No. 670,091. Patented Mar. 19, 1901.

O. H. UVAAS.

WRENCH.

(Application filed Sept. 21, 1900.)

(No Model.)

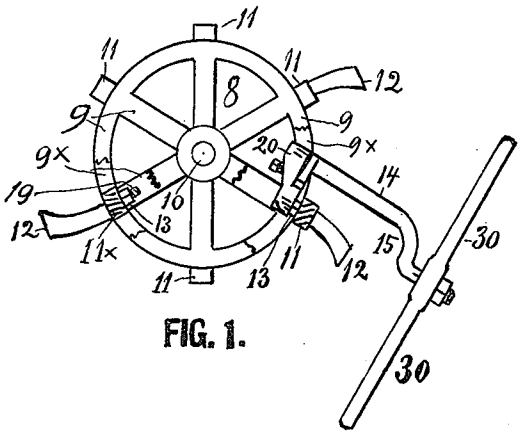


FIG. 1.

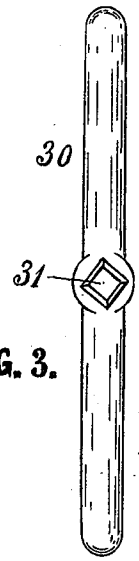


FIG. 3.

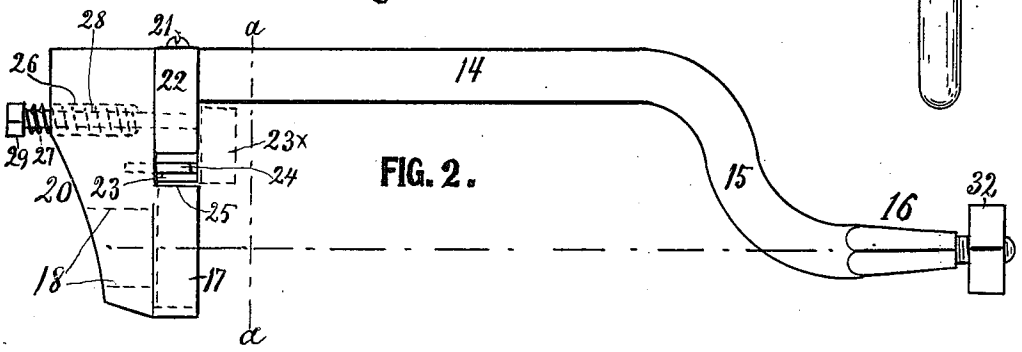


FIG. 2.

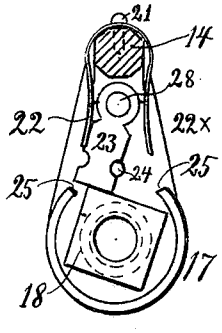


FIG. 4.

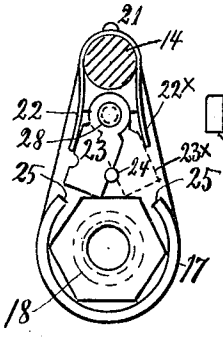


FIG. 5.

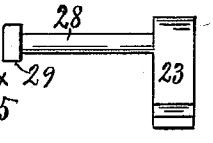


FIG. 6.

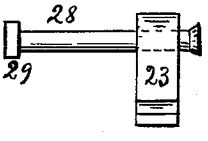


FIG. 7.

WITNESSES:

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 670,091, dated March 19, 1901.

Application filed September 21, 1900. Serial No. 30,709. (No model.)

To all whom it may concern:

Be it known that I, OSCAR H. UVAAS, a citizen of the United States, residing at Lamberton, in the county of Redwood and State of Minnesota, have invented certain new and useful Improvements in Wrenches; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in wrenches of the class used for securing the teeth in cylinders of threshing-machines or tightening the nuts by which such teeth are usually secured; and the object of my invention is to provide an improved, convenient, and effective wrench for said purpose. Said object I attain by the novel construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a partly-sectional end view of a thresher-cylinder with my improved wrench in position for turning a nut on one of the cylinder-teeth. Fig. 2 is a side view of my wrench with its handle removed. Fig. 3 is the wrench-handle removed from Fig. 2. Fig. 4 is a sectional view on the line *a a* in Fig. 2, with a square nut in the socket of the wrench. Fig. 5 is about the same as Fig. 4, only that a hexagon nut is operated on, and the bar 14 of the wrench is shown as being made from round steel, while in Fig. 4 it is octagon. Fig. 6 is a detail view of the dog 23 in Figs. 2, 4, and 5. Fig. 7 is a modification of Fig. 6.

Referring to the drawings by reference-numerals and trying to point out the use of my improved wrench and thereafter its construction, 8 represents an ordinary thresher-cylinder made from two spiders 9 and $9^{\times}$, secured on the shaft 10 and having longitudinal bars 11, which may be secured at the outer side of rings of the spiders or flush with the outer face of the rings, as at $11^{\times}$, or the bars may be secured to the ends of the spider arms or spokes without the use of any rings to connect them. In either case when the teeth 12 are inserted through the bars and provided with nuts 13 at the inner sides of the bars it is not practical to turn and tighten those nuts by a common socket-wrench, as the shaft 10 and bars 11 are in the way, and to use any other common style of wrenches would be still more difficult, especially as said nuts must be tightened with the greatest force the screw-threaded end of the tooth will stand. To overcome said difficulty, I make my wrench of a steel bar 14, offset at 15 to bring its shank 16 into central line with the socket 17, formed in the head 20, forged integral with the wrench-bar 14, and provided with a central hole 18 as a clearing for the screw-threaded end 19 of the tooth, which may protrude beyond the nut, (see 19 in Fig. 1.) To the wrench-bar 14 I secure by the screw 21 or in any other suitable manner two springs, or preferably a U-shaped double spring 22 $22^{\times}$, which in turn press against the pivoted dog 23 and hold it normally against the one side or the other of the pin 24, secured in the head 20, and yield to the motion of the dog when the latter plays over the corners of the nut to take hold of the next corner as the wrench is rocked by its handle. The socket 17 is cut open at 25 to allow the dog to reach the nut.

In a spring-socket 26 in the wrench-head is placed a compressed coil-spring 27, through which and through the head is passed the sliding and rocking stem 28, provided with the head 29 to compress the spring and having secured to its opposite end the dog 23, either rigidly, as in Fig. 6, or swiveling, as in Fig. 7.

When a nut (with ordinary right-hand screw-threads) is to be tightened, the pawl or dog 23 is placed in the position shown in Figs. 4 and 5, and the wrench is placed as in Fig. 1 and rocked as much as the bar 11 will permit, and as the socket is inverted toward the operator the force is applied when turning to the left, and if the nut is to be unscrewed the operator presses on the head 29 or pulls on the dog 23 until it assumes the position $23^{\times}$ in Fig. 2, and then let the spring 27 draw the dog against the main head again on the opposite side of the pin 24, as indicated in dotted lines $23^{\times}$ in Fig. 5, and as the wrench is rocked and turned with force toward the right the nut will unscrew.

The wrench is operated by the double-armed handle 30, which is placed with its square and tapering hole 31 upon the square and tapering end 16 of the bar 14, where it is secured by the nut 32 and is placed in such a relative position to the offset 15 of the wrench that one of the arms of the handle points in the same direction as the offset. This position having proved to be the most effective one, I prefer it.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A socket-wrench having a handle-bar, a handle on one end of the bar and on the other end of the bar a socket open at one side, a spring-pressed pawl or dog adjacent the open side of the socket and adapted to play over the corners of the nut and engage them and turn the nut in either direction.

2. A socket-wrench having a handle-bar, a handle on one end of the bar and on the other end of the bar a socket open at one side, a spring-pressed pawl or dog adjacent the open side of the socket and adapted to play over the corners of the nut and engage them and turn the nut in either direction; said socket being at one side of the handle-bar.

3. A socket-wrench having a handle-bar, a handle at one end of the bar and on the other end of the bar a socket open at one side, a spring-pressed pawl or dog adjacent the open side of the socket and adapted to play over the corners of the nut and engage them and turn the nut in either direction; said socket being at one side of the handle-bar and facing toward the end of the bar having the handle.

4. A socket-wrench having a handle-bar, a handle at one end of the bar and on the other end of the bar a socket open at one side, a spring-pressed pawl or dog adjacent the open side of the socket and adapted to play over the corners of the nut and engage them and turn the nut in either direction; said socket being at one side of the bar and said bar being offset so as to bring its handled end in central line with the socket.

5. A socket-wrench having the head 20 upon one side of its main bar, an open-sided socket in the head, the spring-pressed dog 23 adapted to turn the nut in either direction, the pin 24 secured in the head for the dog to rest against either side of, and a double-armed spring holding the dog against either side of the pin; said dog having a spring-retained pivot securing it to the head of the wrench, so that the dog may be pulled forward and passed over the point of the pin 24, substantially as and for the purpose set forth.

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

OSCAR H. UVAAS.

Witnesses:
JOHN STREET,
C. A. ZIESHE.