No. 632,051. Patented Aug. 29, 1899.

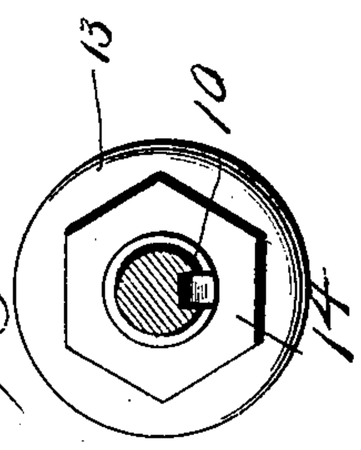
F. HOERENS.

WRENCH.

(Application filed June 29, 1899.)

(No Model.)

Fig. 4.



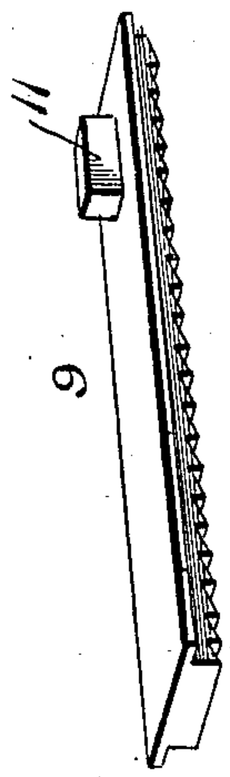
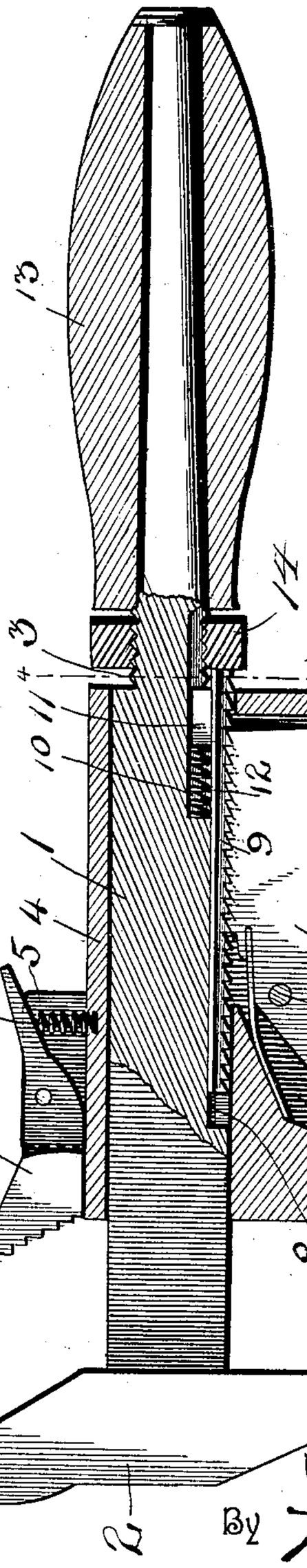


Fig. 2.

Fig. 1.



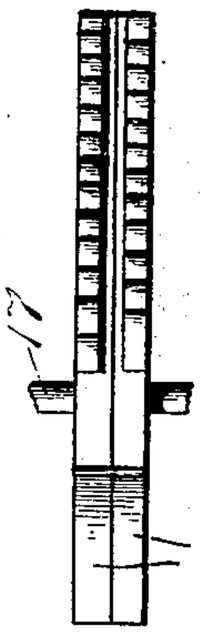


Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

FELIX HOERENS, OF ST. FRANÇOIS, CANADA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 632,051, dated August 29, 1899.

Application filed June 29, 1899. Serial No. 722,339. (No model.)

To all whom it may concern:

Be it known that I, FELIX HOERENS, a citizen of the French Republic, residing at St. François, county of Beauce, Province of Quebec, Canada, have invented certain new and useful Improvements in Wrenches; and I do hereby declare that the following is 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 improvements in wrenches.

The object of my invention is to provide an improved nut and pipe wrench which can be readily and quickly brought into operative position or taken therefrom.

A further object is to provide a construction which is neat and attractive in appearance, durable in construction, simple and efficient in operation, and which can be made at a moderate cost.

To these and other ends my invention consists in the improved construction and combination of parts hereinafter fully described, and particularly pointed out in the appended claim.

In the accompanying drawings, forming a part of this specification and in which similar numerals of reference indicate similar parts in all of the views, Figure 1 is a side elevation, partly in section, of my improved wrench. Fig. 2 is a detail of the sliding rack-bar. Fig. 3 is a detail of the locking dogs or levers. Fig. 4 is a sectional view taken on the line 4 4 of Fig. 1.

1 designates the shank of my improved wrench, having at its front end the fixed member 2, the member 2 being provided with nut-receiving and pipe-receiving portions of usual form and construction. The shank 1 is provided at a suitable point with a reduced portion, said portion extending to the end thereof, the part of the reduced portion contiguous to the shank being provided with screw-threads 3 for a purpose hereinafter described.

4 designates the movable member, said member being adapted to embrace the shank 1 and be slidable thereon in an obvious manner. The member 4 is provided with upwardly-extending flanges 5, between which is pivotally mounted a jaw 6, which, in connection with the pipe-holding portion of the member 2, is adapted to hold the pipe in firm position for operation. The jaw 6 is adapted to be held normally in contact with the pipes by means of a spring 7, inserted between the handle of said jaw and the casing of the member 4, as best shown in Fig. 1.

By this construction it will be readily seen that when the pipe-wrench portion is to be used the handle of the jaw 6 is depressed, thus allowing of the entrance of the pipe between the jaw and the pipe-holding member, after which the handle of the jaw 6 is released, and the spring 7 serves to move the pivotal jaw 6 in contact with the pipe and hold it in proper position, yet allowing of a sufficient yielding not to injure the pipe in any manner.

The shank 1 has its under face provided with a recess 8, dovetailed, as shown, said recess being adapted to receive the rack-bar 9, formed substantially as shown in Fig. 2 of drawings. The shank 1 is provided with a second recess 10, communicating with the recess 9, said second recess being adapted to provide for the movement of the lug 11, extending upwardly from the rack-bar 9. A bearing-spring 12 is mounted within the recess 10, between the front wall thereof and the lug 11, said spring being adapted to move said rack-bar rearwardly and normally retain its rearward position. As shown, it will be seen that the rack-bar 9 has a slidable movement within the dovetailed recess 8, the rearward movement being obtained by means of the spring 12, while the forward movement is obtained by means of the nut 14, mounted on the screw-threaded portion 3 in front of the handle 13. It will be readily seen that if the nut 14 is rotated it will be caused to move forwardly, contacting with the end of rack-bar 9 and moving it forward in an obvious manner, while if the nut is moved in the opposite direction the spring 12 will move the rack-bar rearwardly and hold it in contact with the nut 14.

The member 4 is provided at its under side with a slotted recess 15, within which are pivotally mounted two spring-actuated toothed pawls 16, pivotally mounted, as at 17, within

said recess. These pawls are arranged side by side and have their teeth out of alinement with each other, the teeth of one pawl being located on a plane approximate the center of the teeth of the other pawl.

By this construction it will be seen that when it is desired to use either the nut or the pipe portion of the wrench the wrench is placed over the nut or pipe, and the movable member 4 is moved forward until it contacts with the object which is to be operated upon. During this movement the teeth of the pawl 16 will ride freely over the feed-bar 9; but owing to obvious reasons the movable jaw or member cannot come into a close fit with the object to be acted upon. To allow of a remedy, the nut 14 is rotated until the member 4, which is moved forward by the forcing of the rack-bar forward, contacts with the article to be acted upon, when the wrench will be found to have moved to a close adjustment. When it is desired to release the jaws, the nut 14 is unscrewed a suitable distance, which will allow the pawls 16 to be disengaged from the teeth of the rack-bar, when the movable jaw can be readily moved to the rear.

By forming the teeth of the pawls 16 in the manner shown it will be readily seen that the adjustment of the movable member can be accomplished in a quicker manner by reason of the fact that two holding contact positions can be formed between the pawls 16 and the rack-bar for every tooth on the rack-bar. In this manner it will be possible to adjust the wrench with but a partial rotation of the nut 14.

The advantages of my improved wrench are believed to be apparent, and it is not thought necessary to point them out in detail.

While I have herein shown a preferred form of carrying my invention into effect, yet I do not desire to limit myself to such preferred details of construction, but claim the right to use any and all modifications thereof which will serve to carry into effect the objects to be attained by this invention in so far as such modifications and changes may fall within the spirit and scope of my said invention.

I claim—

A wrench comprising a shank having a fixed member; a movable member mounted on said shank, having a slidable movement thereon; a plurality of pawls having teeth of varying alinement, mounted within said movable member; a rack-bar mounted within said shank, said rack-bar being adapted to be engaged by the teeth of said pawls alternately; a spring for moving said rack-bar in a rearward direction; and a nut mounted on said shank said nut being adapted to move said rack-bar forwardly as it is rotated, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

FELIX HOERENS.

Witnesses:
J. A. MARION,
A. W. YOUNG.