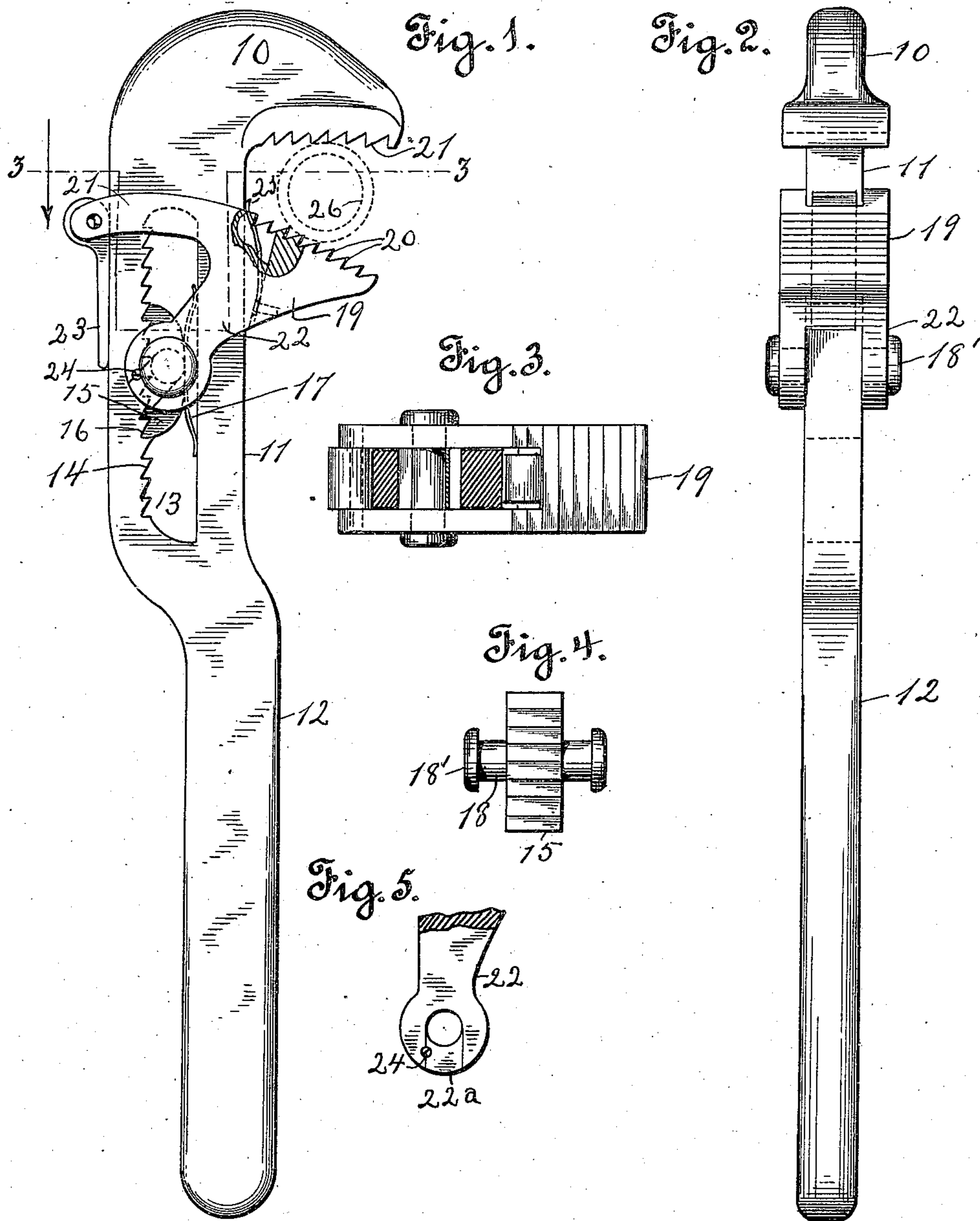


No. 877,457.

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C. W. SIEVERT.
WRENCH.

APPLICATION FILED JULY 9, 1907.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES W. SIEVERT, OF LOS ANGELES, CALIFORNIA.

WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES W. SIEVERT, a citizen of the United States, residing in the city of Los Angeles, county of Los Angeles, and State of California, have invented new and useful Improvements in Wrenches, of which the following is a specification.

The object of my invention primarily is to provide a pipe wrench that is adjustable to pipes of different sizes and which will grip the pipe in such manner that the more force that is applied to turn the pipe the tighter the wrench will grip the same thereby rendering it practically impossible for the wrench to slip on the pipe and which may be used as a nut wrench. I accomplish this object by the wrench described herein and illustrated in the accompanying drawings in which;

Figure 1 is a side elevation of my improved pipe wrench. Fig. 2 is an edge elevation of the same. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a plan of the abutment. Fig. 5 is a detail of a portion of the movable jaw.

In the drawings 10 is the fixed jaw having a shank 11 which is secured to the operating handle 12. In the shank of this jaw is a slot 13 and the outer surface of the shank within the slot is provided with teeth 14. The jaw shank and handle are all preferably made integral and of steel drop forged. Mounted within the slot in shank 11 is a movable dog 15 which has teeth 16 that engage teeth 14 to prevent the dog from moving toward the rear end of the handle. A spring 17 bears against the opposite side of the shank which forms the slot opposite the teeth and also bears against the dog to hold the same from accidentally sliding in the slot. Dog 15 is provided with trunnions 18 which have heads 18' on the outer ends thereof. 19 is the movable jaw and is provided with teeth 20 on the face thereof which is opposed to the fixed jaw 10, and said fixed jaw has teeth 21 opposed to teeth 20 of the moving jaw. The moving jaw is preferably triangular shaped with the central portion at one side cut out to make the jaw lighter. The sliding jaw is slitted and straddles the shank of the fixed jaw, and the front part of the slitted portion I will call front arms 21 and the rear portion rear arms 22. The front arms project beyond the shank of the fixed jaw and in the ends is mounted a cam lever 23 by means of which the sliding jaw can be locked to the

shank against movement when desired. The rear arms of the sliding jaw are mounted on the trunnions of dog 15, and to mount these arms on said trunnions the rear portion 22^a best shown in Fig. 5 is separated as shown in said figure from the other portions and after the arms are placed in position on the trunnions this piece is returned to position and is secured against separation therefrom by a screw 24 which partly engages both parts as shown in said figure. A spring 25 is secured to jaw 19 within the slit and the free end thereof bears against the shank of the fixed jaw and holds the sliding jaws spring pressed as shown in Fig. 1.

In the operation of my wrench the same will be adjusted to fit upon the size of pipe being used by sliding the movable dog in the slot until the jaws engage the pipe 26. It will be seen that when power is applied to the handle that the more pressure that is applied thereto the tighter the jaws will grip the pipe, because the rear arms of the sliding jaw prevent any backward movement of the sliding jaw and they turn on the trunnions so as to bring the jaws closer together thereby gripping the pipe more firmly. As soon as the handle is moved in the opposite direction that portion of the sliding jaw which engages the pipe moves out or away from the shank of the fixed jaw thereby letting go its hold on the pipe. By making the jaws parallel omitting the teeth my wrench is adapted for a nut wrench.

Having described my invention what I claim is;

1. A pipe wrench comprising a fixed jaw, having a slotted shank provided with teeth on the side of the slot furthest from the fixed jaw and a handle secured to said shank, said shank and handle extending rearwardly and at right angles to the face of the fixed jaw; a sliding jaw longitudinally movable along the shank of the fixed jaw between the handle and the fixed jaw, said sliding jaw having rear arms straddling the shank of the fixed jaw and terminating at the slot thereof, and front arms straddling said shank and extending beyond the same; a dog having teeth pivotally connected to the rear arms of the sliding jaw, and longitudinally movable in the slotted shank of the fixed jaw; and a connection between the front arms of the sliding jaw exterior the shank of the fixed jaw.

2. A wrench comprising a fixed jaw having a slotted shank with a handle secured there-

to, said shank being provided with teeth on the side furthest from the fixed jaw and extending at right angles from the face of the jaw; a dog having teeth within said slot, and
5 a sliding jaw longitudinally movable along the shank of the fixed jaw between the face thereof and the handle, and having a pivotal connection to said dog, the teeth of said dog and shank being adapted to secure the dog
10 against movement toward the handle when the wrench is being operated.

3. A pipe wrench comprising a fixed jaw having a slotted shank provided with teeth on the outer surface of the slot, said shank
15 extending at right angles rearwardly to the face of the fixed jaw; a handle secured to said shank; a sliding jaw longitudinally movable along the shank of the fixed jaw between said

jaw and the handle, said sliding jaw having rear arms straddling the shank of the fixed jaw and terminating adjacent the slot thereof, and front arms straddling said shank and extending beyond the same; a cam lever mounted in the ends of said front arms; a toothed dog pivotally connected to the rear
20 arms of the sliding jaw and longitudinally movable in the slotted shank of the fixed jaw; and a spring secured to said dog and bearing against the shank within the slot.

In witness that I claim the foregoing I
have hereunto subscribed my name this 2nd
day of July, 1907.

CHARLES W. SIEVERT.

Witnesses:

G. E. HARPHAM,
S. B. AUSTIN.