(No Model.)

R. R. ROUSE.

PIPE WRENCH.

No. 346,501. Patented Aug. 3, 1886.

Fig. 2.

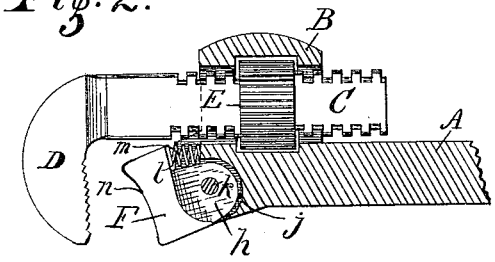
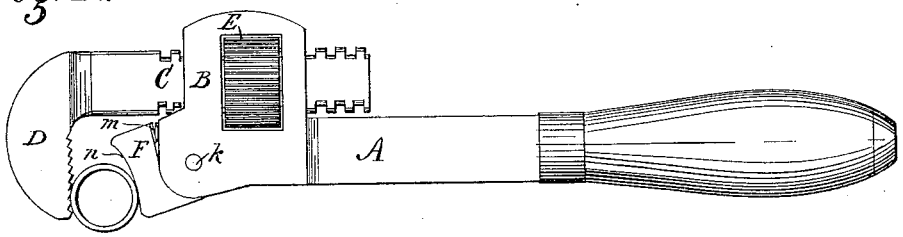


Fig. 1.



Witnesses
O. P. Hood.
V. M. Hood.

Inventor
Roswell R. Rouse.
By his Attorney
H. P. Hood.

UNITED STATES PATENT OFFICE.

ROSWELL R. ROUSE, OF INDIANAPOLIS, INDIANA.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 346,501, dated August 3, 1886.

Application filed May 6, 1886. Serial No. 201,260. (No model.)

To all whom it may concern:

Be it known that I, ROSWELL R. ROUSE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Pipe-Wrenches, of which the following is a specification.

My invention relates to an improvement in that class of pipe-wrenches in which one of the pipe-grasping jaws is pivoted to the handle-bar and the opposed jaw slides in a case formed integral with said handle-bar.

The object of my improvement is to cause the teeth of the serrated sliding jaw to engage the pipe quickly and firmly, to prevent a scraping action of the pivoted jaw on the pipe, and to avoid the possibility of the pipe becoming locked or wedged between the jaws. These results I accomplish by a peculiar formation of the bearing-surface of the pivoted jaw, as hereinafter fully set forth.

The accompanying drawings illustrate my invention.

Figure 1 is a side elevation. Fig. 2 is a longitudinal section.

A is the handle-bar, having the case B for the sliding jaw formed integral therewith.

C is a screw-threaded bar, having the serrated jaw D formed thereon. Said bar is adapted to slide loosely in case B, and is held in place and adjusted longitudinally therein by the nut E.

F is a pivoted jaw, having a lug, *h*, which is secured in a corresponding recess, *j*, in the handle-bar by a pin, *k*. Lug *h* is thinner than the body of the jaw, and the shoulders *l*, thus formed, rest upon the corresponding surfaces of the end of the handle-bar, the arrangement being such that the jaw has a limited oscillating movement on the bar, and the strain on the jaw is borne by the shoulders *l*, rather than the pin *k*. Jaw F is held normally outward by a spring, *m*. The bearing-surface *n* of jaw F is smooth, without teeth, and is concave in outline, as shown, the arrangement being such that when the opposed jaws D and F are presented for engagement on a pipe, as in Fig. 1, the outer portion of the bearing-surface *n* of the pivoted jaw which first comes in contact with the pipe forms an acute angle with the bearing-surface of jaw D, while the remaining portion of the bearing-surface of jaw F forms a much less acute angle therewith, the change from the acute to the comparatively obtuse angle being gradual, and thus forming the curved concave outline shown.

In operation, the wrench having been placed upon and having engaged the pipe, as in Fig. 1, the handle is thrust downward, and the surface of the pivoted jaw slides on the pipe, the whole wrench turning on the points of the teeth of the jaw D as a center, until the more obtuse angle of the pivoted jaw comes in contact with the pipe. The jaw then swings on its pivot until the shoulder *l* bears solidly on the corresponding surface of the handle-bar. The first movement embeds the teeth of jaw D firmly in the pipe, the loose fit of the bar C in its case B allowing the jaw to swing slightly, and to thus adjust the teeth to a good bearing on the pipe. A further movement brings the obtuse-angled portion of the jaw in contact with the pipe, and arrests further slipping of the pivoted jaw on the pipe, and the pipe is turned.

It is obvious that, the movement of the pivoted jaw being limited, and the movement of the jaw over the pipe being also limited, the pipe can never pass inward between the jaws to a point where it will become locked, as at the first movement of the handle in an opposite direction the pipe readily leaves the obtuse-angled portion of the pivoted jaw, and the jaw also swinging outward, the pipe is readily released. There being no teeth on jaw F, and the teeth of jaw D having no movement on the pipe, all scraping of the surface of the pipe is avoided.

I claim as my invention—

In a pipe-wrench, the combination, with the handle-bar and the sliding serrated jaw, of the smooth concave-faced jaw, said concave-faced jaw being pivoted to the handle-bar and arranged relatively to the serrated jaw as shown and described, whereby the gripping-surfaces of the jaws which first engage the pipe converge at an acute angle, and the remaining surfaces converge at a less acute angle, substantially as and for the purpose specified.

ROSWELL R. ROUSE.

Witnesses:
J. E. SANDERS,
H. P. HOOD.