

(No Model.)

L. P. CROSWELL.
WRENCH.

No. 367,703.

Patented Aug. 2, 1887.

Fig. 1.

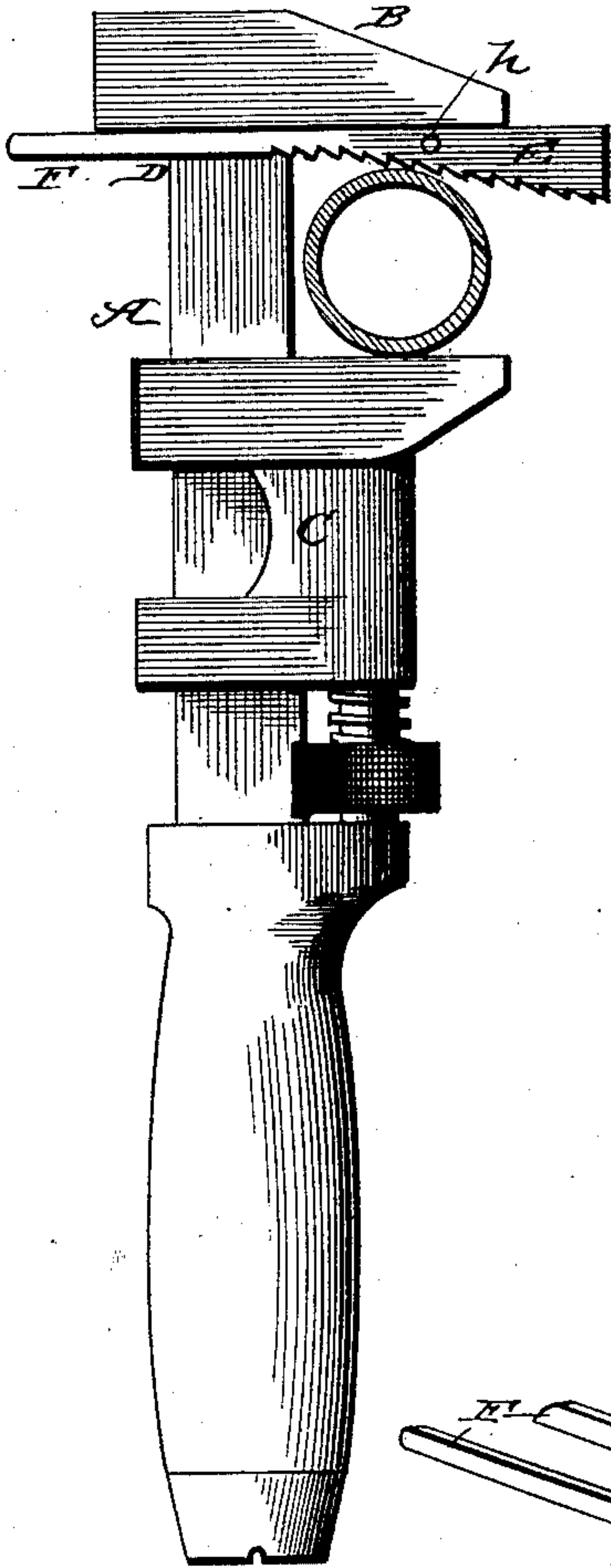


Fig. 2.

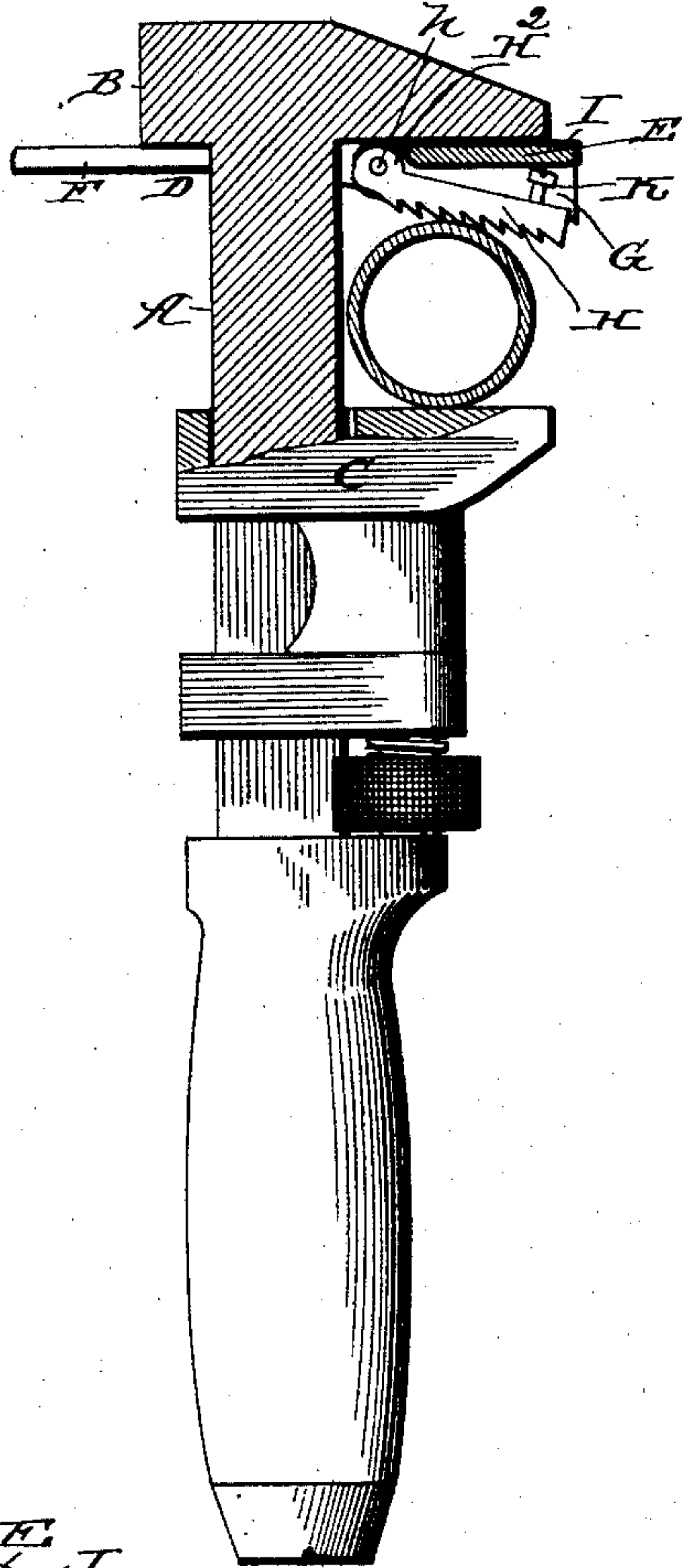


Fig. 3.

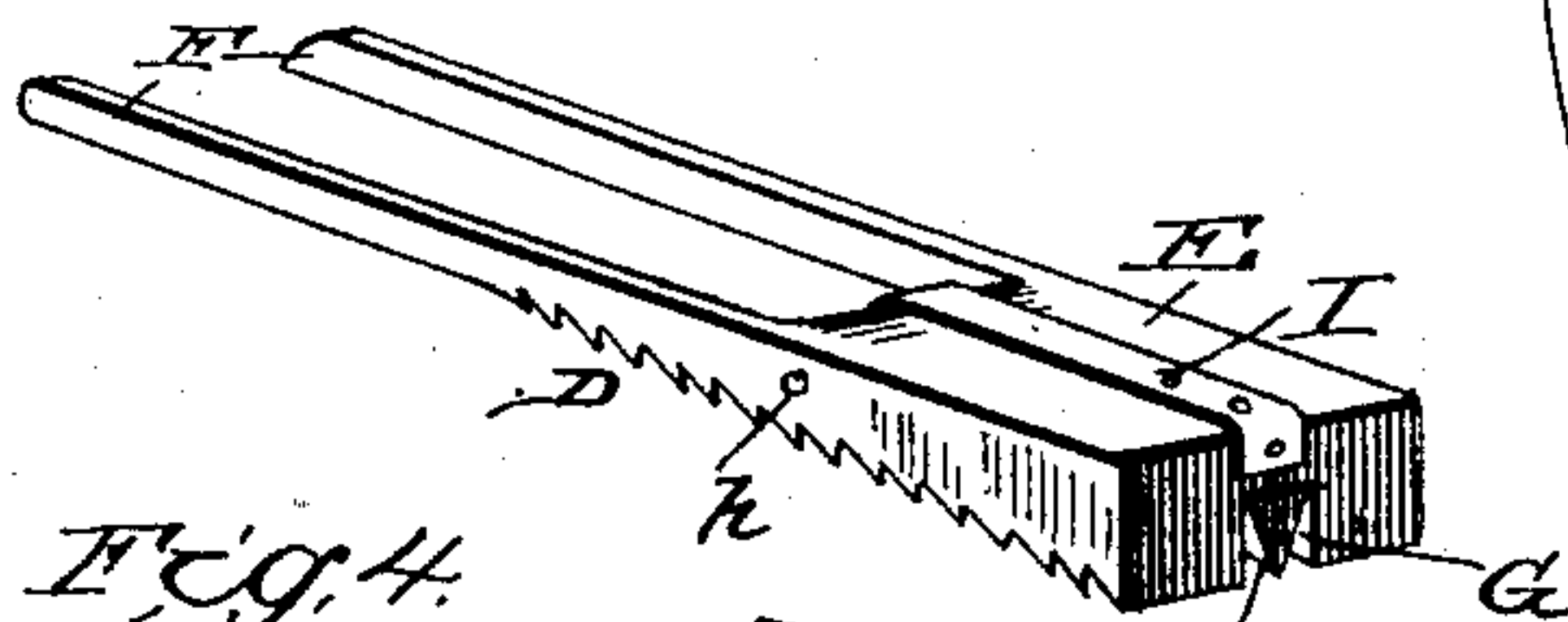
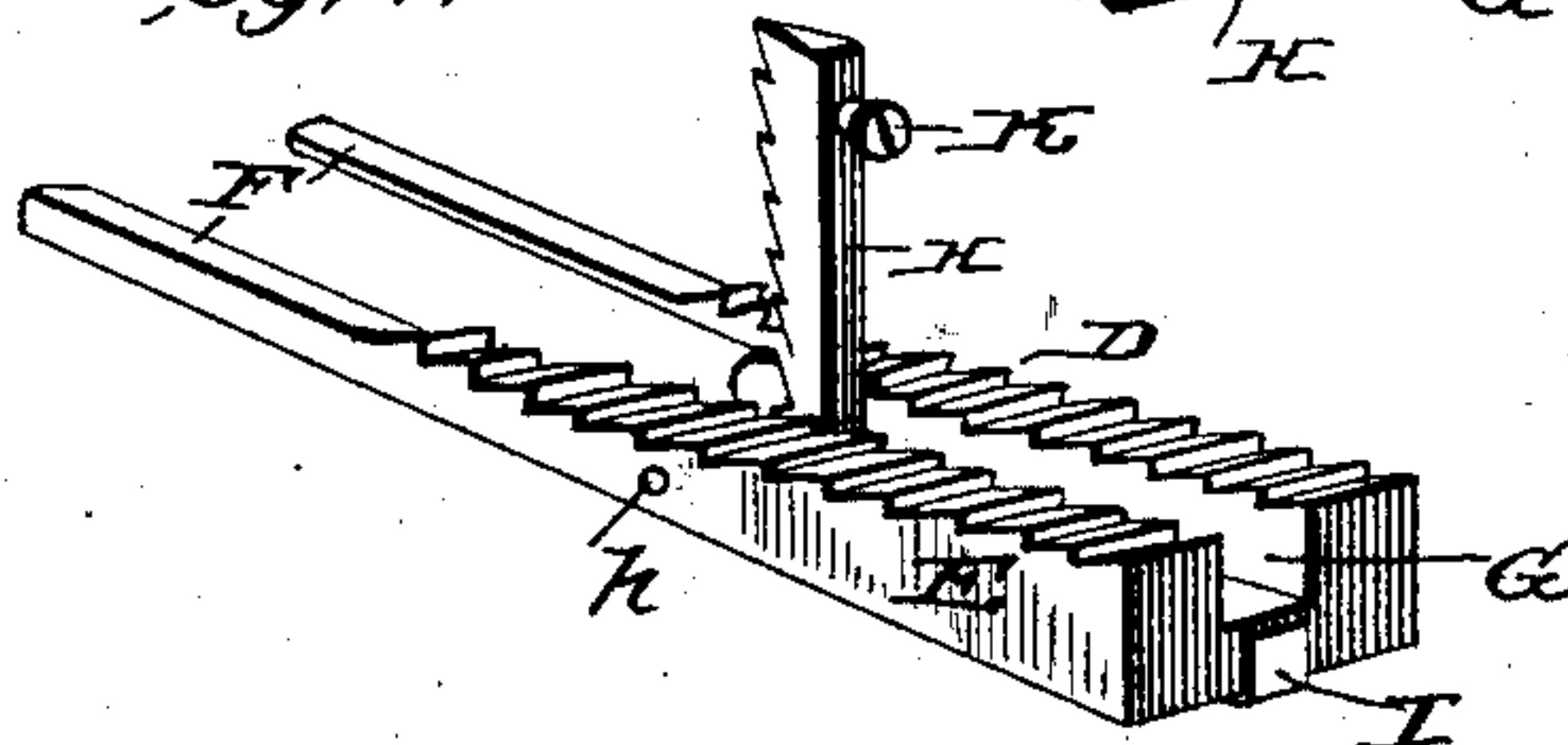


Fig. 4.



Witnesses

Jos. A. Ryan
C. E. Doyle

Inventor

Lewis P. Crosswell

By his Attorneys,

C. A. Howdley

UNITED STATES PATENT OFFICE.

LEWIS P. CROSWELL, OF McLEAN, ILLINOIS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 367,703, dated August 2, 1887.

Application filed March 14, 1887. Serial No. 230,853. (No model.)

To all whom it may concern:

Be it known that I, LEWIS P. CROSWELL, a citizen of the United States, residing at McLean, in the county of McLean and State of Illinois, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to an attachment for ordinary bolt-wrenches, by means of which it will fill the requirements and serve as a pipe-wrench, and be enabled to grip and turn pipes, bolts, and round rods.

The attachment is further provided with means by which it is enabled to cut pipes, bolts, &c.

The invention consists, further, in certain details of construction, hereinafter clearly described, pointed out in the claims, and illustrated in the appended drawings, in which—

Figure 1 is a side elevation of a wrench provided with my improved attachment. Fig. 2 is a vertical central section of same with the attachment adapted for use as a cutter. Fig. 3 is a perspective view of the upper side of the device detached from the wrench. Fig. 4 is a similar view of the lower side thereof.

Referring to the drawings, in which similar letters denote corresponding parts in all the figures, A designates the shank of a wrench, B the jaw rigidly secured to the upper end thereof, and C the adjustable jaw to slide on the said shank.

D represents my gripping attachment, comprising the body E, having the beveled and toothed under side and the straight upper side to press against the under side of the jaw B, and the rearwardly-extending guide-arms F, to pass on opposite sides of the shank of the wrench and direct the motion thereof forward and backward. A slot, G, is formed in the under side of the body E of the gripper, and in the said slot is a cutter-knife, H, pivoted near the inner end on the pivot-pin *h*, the extreme inner end of the knife being provided with a cam, H², to operate on the free end of the leaf-spring I, which is secured on the upper side of the body E. The function of the said spring is to normally hold the knife in the slot, and a set-screw, K, is placed on the upper side of the free end of the said knife, which is adapted (when it is desired to use the tool as a cutter) to be screwed out, so as to pre-

vent the cutting-edge of the knife from being entirely received within the slot. The edge of the said knife is notched or serrated, similarly to sickle-teeth, which causes the cutter to operate very effectively.

The operation of the tool is as follows: The wrench having been screwed up so as to clamp the pipe between the adjustable jaw and the beveled under side of the gripper, the wrench is turned by swinging the handle in the direction indicated by the arrow in Fig. 1. This causes the gripper D to slide inwardly a short distance toward the shank and engage the teeth or serrations on the body of the gripper in the metal of the pipe, and thus enable said pipe to be readily turned.

It will be obviously impossible for the pipe to slip out from between the jaws while turning, as the farther said pipe passes from the shank the tighter it is gripped by the teeth on the gripper, the beveled under side thereof causing the distance between the jaws at the ends to be less than the distance between them at the point where the pipe is situated.

When it is desired to use the tool as a cutter, raise the knife out of the slot G, partly withdraw the set-screw K sufficiently to project the edge of the knife the desired distance below the face of the gripper, and return the knife to the slot. When the wrench is turned on the pipe, the action will be very similar to that already explained. As the knife cuts into the metal the gripper will be pushed farther toward the shank, thus enabling the lower beveled edge of the blade to cut deeper, and to eventually sever the pipe or bolt without any further adjustment of the wrench. Thus my gripper is adapted to act firmly and powerfully on the pipe to enable said pipe to be turned, the slot in the center of the face of the same adding to the gripping-power by providing an edge to engage the metal; also, the ready adjustability of the gripping attachment to an ordinary wrench is of great advantage, in that a wrench with my improved gripper may be made to serve the purpose of two wrenches—namely, an ordinary bolt or nut wrench and a self-gripping pipe-wrench; also, by providing the improved gripper with a pipe-cutting knife, the implement will serve the double purpose of a pipe cutter and gripper, thus combining in a convenient and cheap

form two very useful tools; and by combining the said uses with those of an ordinary wrench, by making the gripper and cutter detachable, I provide a tool which will prove of great and universal utility. A tool combining the said uses, which can be manufactured and sold cheaply, and is, in addition, exceedingly strong and durable, is a very useful article, and fills a want which has long been felt for a tool of the character named.

It may be readily and quickly changed to suit the purpose for which it is desired, and thus combines in a small space the utility of three implements.

The serrated or sickle teeth with which I provide my cutting-knife enables it to accomplish the purpose for which it is intended much more readily and quickly and satisfactorily than a smooth edge.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the wrench, of the

gripping-body having the downwardly-inclined under side and provided with the longitudinal slot G, the knife H, working in said slot and having a cam, H², at its inner end, and the spring I, having one end secured to the gripping-body and its free end bearing on the cam H², substantially as set forth.

2. The combination, with the wrench, of the gripping-body having the longitudinal slot G in its lower side, the knife H, pivoted at its inner end in said slot and provided with means for projecting its outer end, and a spring, I, secured at one end to the gripping-body and having its free end bearing on the knife H, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

LEWIS P. CROSWELL.

Witnesses:

DANIEL MCFARLAND,
JOHN S. BUCK.