(No Model.)

J. O. MORSE.

Pipe Tongs.

No. 235,957. **Patented Dec. 28, 1880.**

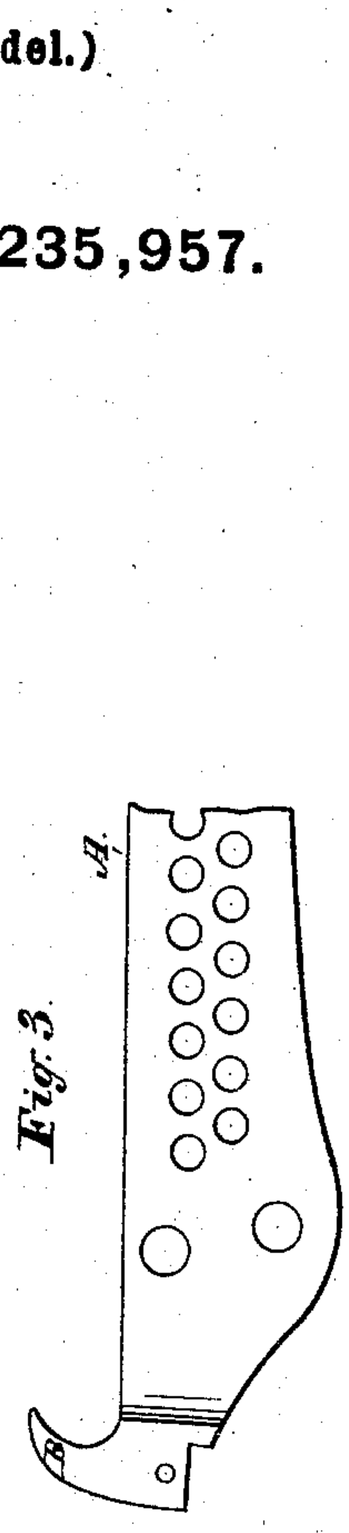
Fig. 3.

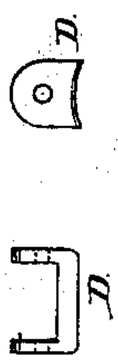
Fig. 4

Fig. 5.

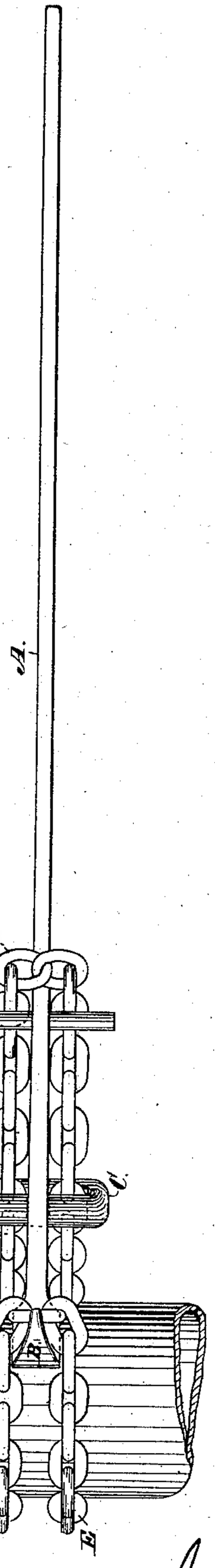
Fig. 2.

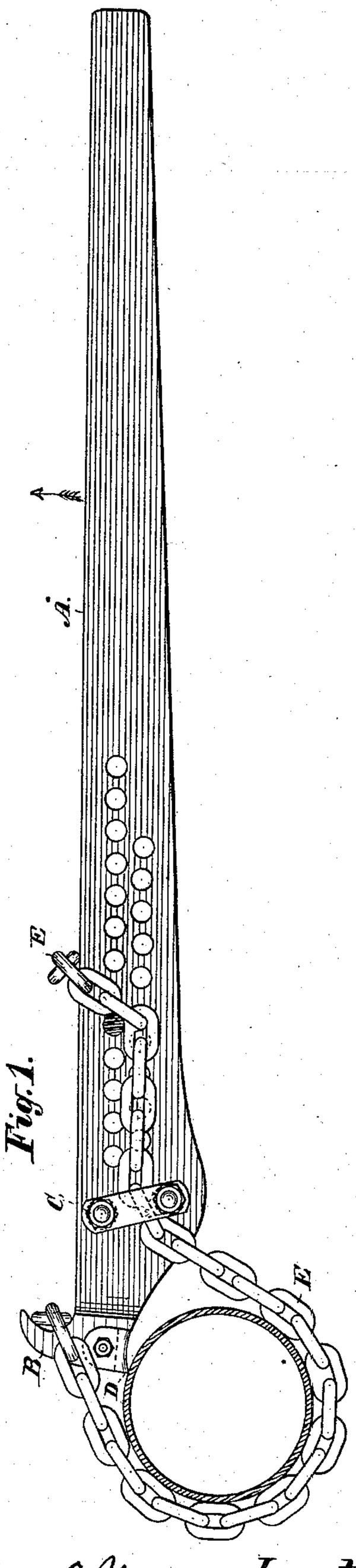
Fig. 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES O. MORSE, OF ENGLEWOOD, NEW JERSEY.

PIPE-TONGS.

SPECIFICATION forming part of Letters Patent No. 235,957, dated December 28, 1880.

Application filed November 11, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES O. MORSE, of Englewood, in the county of Bergen and State of New Jersey, have invented a new and useful Improvement in Pipe-Tongs, of which the following is a specification.

The present invention relates to that class of pipe tongs or wrenches in which a chain is used to embrace the pipe or coupling to be operated on; and its object is to provide a mechanism at once simple in construction, efficient in action, readily adjustable to different sizes of pipe, and easily repaired when worn by use.

The invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the tongs as applied to a pipe and ready for use. Fig. 2 is a plan of the same. Fig. 3 is a view of the end of the lever, the reversible bit being removed; and Figs. 4 and 5 are an end and front view, respectively, of the bit detached.

Referring to the drawings more in detail, the lever A is a simple bar of wrought-iron having one end shaped up into a hook, B, and at some distance back from this hook a staple, C, is inserted through the lever and extends out sufficiently far on each side to form a rest for the chain which passes through it, the two arms of the staple being tied together by any convenient means. Extending back from this staple is a series of holes for receiving an adjusting-pin, which takes up the slack of the chain, and by its different positions regulates its operative length for different sizes of pipe. By staggering these holes, as shown in Fig. 1, great nicety of adjustment can be secured.

The nose of the lever is rabbeted to receive the bit D, which is secured to the lever by means of a bolt passing through its ears. This bit should be made of steel and be well tempered, and, preferably, its face should be concave, to give its edges a sharper bite upon the metal of the pipe. When the one edge of this bit becomes dull through use the bit can be reversed, when both edges are worn it can be reground, and when it becomes worn out it can be replaced with a new one readily and at small cost. This device will be found superior to the inserted bits, in that it can be readily manipulated and can be kept longer in use under heavy wear. It is not, however, claimed, broadly, that this is the first use of a reversible bit; but by constructing the bit to admit of its attachment to the lever in the manner shown—viz., by means of flanges embracing the lateral faces of the lever—it follows that the bit is given a more extended bearing on the pipe than if it were let into a recess formed in the under side of the lever, and the broader this bearing the less will be the danger of injuring the pipe by too great pressure at any one point.

E is an endless chain composed of ordinary round links. This is thrown over the lever at a point behind the adjusting-pin and then passes through the staple on each side of the lever, is carried around the pipe, and engaged with the hook B. Upon raising the outer end of the lever the chain is at once brought into close engagement with the pipe, and the sharp edge of the bit takes into the surface of the pipe sufficiently to prevent the chain from slipping, notwithstanding the smoothness of the links. Upon reversing the motion of the lever the apparatus will be found to fleet easily in returning to its former position to take a new hold upon the pipe.

The object of the staple placed between the adjusting-pin and the end of the lever is to secure a more extended contact of the chain with the surface of the pipe than would be practicable without such intermediate bearing for the chain. Instead of the staple, however, a single projecting pin or bolt might be used to furnish this intermediate bearing; but the staple will be found a specially convenient device, in that with it the chain will not be liable to get disarranged.

Chain tongs are old. One form heretofore in use employs a specially-constructed open chain in which the edges of the links are serrated for the purpose of preventing slip on the surface of the pipe. These are not readily repaired when worn, and, by reason of the special construction of the chain, are clumsy to manipulate. Other mechanism heretofore known to the art has made use of an ordinary open chain, one end of which was attached to the under side of the lever, while the other, after being carried around the pipe, was dropped into a claw on the end of the lever; but the adjustment for different sizes of pipe was far less accurate than is possible with the present invention, and the character of the forging required to properly shape the claw was expensive as compared with the simple hook which

serves to secure the endless chain which forms a characteristic of the apparatus first above described.

It will be understood that, so far as concerns the function of the endless chain and the mode of adjusting it, the bit D might be permanently attached to the lever. It is, in fact, made removable and adjustable for another reason, as above indicated.

What is claimed as new is—

1. A pipe-tongs composed of a lever and an endless chain, and made adjustable for different sizes of pipes, substantially as described.

2. In combination with the adjusting-pin of the pipe-tongs and the endless chain, a staple or equivalent bearing for the chain, located between such pin and the operative end of the lever, substantially as described.

3. The detachable reversible bit constructed with lateral flanges and secured to the lever by means of a bolt, substantially as described.

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Witnesses:
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