

(No Model.)

W. H. RATCLIFF.  
SLIDING JAW WRENCH.

No. 300,127.

Patented June 10, 1884.

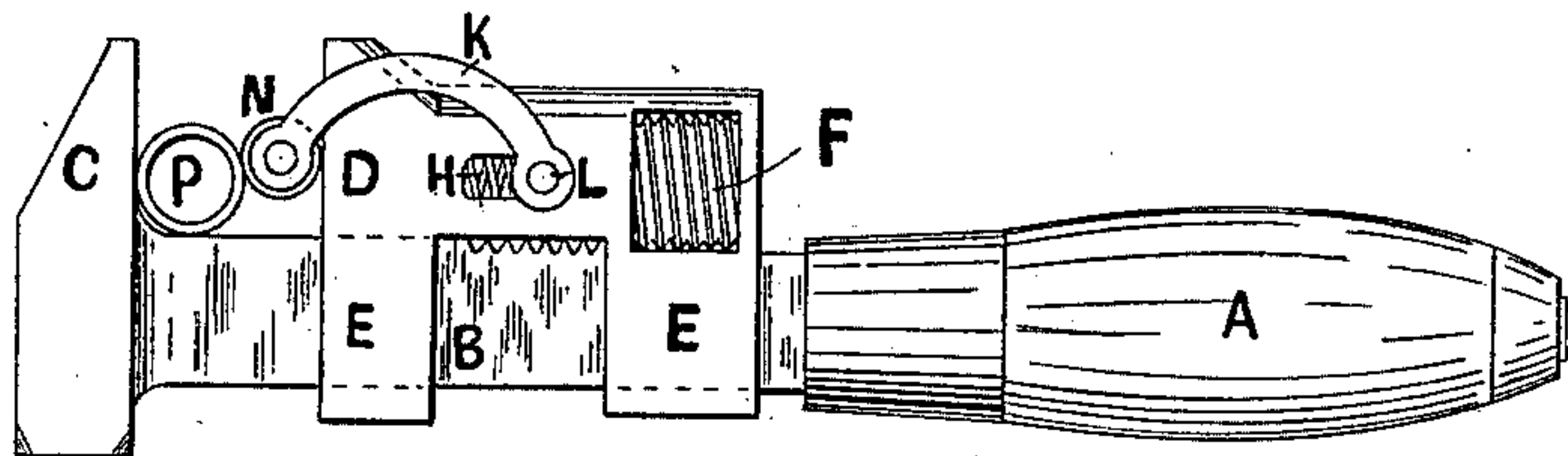


Fig. 1.

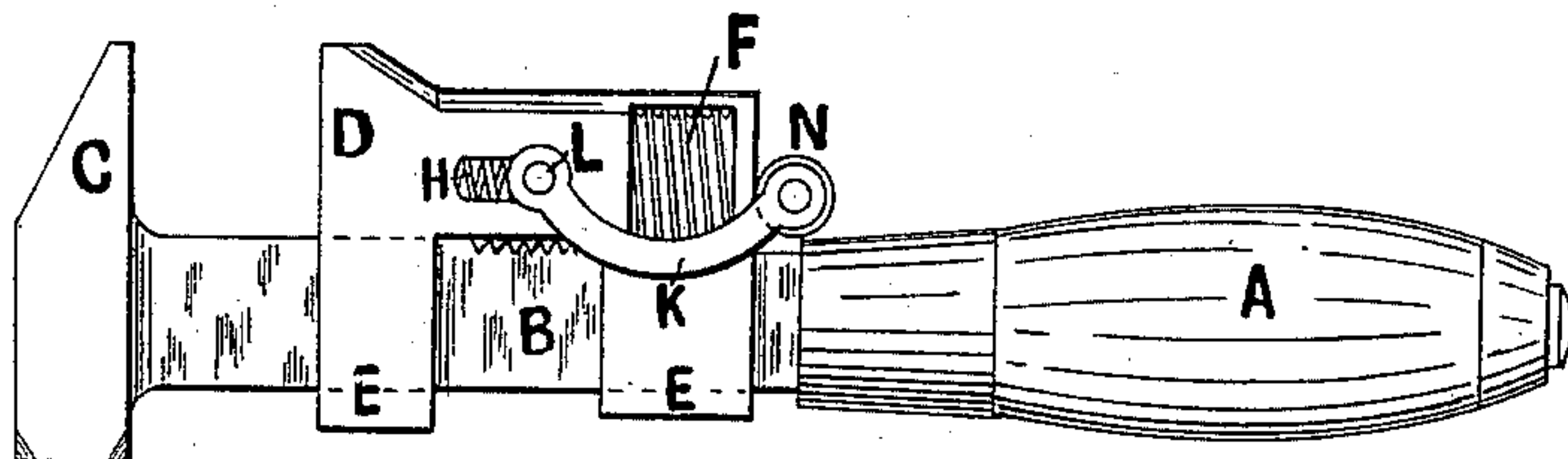


Fig. 2.

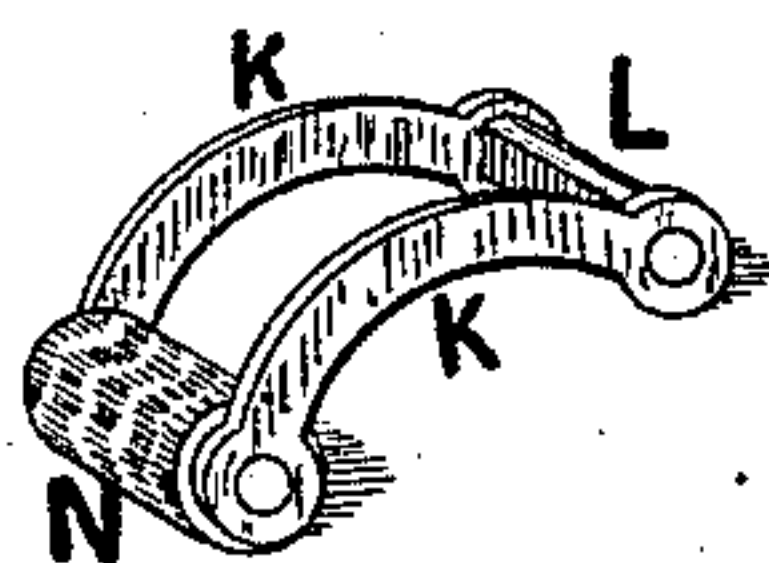
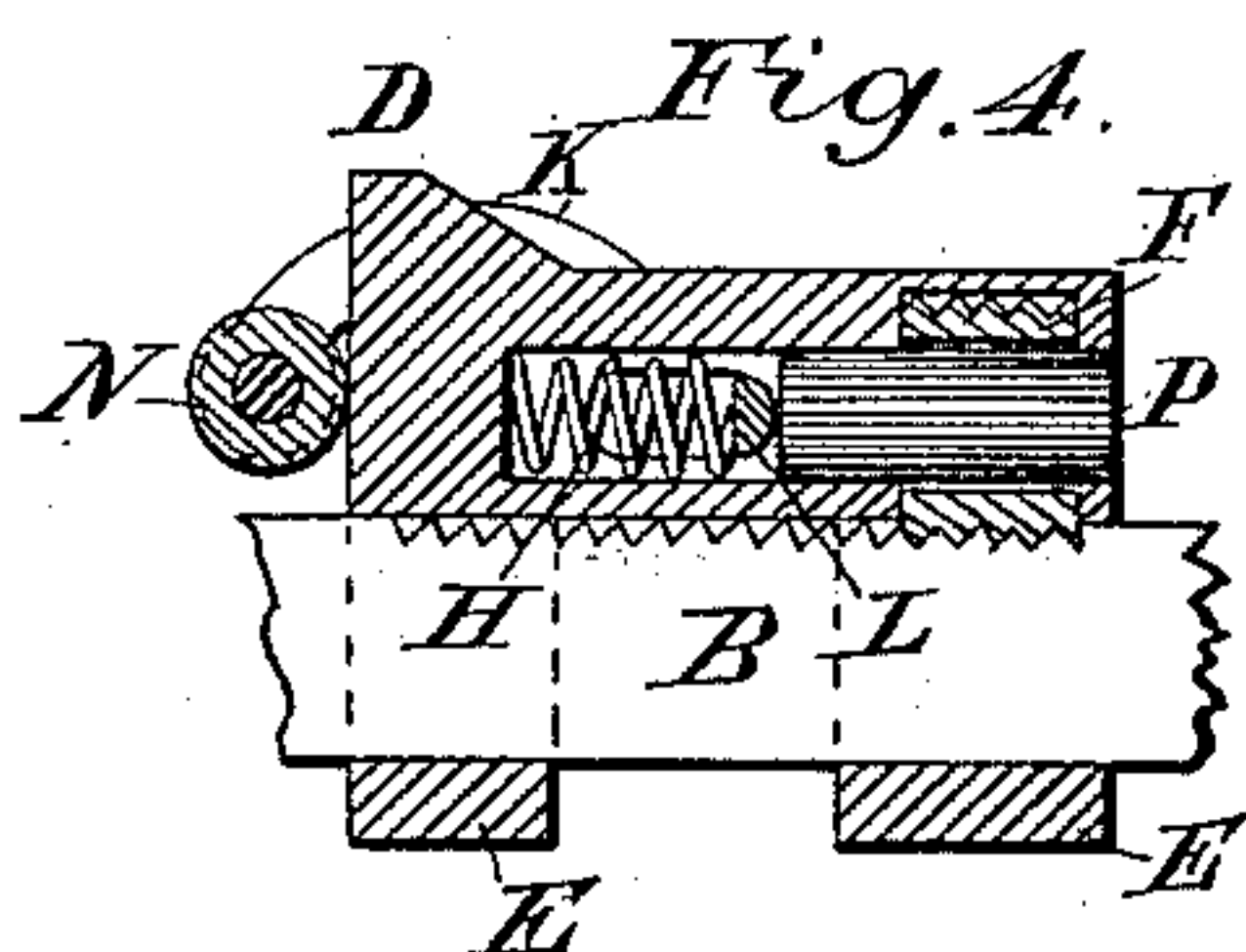


Fig. 3.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. RATCLIFF, OF MIDDLEBOROUGH, ASSIGNOR OF ONE-HALF TO  
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## SLIDING-JAW WRENCH.

SPECIFICATION forming part of Letters Patent No. 300,127, dated June 10, 1884.

Application filed January 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. RATCLIFF, of Middleborough, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Sliding-Jaw Wrenches, of which the following is a specification.

The object of my invention is to provide a sliding-jaw wrench with an adjustable pivoted gripping-roll, which may be swung into position upon the inner face of the adjustable jaw, so as to serve the purposes of a pipe-wrench, and when desired may be swung out of position, so as to leave the implement adapted as a nut-wrench; and it consists in the construction, combination, and arrangement of the several parts of the combination-wrench, as hereinafter more fully described, and set forth in the claim.

Figure 1 represents a side elevation showing a combination-wrench embodying my invention adapted as a pipe-wrench. Fig. 2 represents a similar view showing the pipe gripper-roll turned away from the wrench-jaws, leaving the same in position to serve as a nut-wrench. Fig. 3 shows perspective view of the gripper-roll removed. Fig. 4 represents a vertical section through the sliding jaw, showing interior spring, &c.

A represents the handle of the wrench, from which extends the shank-bar B, provided at its outer or extreme end with the stationary jaw C, and carrying the adjustable jaw D and its sliding frame E, which is provided with the adjusting-nut F, having an external or peripheral screw-thread, which engages with the lateral teeth or sectional thread formed upon the said shank-bar B, as heretofore. The said sliding frame E has journaled therein the said adjusting-nut F, as shown, and is provided with a longitudinal opening provided with a spiral spring, H, which has a bearing within the opening of the said frame E at one end, with the sliding pivot L, which passes through the said opening, and has secured to each end thereof an arm, K, having journaled at or between the opposite ends a friction-roll, N, which is "milled" or roughened externally, so as to take hold of or grip the pipe P, as it is brought into contact with the same in the act of turning the said pipe P by the movement of the wrench round about the same, which causes the said gripper-roll N to rotate sufficiently upon the surface

of the pipe as it approaches the point of its diameter in a line with its bearing upon the shank-bar, and at a point nearly parallel with its bearing upon the face of the said stationary jaws C, as shown. By this means a very firm grip or hold upon the pipe is obtained without liability of crushing or injuring the same, as in case the usual pointed end of the jaw of a pipe-tongs is employed to turn the pipe forcibly, as heretofore.

When it is desirable to employ the wrench to turn common square or other angle faced or shaped nuts, the friction-roll N and its carrier-arms K are turned over toward the handle of the wrench into position as shown in Fig. 2, the yielding of the said spring H permitting such movement and its pressure upon the said sliding pivot L, which is flattened upon one side so as to hold the pipe-turning mechanism in this position when not required for turning round rods or pipe. The wrench being placed upon the pipe first, then the "grip-roll" swung over into position so as to rest upon the pipe, as shown in Fig. 1, it is very evident that by a slight rotation of the wrench about the pipe in the right direction the roll will be carried into sharp contact or caused to impinge the pipe with sufficient force to turn the same as desired, and that by simply turning the wrench in the opposite direction the said roll is instantly released therefrom.

It will be seen in Fig. 4 that the said spring H is inserted within the sliding frame E of the jaw D through a hole formed in the rear end thereof, into which hole is driven the journal-pin P, upon which the adjusting-nut F rotates, thus securing the spring in position, it having a bearing at one end against the surface of the said sliding pin L, which turns upon that end of the spring, the opposite end of the spring bearing as shown.

Having thus described my invention, what I claim is—

The combination, with the adjustable jaw D and its frame E, provided with a longitudinal opening, and spring H, of the sliding pivot L, swinging arms K, and friction-roll N, adapted for operation substantially as described, as and for the purposes set forth.

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Witnesses:

SYLVENUS WALKER,  
CHAS. S. GOODING.