

(Model.)

J. VAN AUDALL.

WRENCH.

No. 396,970.

Patented Jan. 29, 1889.

Fig. 1.

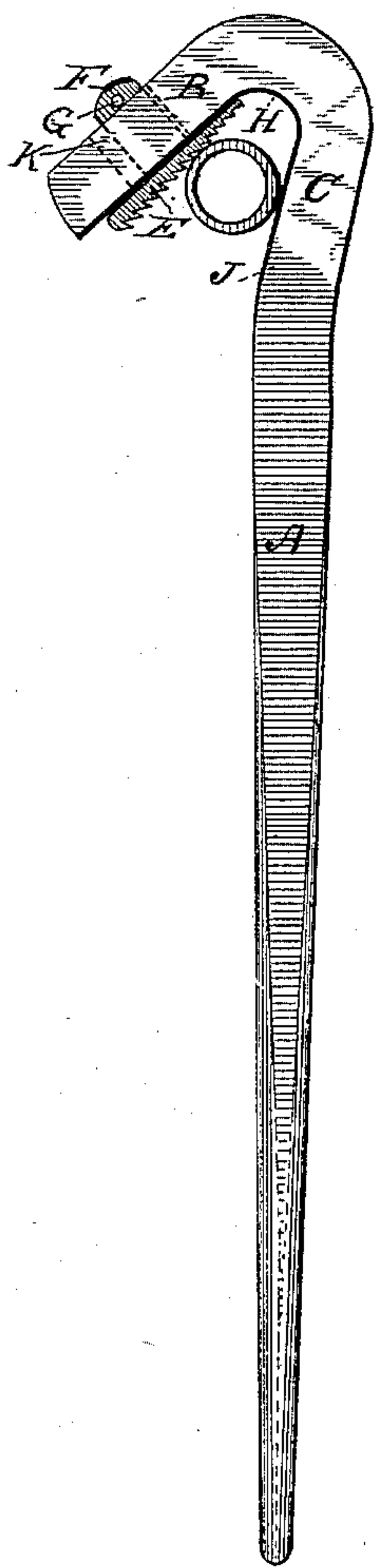
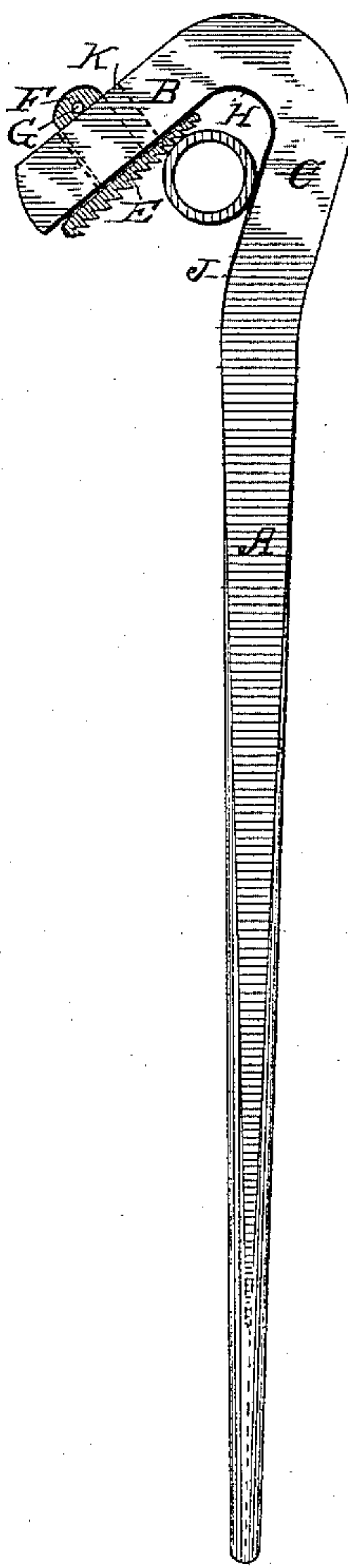


Fig. 2.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN VAN AUDALL, OF KEOKUK, IOWA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 396,970, dated January 29, 1889.

Application filed November 8, 1886. Serial No. 218,341. (Model.)

*To all whom it may concern:*

Be it known that I, JOHN VAN AUDALL, a citizen of the United States, residing at Keokuk, in the county of Lee and State of Iowa, have invented certain new and useful Improvements in Wrenches; and I do hereby 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.

It is well known that wrenches have been made with diverging jaws, one of which is extended to form a handle and the other provided with stationary teeth; but the objection to such a device has been that when the object operated upon once becomes firmly grasped the wrench, when turned in the opposite direction for the purpose of releasing, will not always let go. Thus the body operated upon will often move back and forth with the wrench, thereby delaying and hindering the operator.

The object of my invention is to overcome these objections and provide a cheap, durable, and simple wrench especially adapted for turning pipe and other cylindrical bodies, and also nuts, bolts, &c.; and my invention consists of a pair of diverging jaws provided with the mechanism and formed in the manner which will be more fully described hereinafter, and pointed out in the claim.

Referring to the accompanying drawings, Figure 1 represents a side elevation of my device, showing the position of the sliding serrated plate in the position it assumes upon being placed astride the body to be operated upon; and Fig. 2, the position of parts when the wrench is gripping the pipe in the act of turning the same.

B and C represent the diverging jaws, one of which is provided with an extension, A, which serves as a handle or lever for operating the wrench. This extension is integral with the jaw C, and it may be provided with a wooden handle, whereby a better hold can be obtained; but this is not essential, as the naked metal can be used as a handle to good advantage. The opposite jaw, B, is provided with a movable serrated plate, E, adapted to slide longitudinally upon its inner face.

F is an arm upon the back of the plate E,

which extends transversely through an oblong slot, K, in the jaw B, and is secured thereto by a linchpin, G, passing through its free end. The ends of the linchpin G serve as retaining-lugs, which come in loose contact with and slide back and forth upon the outer surface of the jaw when the same is reciprocated.

The movable plate is made approximately wedge-shaped, the smaller end extending toward the crotch of the jaws, and the plate is of a sufficient length to almost completely cover the jaw, in order that a quarter-inch pipe or nut as well as a much larger size can be operated upon with equal facility. Although the plate is made, by preference, wedge-shaped, yet this is not absolutely essential, as the same can be formed with parallel faces.

In order to have the handle A clear the body to be turned when the wrench is being applied, the handle is given a bend at a point, J, about opposite the free end of the jaw B. The face of the jaw C which is opposite the movable serrated plate is left plain in order to admit the pipe to wedge more strongly in between the jaws.

The construction of my device having been set forth, its operation will now be described.

Taking hold of the handle A, the operator draws the jaws astride the body to be turned. In this action the movable plates slide longitudinally toward the crotch H, assuming the position shown in Fig. 1. The handle of the wrench is then moved to the left, which causes the movable plate to slide out toward the free end of the jaw B until its motion is arrested by the arm F coming in contact with the opposite end of the oblong slot K, whereupon the serrated plate clings to the body to be turned, and additional pressure upon the handle more strongly wedges the body in between the jaws and tends to increase their grip. By making the plate E wedge-shaped the jaws will grasp the pipe more nearly upon the sides which are diametrically opposite, thereby increasing their purchase upon the same. Upon moving the handles toward the right the movable plate slides back toward the crotch H, which causes the jaws to become immediately disengaged. A very slight



turn of the handle to the right causes the jaws to release their hold immediately, and there is no clinging or disagreeable sticking in the releasing operation.

5 I do not herein broadly claim a wrench having diverging jaws, one of which is extended to form a lever or handle and the other provided with teeth; but

10 What I do claim, and desire to secure by Letters Patent, is—

The improved wrench herein described, consisting of the single bar of metal bent at

one end to form the diverging jaws B C, the portion C being prolonged to form the lever-handle A, and the portion B carrying the 15 movable serrated plate E, all substantially as shown and set forth.

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

JOHN VAN AUDALL.

Witnesses:

JOHN L. FINIGAN,  
W. L. McNAMARA.