(No Model.) 2 Sheets—Sheet 1.

G. F. RICE.

PIPE WRENCH.

No. 561,340. Patented June 2, 1896.

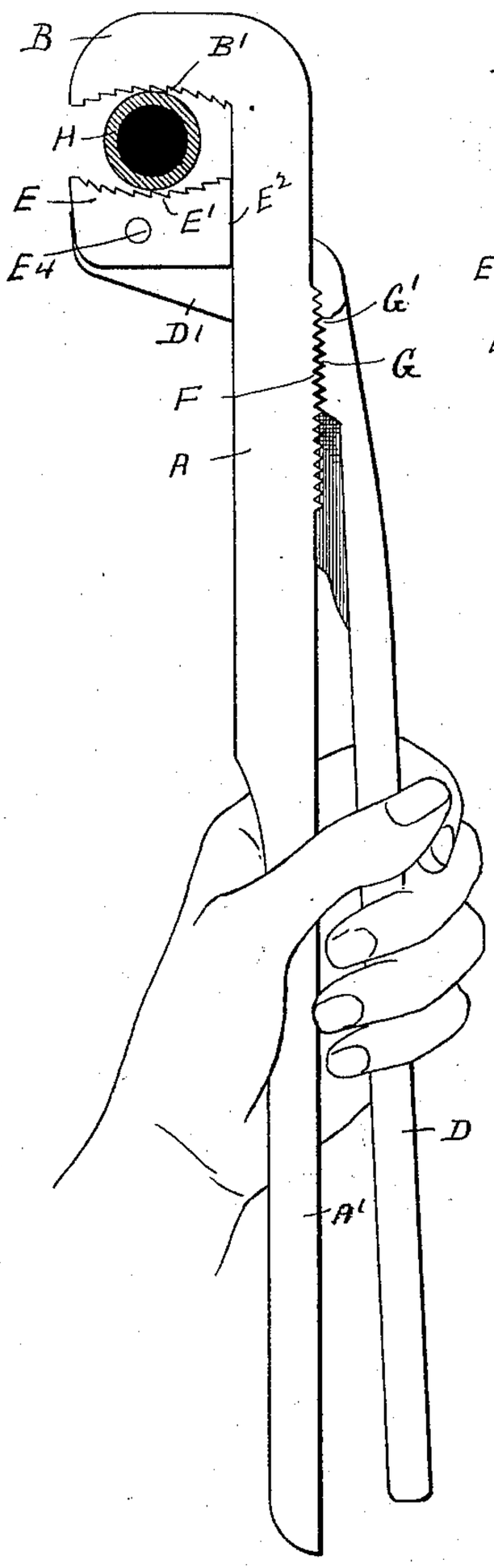

Fig. 1.

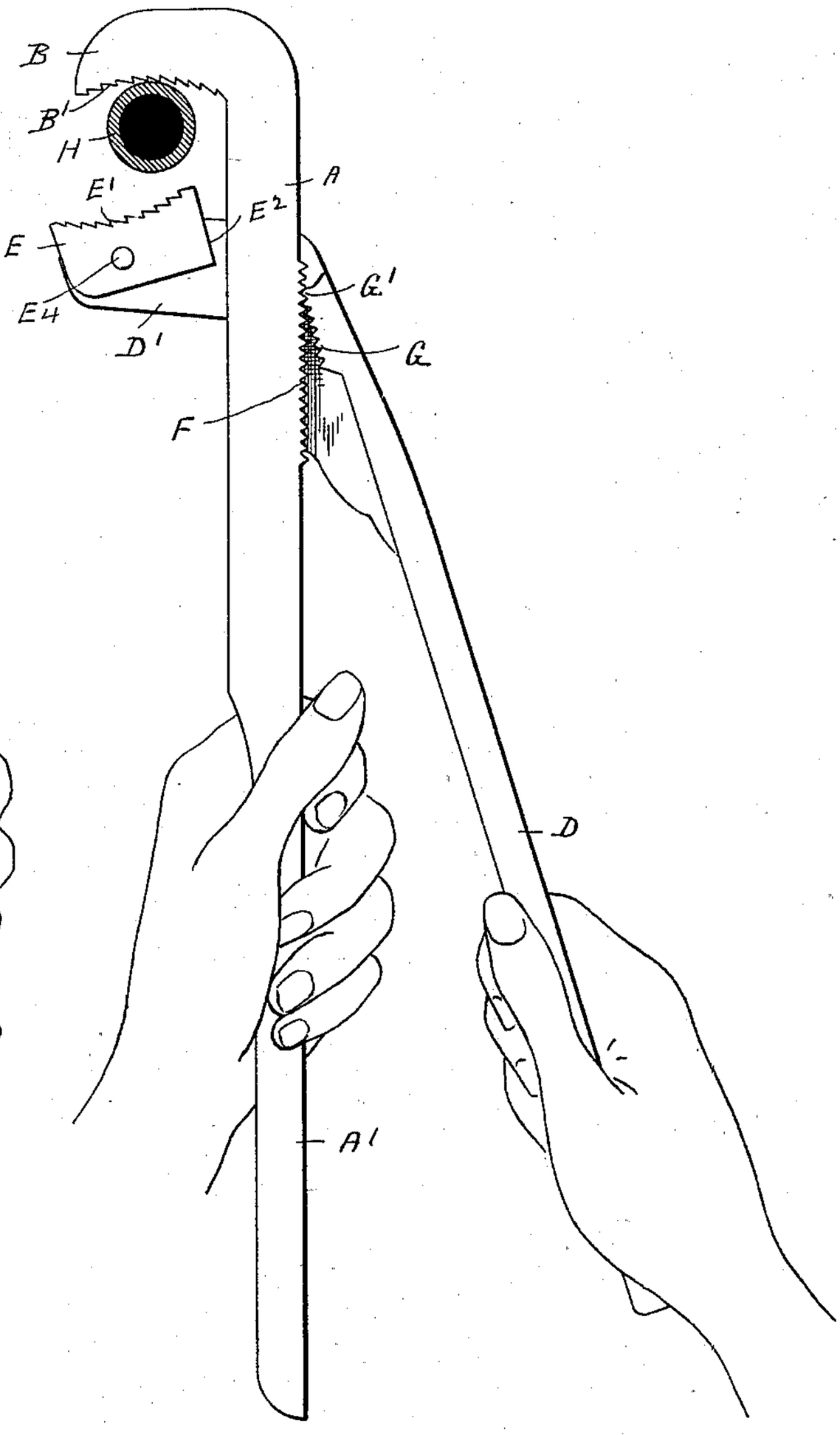

Fig. 2.

Witnesses
A. L. Whiting.
Henry W. Fowler

Inventor
George F. Rice.
By his Attorney
Rufus B. Fowler.

(No Model.) 2 Sheets—Sheet 2.

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PIPE WRENCH.

No. 561,340. Patented June 2, 1896.

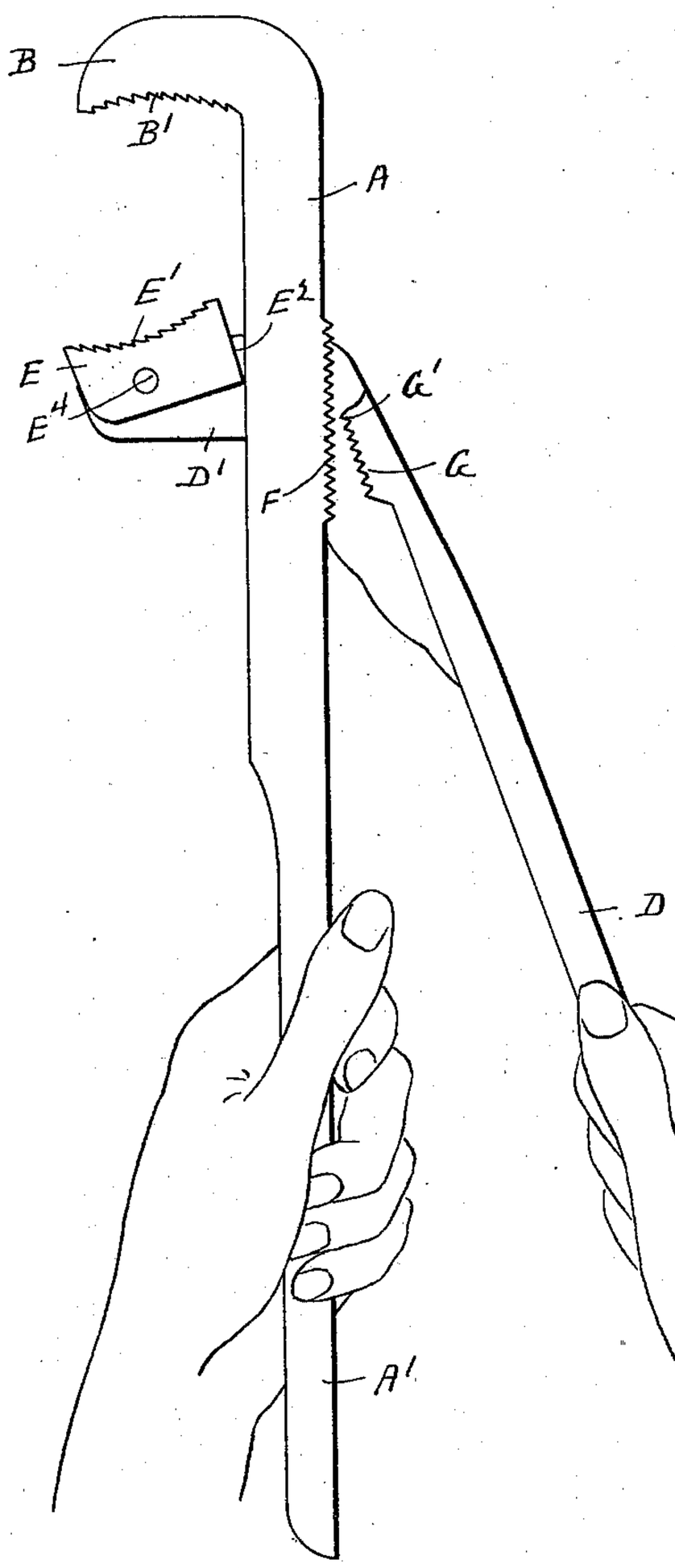

Fig. 3.

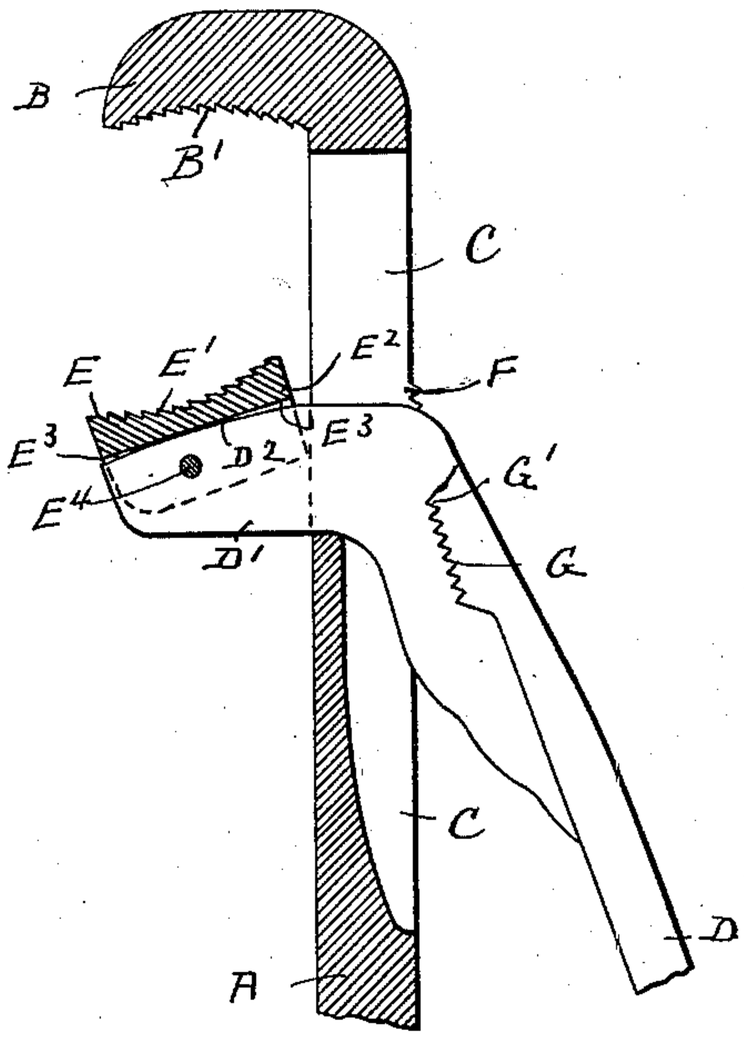

Fig. 4.

Witnesses
A. C. Whiting.
Henry W. Fowler

Inventor
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By his Attorney
Rufus B. Fowler.

UNITED STATES PATENT OFFICE.

GEORGE F. RICE, OF WORCESTER, MASSACHUSETTS.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 561,340, dated June 2, 1896.

Application filed May 10, 1895. Serial No. 548,810. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. RICE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Pipe-Wrenches, of which the following is a specification, reference being had to the accompanying drawings, forming a part of the same, and in which—

Figure 1 represents a pipe-wrench embodying my invention, shown in said figure with its jaws closed upon a piece of pipe. Fig. 2 represents my improved pipe-wrench with its jaws opened, releasing the pipe. Fig. 3 shows the pipe-wrench with the locking-teeth disengaged and with the movable jaw and its lever-handle drawn along the bar of the wrench for the purpose of separating the jaws; and Fig. 4 represents the parts of the wrench in the same position as shown in Fig. 3, but with a portion of the fixed jaw and bar removed to disclose the longitudinal slot in the bar of the wrench and also with a portion of the movable jaw removed to show the short arm of the movable or lever handle.

Similar letters refer to similar parts in the different figures.

Referring to the drawings, A denotes the bar of the wrench, and B the fixed jaw integral therewith. The bar A is provided with a central longitudinal slot C to receive the short arm D′ of the movable or lever handle D, which is capable of sliding in the slot C.

The fixed jaw B is preferably formed with a curved and serrated face B′, and to the short arm D′ of the lever-handle I pivot the opposing movable jaw E, preferably provided, like the jaw B, with a curved and serrated face E′. Upon the rear side of the bar A and upon each side of the slot C, I form a series of teeth F, and upon the sides of the lever-handle D, I form opposing teeth G, adapted to engage the teeth F and lock the lever-handle D and bar A together in order to prevent the sliding movement of the lever-handle along the slot C. Sufficient space is allowed between the bar A and the inner end E^2 of the movable jaw E to allow the lever-handle to be moved transversely to the bar A to lift the teeth G out of engagement with the teeth F, as represented in Fig. 3, and permit the sliding movement of the lever-handle and movable jaw lengthwise the bar A in order to vary the distance between the fixed and movable jaws according to the size of the pipe to be seized. When the movable jaw has been brought into proper position relatively to the fixed jaw and with the ends of the handles A′ and D separated, the end tooth G′ of the row of teeth G is carried into engagement with the teeth F on the bar A, as represented in Fig. 2. In the position shown in Fig. 2 the tooth G′ of the teeth G, engaging the teeth F, serves to hold the movable or lever handle against any movement lengthwise the slot C and also forms a fulcrum, upon which the movable handle rocks, as the handles D and A′ are brought together into the position shown in Fig. 1, thereby carrying the movable jaw E against the pipe H and bringing the remaining teeth G into engagement with the teeth F on the bar A and causing the teeth G to resist the strain incident to bringing the handles of the wrench together and applying pressure upon the pipe H. When the pipe H is released, the operation is reversed by separating the handles, as in Fig. 2, moving the lever-handle transversely to the bar until the inner end E^2 of the movable jaw is brought in contact with the bar A, and then sliding the movable or lever handle lengthwise the bar, as shown in Fig. 3. When the movable handle slides along the bar A, the inner end E^2 of the movable jaw forms a stop to limit the transverse movement of the lever-handle within the slot C and also provides a smooth surface adapted to slide along the bar A.

The movable jaw E consists of a block provided with a slot C^3 upon its under side to receive the short arm D′ of the lever-handle, to which the jaw is pivoted by a pin E^4. The upper edge D^2 of the arm D′ is preferably slightly curved to permit a slight rocking movement of the jaw E in order to allow the curved and serrated face E′ to adapt itself to the periphery of the pipe when it is brought into contact with the pipe.

The movable jaw E is readily removable by withdrawing the pin E^4, allowing the jaw to be replaced or jaws of different shapes to be substituted.

The teeth F and G can be formed integrally with the bar A and lever-handle D, or they can be formed upon separate pieces and at-

tached to the bar and handle; but when formed integrally with the bar and handle the entire wrench can be made of suitable cast metal, such as malleable steel, requiring no machine-work to complete, except the pivoting of the movable jaw E upon the arm D′ of the lever-handle.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a pipe-wrench, the combination with a bar A and fixed jaw B, said bar having a slot C and teeth F, of a lever-handle D, having a short arm D′, entering said slot, and capable of a sliding movement, both lengthwise and transversely to said slot, a jaw E attached to said short arm D′, by which the transverse movement of said movable handle in said slot is limited and teeth F and G, said teeth being engaged by the angular movement of said movable handle, substantially as described.

Dated this 20th day of April, 1895.

GEORGE F. RICE.

Witnesses:
RUFUS B. FOWLER,
HENRY W. FOWLER.