J. SPERRING.

Machines for Tapping Mains.

No. 152,184. Patented June 16, 1874.

Fig. 3.

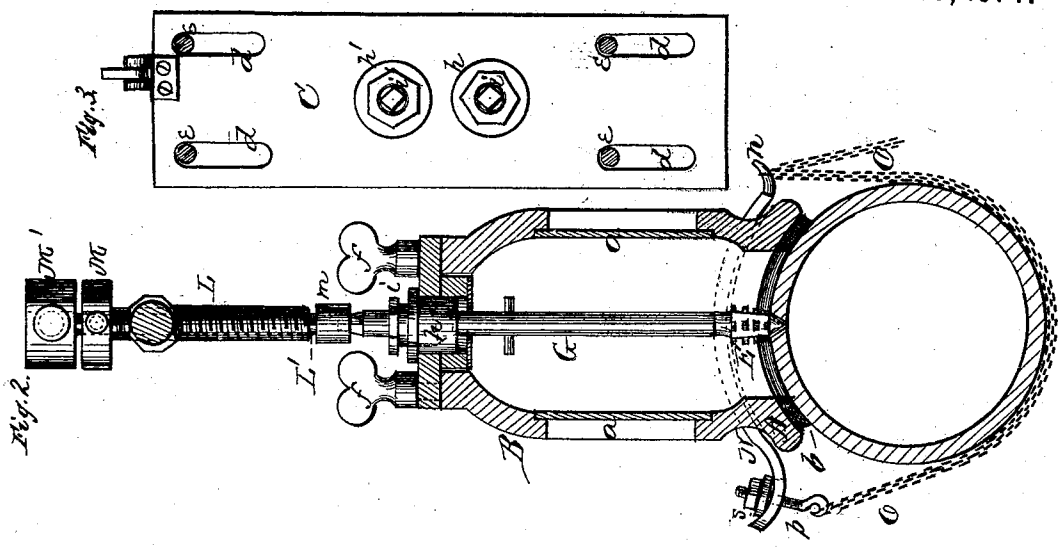

Fig. 2.

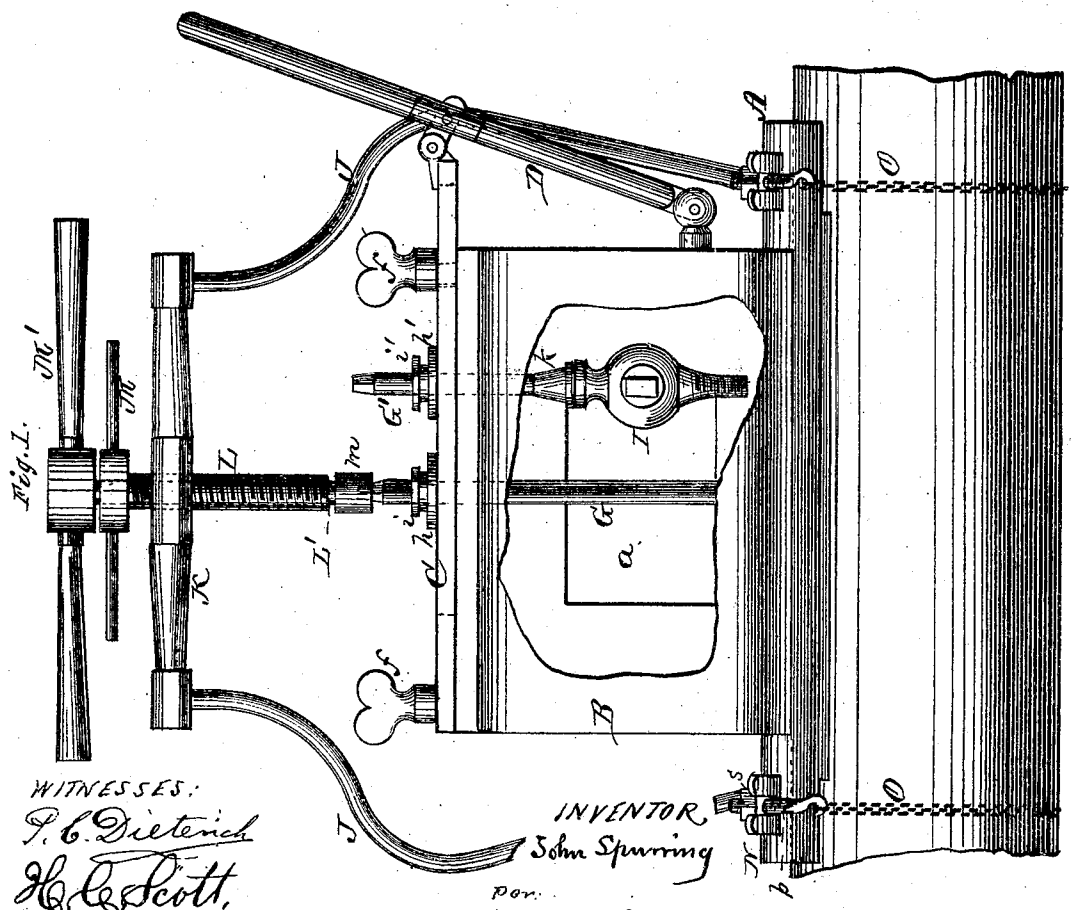

Fig. 1.

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IMPROVEMENT IN MACHINES FOR TAPPING MAINS.

Specification forming part of Letters Patent No. **152,184**, dated June 16, 1874; application filed May 28, 1874.

To all whom it may concern:

Be it known that I, JOHN SPERRING, of Danville, in the county of Montour and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Tapping Tubes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for tapping tubes or pipes conducting water, steam, gas, or any fluid against pressure, or while the pressure is in the pipes, by a device wherein the power and mechanism used to drill the hole and cut the thread may also be used to screw in the cock without changing the relative position of the case and box, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a side elevation of my machine. Fig. 2 is a transverse vertical section of the same, and Fig. 3 is a plan view of the lid of the machine.

A represents the base or bed of the machine, which is made curved or concave on its under side to fit longitudinally on top of the pipe or tube to be tapped. On this base is secured the box B, made of any suitable form and dimensions, and provided with glass *a* in each side, so that the operator can see the working parts therein. Through the base A is made an aperture corresponding in size with the box B and communicating therewith. Around this aperture on the under side of the base is secured rubber or other packing *b*, so that when the machine is clamped on the pipe, as hereinafter described, a perfectly tight joint will be made. On top of the box B is a lid, C, made longer than the box, and provided with slots *d*, as shown in Fig. 3. Through each of these slots passes a bolt, *e*, from the sides of the box, and a thumb-nut, *f*, is screwed upon the end of each bolt to hold the lid tightly in desired position. When the nuts *f* are loosened the lid C may be moved by means of a lever, D, pivoted to a projection on one end of the box and connected to one end of the slide. On the under side of the lid C is secured a bar, C′, which fits between the front and back of the box B, and limits the movement of the lid by striking the ends of the box. Through the lid C and its bar C′ are passed and secured two flanged collars, *h h′*, in which are screwed stuffing-boxes *i i′* respectively. Through these are respectively passed vertical spindles G G′, the spindle G having a tool, E, secured on its lower end, and the lower end of the spindle G′ being formed or provided with a screw-socket, *k*. The tool E is constructed in such a manner as to drill a hole, ream the same, and cut female screw-threads therein. In the screw-socket *k* is screwed a plug or stop-cock, I. From the top of the base A at each end extends a curved arm or standard, J, upward and inward a suitable height above the box B, and the upper ends of these arms are connected by a bar, K, in the center of which is formed a hole with interior or female screw-threads. Through this is passed a hollow screw, L, with handle or lever M at its upper end, and through said hollow screw is passed a spindle, L′, with handle M′ at its upper end and a square socket, *m*, at its lower end. The upper ends of the spindles G G′ are shaped to fit this socket *m*, and these spindles are so arranged in the lid C and the movement of the lid so regulated that when the lid is thrown to one end of the box the spindle G will be on a vertical line with the screw L and stem L′, and when the lid is moved to the other end the spindle G′ will occupy that position. On the top of the base A at each end is secured a metal strap, N, one end of which forms a hook, *n*, and the other end is curved upward, and is slotted longitudinally for a short distance.

For fastening the machine to the pipe to be tapped a chain, O, is passed around the pipe at each end of the machine, one end of said pipe being hooked upon the hook *n*, and the other end fastened to a bolt, *p*, which has a nut, *s*, on its end. This bolt is simply passed through the slotted end of the metal strap N when the nut *s* is screwed down and tightened, thereby clamping the machine securely to the pipe. When the machine is thus secured the lid C is moved to bring the spindle

G under the socket *m*, the screw L lowered to bring said socket on the end of the spindle. Then, by proper turning of the handles M and M a hole is drilled, reamed, and threaded in the pipe, after which the tool E is, by reverse motion of the handles, withdrawn. The screw L is then raised to disengage the socket *m* from the end of the spindle G, after which the thumb-nuts *f* are loosened, the lid C moved by the lever D, so as to bring the spindle G′ under the socket *m*, and the nuts *f* tightened again. The cock or plug I, having previously been inserted in the socket *k*, is now, by means of the screw L and stem L′, and their handles, screwed into the hole made in the pipe by the tool E. The spindle G′, with its socket *k*, is then unscrewed from the cock I, leaving the same in the pipe, and the machine is removed by simply loosening the nuts *s* and slipping the bolts *p* out of the slotted ends of the straps N. Pipes or tubes conveying water, gas, steam, or any fluid may thus be tapped with this machine while the pressure is on, or, in other words, without first turning off the water, steam, &c.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a machine for tapping pipes against pressure, the base A and stationary frame J K, carrying screw L and stem L′, in combination with the sliding lid C, carrying stocks or spindles G G′, and arranged so that the screw and stem can be used upon both spindles, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

JOHN SPERRING.

Witnesses:
C. H. WATSON,
HARRY C. BIRCH.