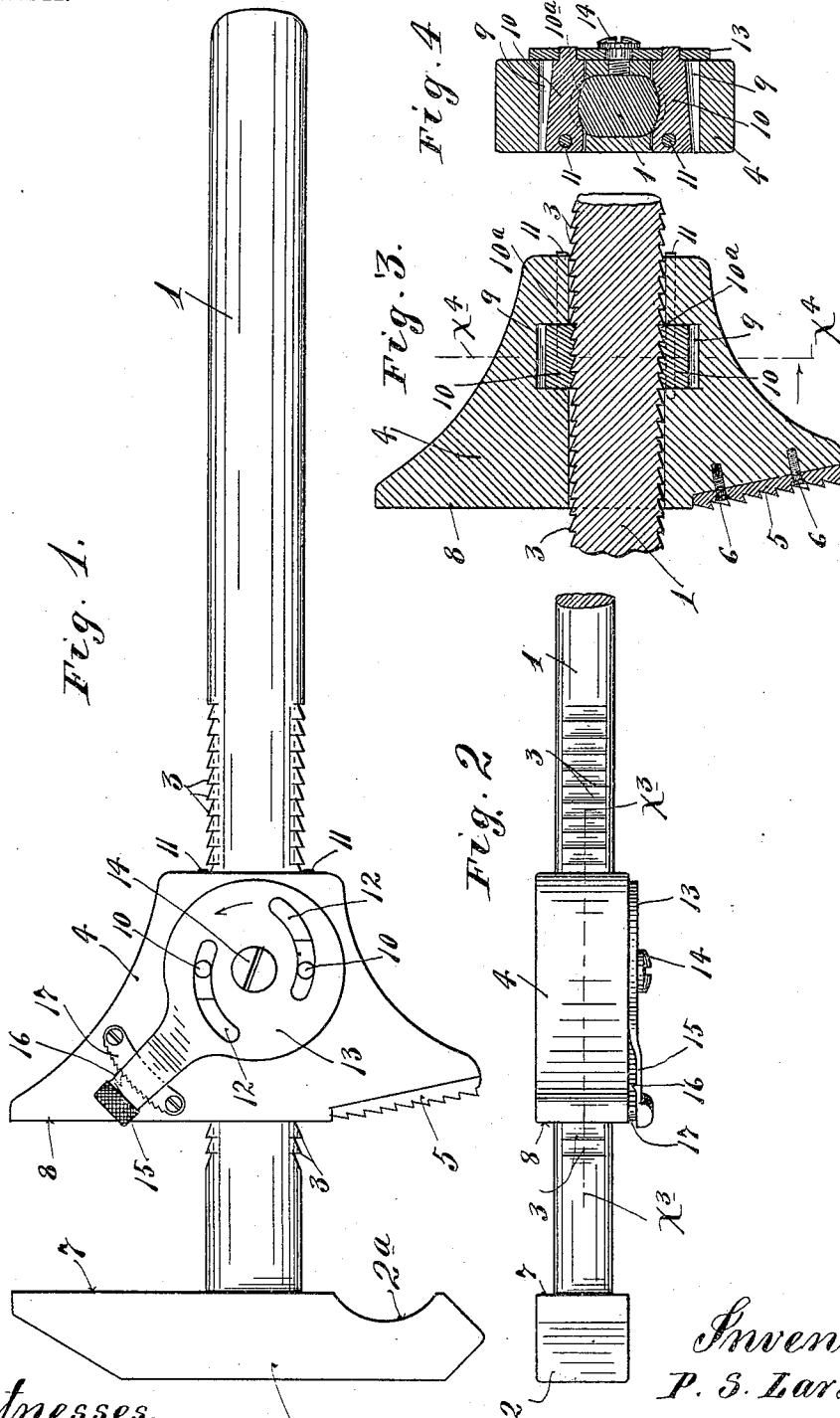
No. 768,761.

PATENTED AUG. 30, 1904.

P. S. LARSON.
WRENCH.

APPLICATION FILED APR. 14, 1904.

NO MODEL.



Witnesses.
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UNITED STATES PATENT OFFICE.

PETER S. LARSON, OF SHARON, NORTH DAKOTA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 768,761, dated August 30, 1904.

Application filed April 14, 1904. Serial No. 203,129. (No model.)

To all whom it may concern:

Be it known that I, PETER S. LARSON, a citizen of the United States, residing at Sharon, in the county of Steele and State of North Dakota, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wrenches, and has for its especial object to provide a combined monkey-wrench and pipe-wrench of improved construction.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view showing a combined wrench embodying my invention. Fig. 2 is an edge elevation of the same, some parts being broken away. Fig. 3 is a section on the line $x^3 x^3$ of Fig. 2, and Fig. 4 is a transverse vertical section on the line $x^4 x^4$ of Fig. 3.

The handle or bar 1 is preferably constructed of iron or steel and formed integral with a head 2. In cross-section the handle 1 is preferably oblong and is formed on its opposite curved edges with segmental ratchet-teeth 3.

Mounted to slide freely on the handle 1 over the ratchet-teeth 3 is a head 4, the ends of which project in opposite directions for cooperation with the oppositely-projecting ends of the relatively fixed head 2. At one projecting end the head 4 is provided with ratchet-teeth advisably formed on a hardened-steel jaw 5, detachably held to said head 4 by screws 6. This toothed jaw 5 is adapted to cooperate with a depression 2^a, formed in the adjacent end of the head 2 to afford a pipe-wrench which is adapted to grip any form of round or approximately round material. The parallel faces 7 and 8 of the heads 2 and 4, respectively, adapt the wrench for use as an ordinary monkey-wrench.

To lock the relatively adjustable head 4 in whatever position it may be set on the bar 1,

it is provided with one or more, preferably a pair, of cam-actuated lock-dogs, which when thrown into action securely lock the said head 4 onto the said bar 1, but which when thrown out of action permit said head to be freely and quickly moved from one position to another. The said pair of lock-dogs are mounted in suitable recesses 9, formed in said head 4 and are themselves indicated by the numeral 10. Said dogs 10 are pivoted at one end on pivot-pins 11, driven into suitable seats formed in the head 4. At their intermediate portions said dogs 10 are formed with ratchet-teeth 10^a, that engage with the opposite ratchet-teeth 3 of the bar or handle 1. The free ends of said dogs 10 work in eccentric slots 12 of a cam plate or disk 13, which disk is pivoted to the head 4 on a screw 14. Said cam-disk 13 is provided with a projecting finger-piece 15, which is adapted to be sprung laterally and which is provided with a ratchet-tooth 16, that engages with a segmental ratchet-bar 17, secured on one face of the head 4. Normally the tooth 16 is engaged with the said ratchet-bar 17 and holds the cam-disk 13 wherever set. The said tooth is, however, adapted to be disengaged from said ratchet-bar by a slight lateral movement of the spring finger-piece or arm 15, thereby permitting free movements of the said cam disk or plate 13. The cam-grooves 12 are so disposed that they will force the lock-dogs 10 onto the ratchet-teeth 3 of the bar 1 when the said cam-disk 13 is moved in the direction indicated by the arrow marked thereon in Fig. 1 and will move the said dogs into inoperative positions under a reverse movement of the said cam disk or plate.

With the above-described construction it is evident that the head 4 may be very quickly adjusted into different positions and may be very quickly and securely locked in whatever position it may be set.

It will of course be understood that the wrench described is capable of modification within the scope of my invention, as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a wrench, the combination with a bar, having a fixed head and ratchet-teeth on oppo-

site sides, of the adjustable head slidably mounted on said bar, a pair of lock-dogs mounted in said head and engageable with the opposite ratchet-teeth of said bar; and a cam-plate pivoted to said head and having a pair of eccentric cams operating on said dogs, to move them simultaneously to and simultaneously from operative positions, substantially as described.

10 2. In a wrench, the combination with a bar 1 having a fixed head 2 and ratchet-teeth 3, of the adjustable head 4, slidably mounted on said bar, a pair of pivoted lock-dogs mounted in said head 4 and engageable with the opposite
15 ratchet-teeth of said bar 1, and a cam-plate 13 pivoted to said head 4, and having a pair of eccentric cam-grooves operating on the free ends of said dogs to move them to and from operative positions, substantially as described.

20 3. In a wrench, the combination with the bar

1 having the fixed head 2 and the opposite rows of ratchet-teeth 3, of the adjustable head 4, slidably mounted on said bar 1, the pair of lock-dogs 10 seated in said head 4, pivoted at 11, and operating on the opposite ratchet-teeth 25 3 of said bar 1, the cam-plate 13 pivoted at 14 to said head 4, and having the eccentric cam-grooves 12 operating on the free ends of said dogs 10, to move the same to and from operative position, said cam-plate 13 having the projecting operating-arm 15, and means co-operating with said arm 15 to lock said cam-plate 13, substantially as described.

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

PETER S. LARSON.

Witnesses:

VICTOR GLAUTZ,
T. S. HUNT.