(No Model.)

T. J. BAKER.

PIPE OR ROD WRENCH.

No. 590,562. Patented Sept. 28, 1897.

Fig. 1.

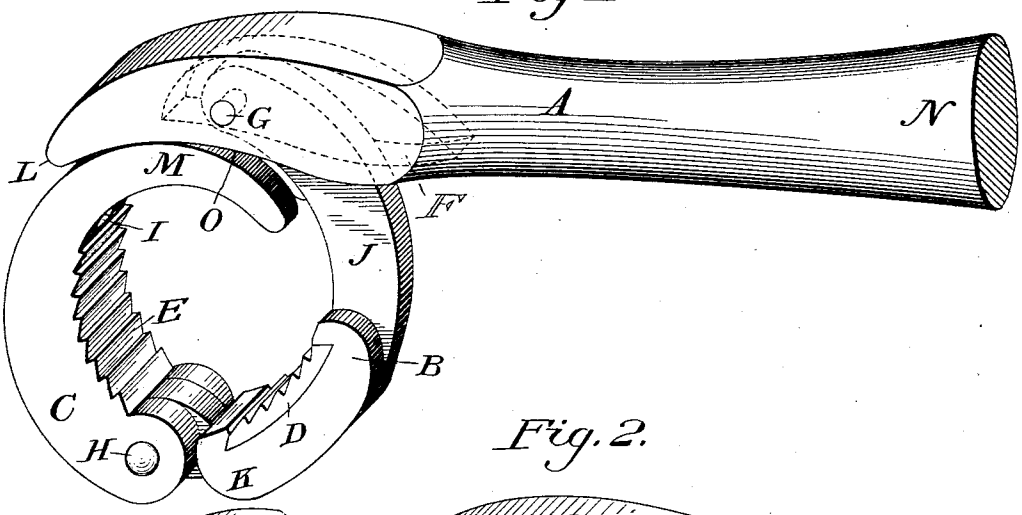


Fig. 2.

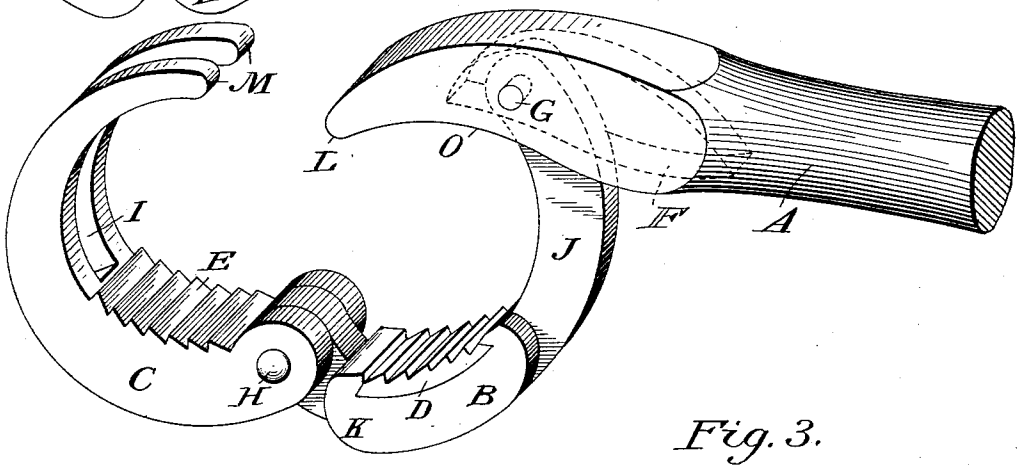


Fig. 3.

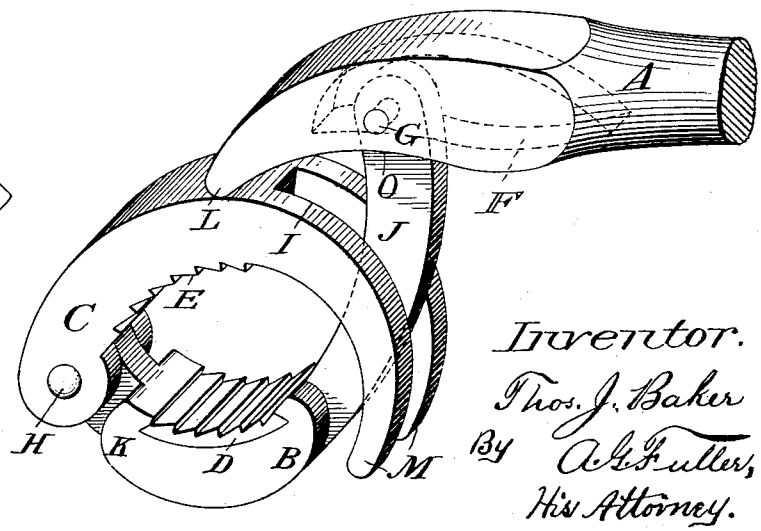
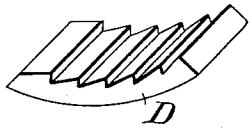


Fig. 4.



Witnesses.
M. P. Fuller.
Henry C. Fuller.

Inventor.
Thos. J. Baker
By A. C. Fuller,
His Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS J. BAKER, OF FINDLAY, OHIO, ASSIGNOR OF TWO-THIRDS TO C. A. RISSER AND N. G. TURNER, OF SAME PLACE.

PIPE OR ROD WRENCH.

SPECIFICATION forming part of Letters Patent No. 590,562, dated September 28, 1897.

Application filed January 11, 1897. Serial No. 618,784. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. BAKER, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented a new and useful Pipe or Rod Wrench, of which the following is a specification.

My invention relates to improvements in pipe and rod wrenches in which the jaws are movable by hinge action and adjustable to different sizes of pipes and rods.

The object of my invention is to provide a wrench which, within practical limits, will be self-adjusting to different sizes of pipe without a rearrangement of the jaws or other parts by means of screws or other devices and which shall in use grip with a practically equal tension such different sizes, and in the use of which also the tension of the grip will be increased in as great a ratio as or a greater ratio than the resistance offered by the automatic action of the wrench. I attain these objects by means of the mechanism illustrated in the accompanying drawings, which are hereby made a part of this specification, in which—

Figure 1 is a perspective view of my wrench complete, the parts or jaws of which are adjusted to grip a pipe of about maximum size for the capacity of the wrench shown. Fig. 2 is a perspective view showing the jaws widely opened to better show the details of the parts. Fig. 3 is also a perspective view showing the position of the jaws and lever or handle when in operation on pipe of a smaller size, and Fig. 4 is a perspective detail of a separable interior face of the jaws.

Similar letters refer to similar parts throughout the several views.

I construct my wrench of the following parts and in the manner described: To a lever A, having an extended handle N for the application of power and at its lower end a concave face O, ending in a rounded point L upon such concave face, preferably in a slot or recess F therein, is hinged at G a concavely-curved jaw B, preferably as shown in the said drawings, consisting of a narrower part J, fitting said slot F, and a wider and heavier part K and having upon the concave face of part K the ratchet or corrugated face D. Such ratchet may be either cast solid thereon or separable, as shown in Fig. 4, and adapted in any convenient manner to be firmly fastened in jaw B, as by a lug or screw, or as shown, by tightly fitting a suitable groove or recess therein. To the end K of jaw B is hinged at H a concavely-curved jaw C, smooth upon its convex outer side, but preferably provided upon its inner concave side with a corrugated face E and at its free end bifurcated by a slot I into parts M M, the width of the slot being the same as the lateral thickness of the part J of jaw B. The said lever A and jaws B and C, when hinged as mentioned, should have their concave surfaces opposite each other, so that they may in use form a clasp about the pipe or rod operated on. The curvature of jaw C should be, as shown in Figs 1 and 3, in relation to its length and the length of jaws B such that it may, by turning on its hinge H and through jaws B on hinge G, be brought within the concave face O of lever A and come in contact therewith and with the point L upon its smooth convex surface, while its parts M M, by means of the slot I, pass and engage the part J of jaw B, as shown in Fig. 3.

In operation the jaws B and C being clasped about a pipe or rod the point L of lever A is brought in contact with the convex surface of jaw C, and necessary power being applied at the handle N the pipe is firmly gripped by the concave faces of both jaws B and jaw C, and the necessary tension to prevent slipping of the wrench is automatically obtained by the action of lever A. It will be noticed that by this arrangement of parts and method of operation lever A is a lever of both the first and second classes, for separate purposes, which it accomplishes simultaneously. For the purpose of forming the grip with the jaws B and C it has its fulcrum at the point G, its point of resistance being the contact of its point L upon jaw C. In turning the pipe or rod it has its fulcrum at the point of contact of the end of lever L and jaw C and its point of resistance at hinge G, where the pull upon the pipe is given, the power being in either case applied at handle N. It will be noticed from the simultaneous action of lever A in forming the grip and in turning the

pipe or rod that the force or tension of the grip will increase in a greater ratio than the resistance of the pipe in turning, thus preventing in any case the slipping of the wrench.

This wrench will also be found a very firm one in use, as the several parts mutually engage each other and draw closer and firmer the greater the power required in any particular case.

I have described the lever A as having a recess or slot in its concave face for the purpose of hinging the jaw B, but it will be seen that any other form of attachment which would give sufficient strength without destroying the relation of lever A to the jaws B and C would be equally effective, and possible modifications of the jaws B and C might suggest themselves to any mechanic and might in some cases be found preferable. I do not therefore confine myself to the exact forms shown in the drawings, but expect to use such forms as may prove to be most practical and effective without departing from the principle and spirit of my invention.

Having thus described my invention, so that any one skilled in matters to which it appertains can make and use the same, what I claim as novel, and desire to secure by Letters Patent, is—

1. In a pipe and rod wrench, the lever A provided with the point L and the concave face O, the concave jaw hinged by the reduced portion J in the face O, the jaw C hinged to the jaw B and having its outer side smooth and convex and its inner side toothed and concave, its free end being bifurcated to straddle the reduced portion J of the jaw B, the point L being adapted to engage said smooth convex side of the jaw C, substantially as described.

2. In a pipe and rod wrench, the lever A having the concave face O ending in the point L, the jaw B hinged by a reduced portion J to the face O, the jaw C, convex and smooth on its outer side and concave on the side facing the jaw B, the free end of the jaw C being bifurcated at I and adapted to straddle the portion J of the jaw B and to be engaged on its smooth outer surface by the point L of the lever A, substantially as specified.

3. In a pipe and rod wrench, the lever A having the point L, the jaw C hinged thereto by means of a jaw B, the jaw C being concave toward the jaw B, its outer surface being smooth and convex and its free end being bifurcated to straddle a reduced portion of the jaw B and engaged upon its convex side by the point L of the lever A, substantially as described.

THOS. J. BAKER.

Witnesses:
H. H. BARBER,
A. G. FULLER.