

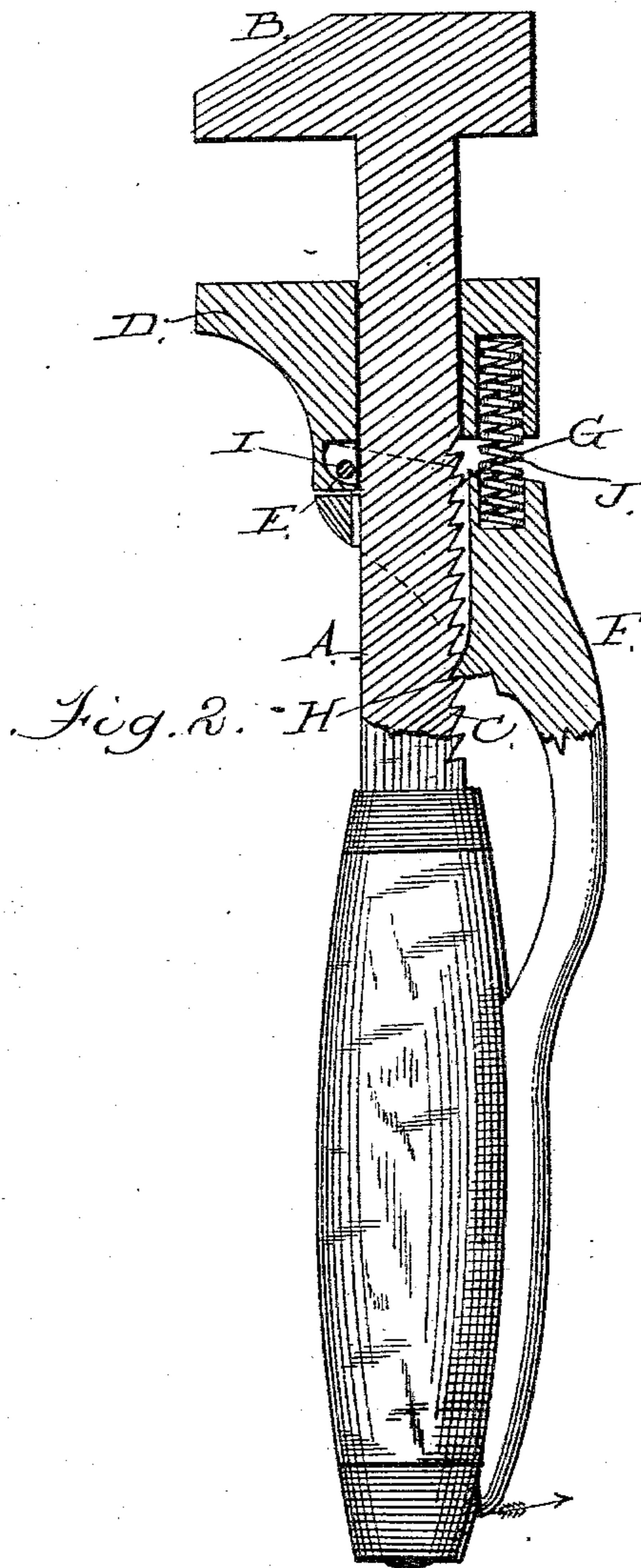
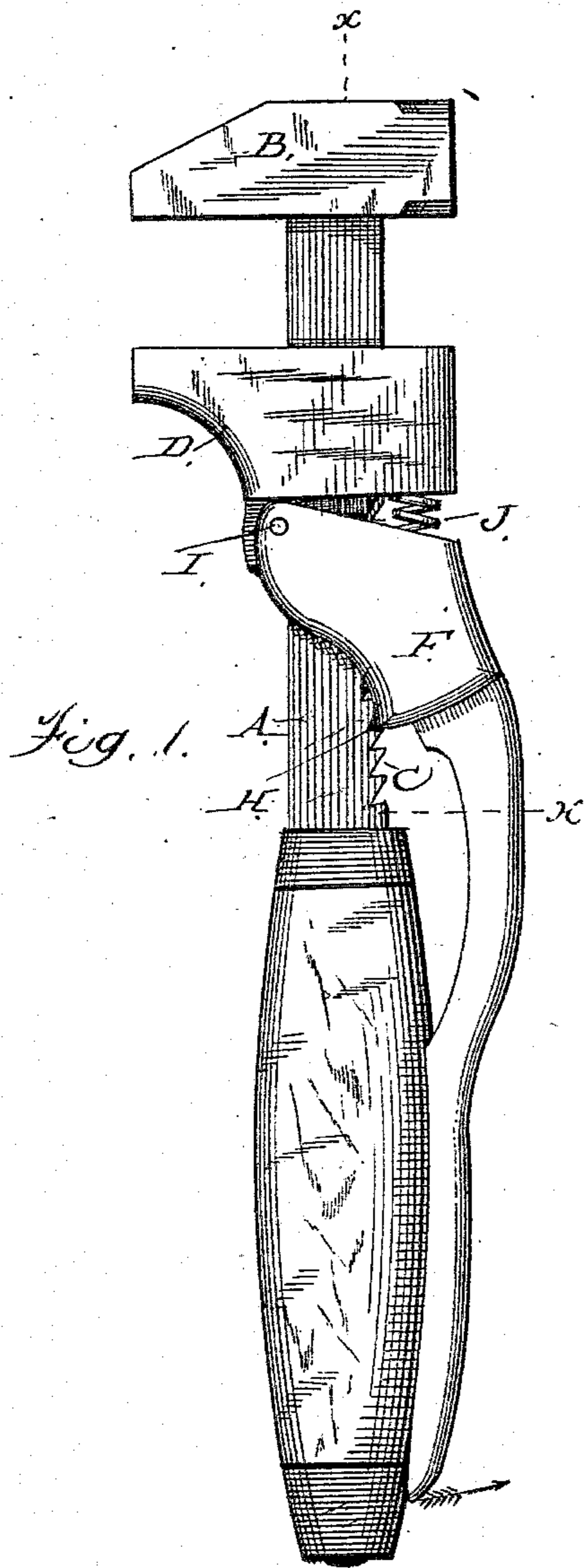
(No Model.)

F. ARMSTRONG & J. H. HINE.

WRENCH.

No. 274,545.

Patented Mar. 27, 1883.



Witnesses;
J. Walter Fowler
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UNITED STATES PATENT OFFICE.

FRANK ARMSTRONG AND JOHN H. HINE, OF BRIDGEPORT, CONNECTICUT;
SAID HINE ASSIGNOR TO SAID ARMSTRONG.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 274,545, dated March 27, 1883.

Application filed January 30, 1883. (No model.)

To all whom it may concern:

Be it known that we, FRANK ARMSTRONG and JOHN H. HINE, citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Wrenches; and we 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.

Our invention relates to certain new and useful improvements in devices known as "wrenches," and has for its object to provide such a wrench in which the jaws are brought together or spread by a simple and expeditious method, while at the same time all the lost motion or undue play of the movable jaw is taken up; and with these ends in view our invention consists in the details of construction and combination of elements hereinafter fully described, and then specifically designated by the claims.

In order that those skilled in the art to which our invention appertains may understand more fully how to make and use our improvement, we will proceed to describe the same in detail, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view in elevation of our improved device, showing the several parts in operative position, and Fig. 2 a central vertical section taken at right angles to the plane $x x$, Fig. 1.

Similar letters denote like parts in both figures of the drawings.

A is the shank of the wrench, having at its outer extremity the ordinary stationary jaw, B, and on the back thereof are ratchet-teeth C.

D is the movable jaw, arranged to slide on the shank A, and having a hook-like projection, E, on the under side, for the purpose presently explained.

F is a lever-handle, adapted by means of a socket, G, at its upper end to slide on the shank, and having a tooth or lug, H, at the base of said socket, and a pintle, I, near the other extremity of the same, as will be hereinafter fully set forth.

In assembling the several parts of our im-

proved device we place the hook E over the pintle I, thereby connecting the movable jaw D and socket G. We then slide the latter upon the shank A while in this attached relation, and it will be readily understood that the two cannot be separated in their movement up and down on said shank. When the lever is not depressed, and thereby causing the tooth or lug H to be without the ratchet C, the movable jaw and socket will slide freely up and down the shank. The spring J between the said jaw and socket merely keeps the former from dropping or sagging at that point, and thereby causing its plane to be out of parallel with that of the stationary jaw. When the lever is depressed the tooth or lug H engages with the ratchet C, which causes socket G to rock as upon a pivot, pintle I being carried toward the shank, and at the same time the pintle end of the socket, by reason of its play on the shank, is carried against the movable jaw D, the result being that said jaw is crowded forward by the cam-like action of the end of the socket.

Prior to our invention great difficulty has been experienced in wrenches of this description, owing to the incompleteness of said devices in taking up the lost motion of the movable jaw; but it will be readily understood that by placing the ratchet-teeth at suitable distances and forcing the jaw forward after the tooth has engaged with said ratchet, as hereinbefore set forth, we are enabled to overcome this difficulty.

We are aware that it is not new, broadly, to adjust the jaw by means of ratchet-teeth, and do not wish to be understood as laying claim to any such construction; but

What we do claim as new, and desire to secure by Letters Patent, is—

1. In a wrench, the combination, with a movable jaw and a stationary jaw having a shank provided with ratchet-teeth, of a lever, F, having tooth H, to engage with said ratchets, and adapted at its upper portion to operate on the movable jaw with a cam-like movement, substantially as set forth and described.

2. In combination with the movable jaw D and stationary jaw B, having a shank, A, provided with ratchet-teeth C, the lever F, terminating in a socket, G, the latter having tooth

H, to engage with said teeth, and pintle I, to engage with the hook E on the movable jaw, substantially as set forth and described.

3. In a wrench, the movable jaw D, provided with hook-like projection E, in combination with the socket G, provided with pintle I, tooth H, and lever-arm F, and stationary jaw B, having shank A, with ratchet-teeth C, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK ARMSTRONG.
JOHN H. HINE.

Witnesses :

F. W. SMITH,
GEO. S. LESTER.