

(No Model.)

J. FORD.
WRENCH.

No. 546,139.

Patented Sept. 10, 1895.

Fig. 1.

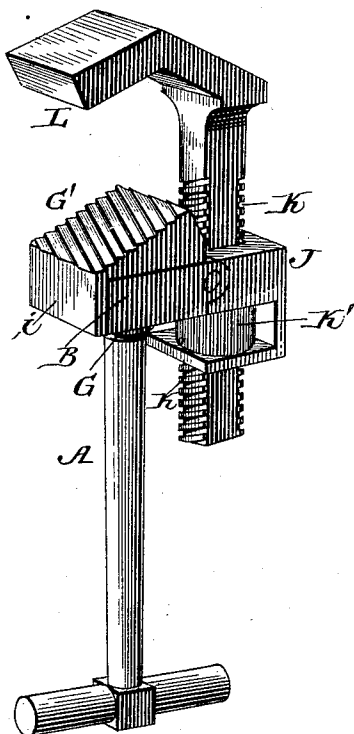


Fig. 2.

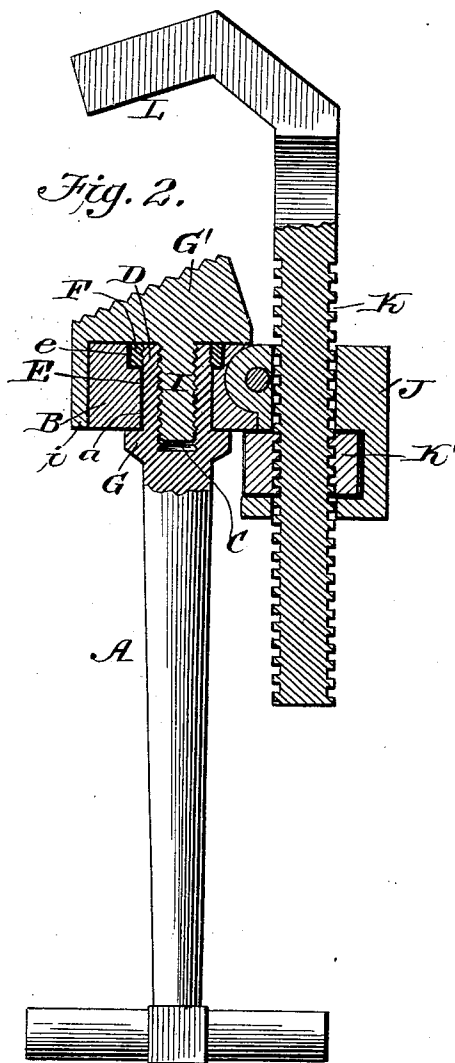


Fig. 3.

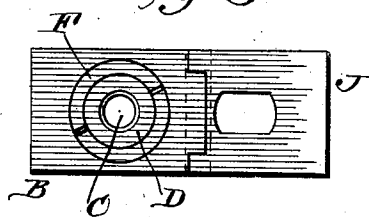
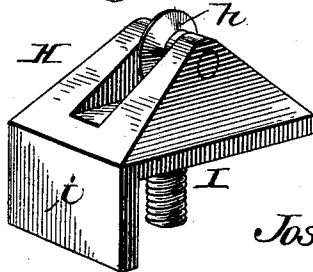


Fig. 4.



WITNESSES:

M. D. Bloude
P. B. Furpin

INVENTOR:

Joseph Ford.

BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH FORD, OF GRAFTON, NORTH DAKOTA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 546,139, dated September 10, 1895.

Application filed July 6, 1895. Serial No. 555,127. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH FORD, of Grafton, in the county of Walsh and State of North Dakota, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention is an improvement in pipe-wrenches, and has for its objects among others to provide a tool in which the wrench-head devices may be readily converted into a cutter-head; and the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view, and Fig. 2 is a sectional side elevation, of my wrench. Fig. 3 is a detail view of the head and carrier, and Fig. 4 is a detail view of the cutter-face.

In the construction shown the wrench has a handle or shaft A, journaled at *a* to a head B, the upper end of the handle being exposed and being provided in said end with a threaded socket C. In journaling the handle it is preferred to form at the upper end of the shaft a tenon D, fitting in the opening E in the head B. The upper end of the opening E is rabbeted at *e*, and the upper end of the shaft being threaded a nut F is screwed thereon and seated in the rabbet *e* lying flush with the top of the head B. The shoulder G at the base of the tenon D bears below the head B. By this construction the shaft may be freely turned and is at the same time held to said head, as will be readily seen from the drawings.

The interchangeable jaw-faces G' or H may be readily applied to the head B to convert the latter into a wrench or cutter-head, the face G' being serrated for use as a wrench and the jaw H having a cutter *h*. In other respects these jaw-faces are alike, each being provided with a threaded stud I to enter the socket C of the handle, and also a portion *i* to lap alongside the head B and prevent the jaw-face from turning thereon. This portion *i* is preferably a flange depending from the jaw-face and fitting alongside the head B, as clearly shown in the drawings. By fitting the stud I to the socket C and properly turning the handle-socket A the jaw-face G' or H may be

readily adjusted to the head, and a reverse movement of the handle will set the jaw off the head, as will be readily understood.

To the head B is jointed a carrier or block J, having an opening through which a threaded shank K is movable longitudinally, and said carrier J has a seat in which is fitted the hand-nut K', by which the said shank may be set to and held in any desired adjustment. This shank carries the jaw L, which co-operates with the wrench face or cutter in the use of the implement either as a pipe wrench or cutter, as will be readily understood.

In the use of the implement either as a wrench or cutter the swinging jaw permits the wrench face or cutter to alternately slip and operate as the handle is reciprocated.

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

1. An implement substantially as described comprising the head, the handle journaled to said head, the jaw face applicable to said head and having a portion overlapping the same and a screw stud having a threaded engagement with the handle whereby the turning of the latter may seat or unseat the jaw face, substantially as described.

2. An implement substantially as described comprising the head, the handle journaled thereto and having a threaded socket in its end, and the jaw face having its under side fitted to the head and provided with a threaded stud projecting from said side and engaging in the socket of the handle, substantially as set forth.

3. The combination with the head and the shaft journaled therein and having an end socket, of the jaw face having a depending flange-like portion lapping alongside the head and a stud threaded in the socket of the handle, substantially as set forth.

4. The combination with the head having the opening rabbeted at its upper end, of the handle journaled in said opening and having its upper end threaded and socketed, the nut turned on said upper end within the rabbet in the head, and the jaw face held to said head, substantially as set forth.

5. The improved wrench herein described consisting of the head, the handle journaled

thereto and having its upper end socketed, the jaw face fitted to said head having a depending flange lapping alongside the head and a stud threaded into the socket of the
5 head, the block jointed to said head and having an opening for the jaw shank, the jaw having its shank movable through said block, and the adjusting nut held to the block and engaging the shank, substantially as and for the purposes set forth.

JOSEPH FORD.

Witnesses:

JOHN H. FRANE,

LUDUN C. FRANKLIN.