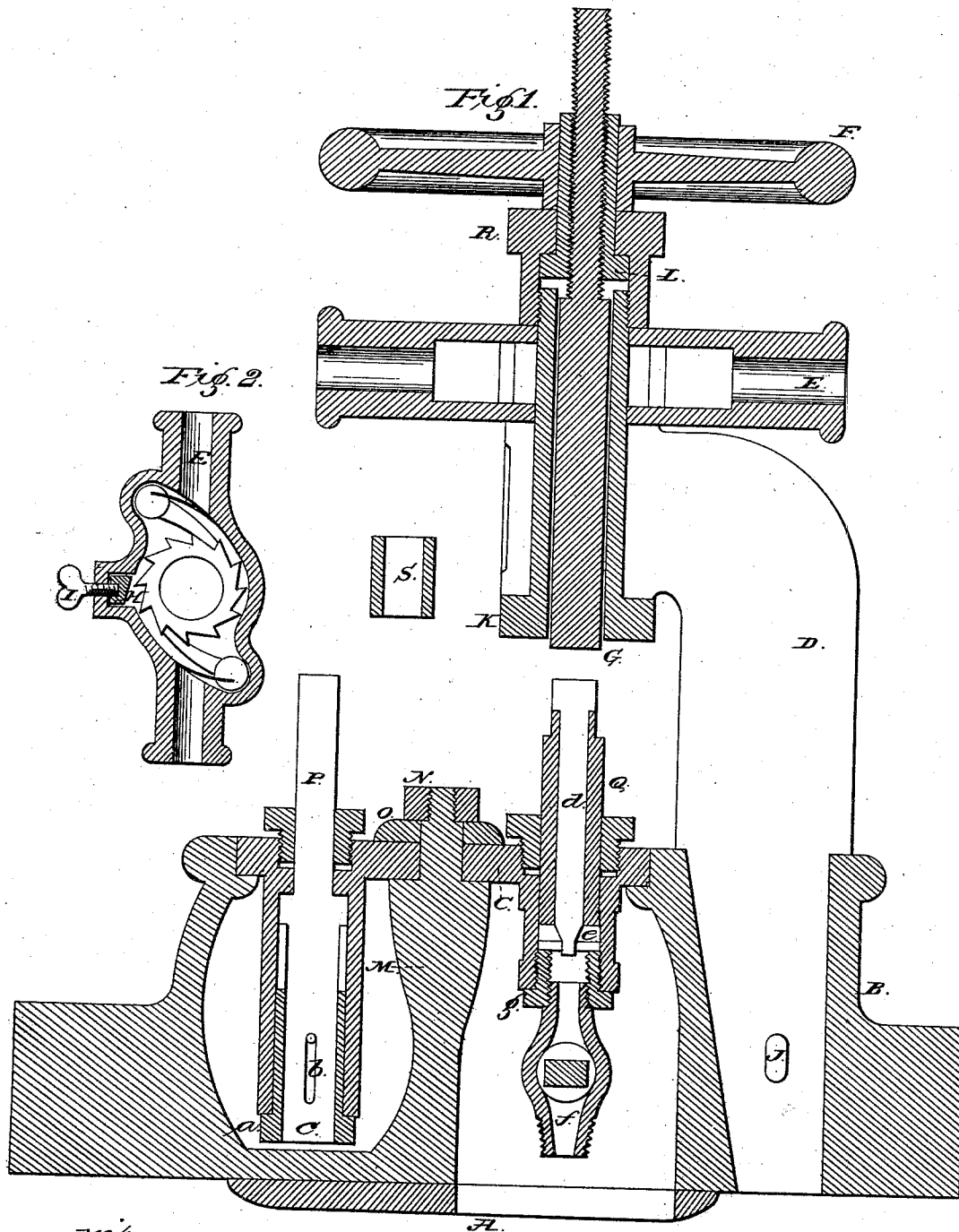


J. HANCOCK.

MACHINES FOR TAPPING MAINS.

No. 169,438.

Patented Nov. 2, 1875.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MACHINES FOR TAPPING MAINS.

Specification forming part of Letters Patent No. **169,438**, dated November 2, 1875; application filed June 17, 1875.

To all whom it may concern:

Be it known that I, JOHN HANCOCK, of Danville, in the county of Montour and State of Pennsylvania, have invented new and useful Improvements in a Machine for Tapping Gas and Water Mains against pressure to insert a gate, cock, or plug without changing the position of the machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

In the accompanying drawings, Figure 1 represents a sectional view of the machine. Fig. 2 shows a plan view of the ratchet.

In Fig. 1, A represents a movable concaved base, which can be changed to suit different sized pipes. B is a shell or case with a revolving lid, C, secured by post M, washer O, and nut N, in which are four tools—namely, drill and tap, (not shown in drawing,) screw-socket wrench Q, and a device, P, for inserting a gate or stop. D is an arm, secured to case B by the key J, through which passes the hollow mandrel K, and through this mandrel passes the square feed-bar G, which, with ratchet E, nut L, swivel R, and hand-wheel F, composes the drill motion. S is a square socket, by which the feed-bar G may be connected with drill tap or screw-socket wrench Q. Q is a screw-socket wrench in the revolving lid C, through which passes bolt *d* to plate *e*, which, when screwed down, forms a friction or lock to reducer *g* or cock *f*, so that when bolt *d* is loosened the wrench may be readily removed from reducer *g* or cock *f*. P is a bar and forms part of a device, consisting of it and the shell *a*, the opening *c* in which to insert a gate, and the pin and slot *b*, with which device a gate can be inserted into the hole bored in the main, if a cock is not wanted.

Fig. 2 represents the ratchet E with the lock H operated by the thumb-screw I to lock the ratchet-wheel, so as to produce a reverse motion for removing tap and wrench.

The operation of this machine is as follows: The base A being placed upon the pipe to be tapped, the machine is secured to the pipe by

means of clamp-chains provided with suitable set-screws. The drill is then connected to the feed-bar G by the socket S, which is turned by hollow mandrel K and ratchet E, and fed by swivel L and wheel F. The drill being removed the lid C is revolved, so that the tap may be connected to the feed-bar G, and the hole is tapped by the motion of ratchet and feed wheel F; the ratchet-wheel is then locked by lock H and thumb-screw I, and tap removed by a reverse motion of ratchet. The screw-socket wrench Q having been previously supplied with a cock and reducer locked by bolt *d* and friction-plate *e*, the lid is revolved, so as to connect the wrench with feed-bar G, and the cock is screwed into the pipe by the ratchet motion. The socket S being raised, the bolt *d* reversed releases the reducer *g* with cock *f*, and the wrench is then removed.

When a pipe is to be put into the main without a cock, the opening *c*, having been supplied with a gate, before the machine is clamped to the pipe, the lid C is revolved to bring the device P under the feed-bar G, and the gate is forced the required distance in the hole in pipe by the feed-wheel F.

What I claim as new, and wish to secure by Letters Patent, is—

1. The hollow mandrel K and square feed-bar G, in combination with the nut L, swivel R, and ratchet E.

2. The lock H, Fig. 2, and thumb-screw I, in combination with the ratchet wheel and pawls, with which the ratchet is locked to form a backward motion, as and for the purpose above described.

3. The friction-plate *e*, operated by the bolt *d* in the screw-socket wrench Q, for fastening or loosening reducer *g* or cock *f*, in combination with the square feed-bar G, nut L, swivel R, and ratchet E.

4. The device consisting of the bar P, shell *a*, opening *c* for gate, pin and slot *b*, in combination with the square feed-bar G and feed-wheel F for inserting gates into mains.

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Witnesses:

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