

(No Model.)

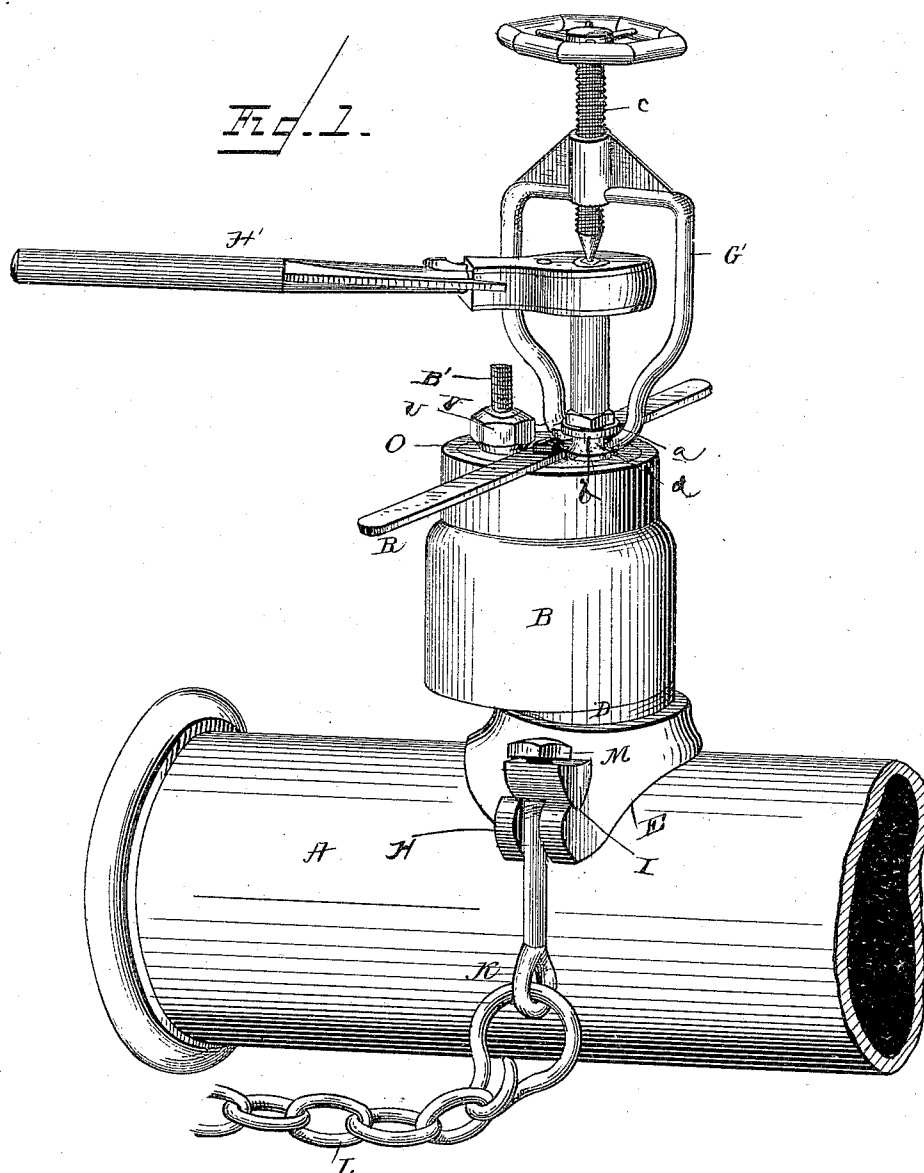
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W. S. PAYNE.

DEVICE FOR TAPPING MAINS.

No. 309,085.

Patented Dec. 9, 1884.



WITNESSES
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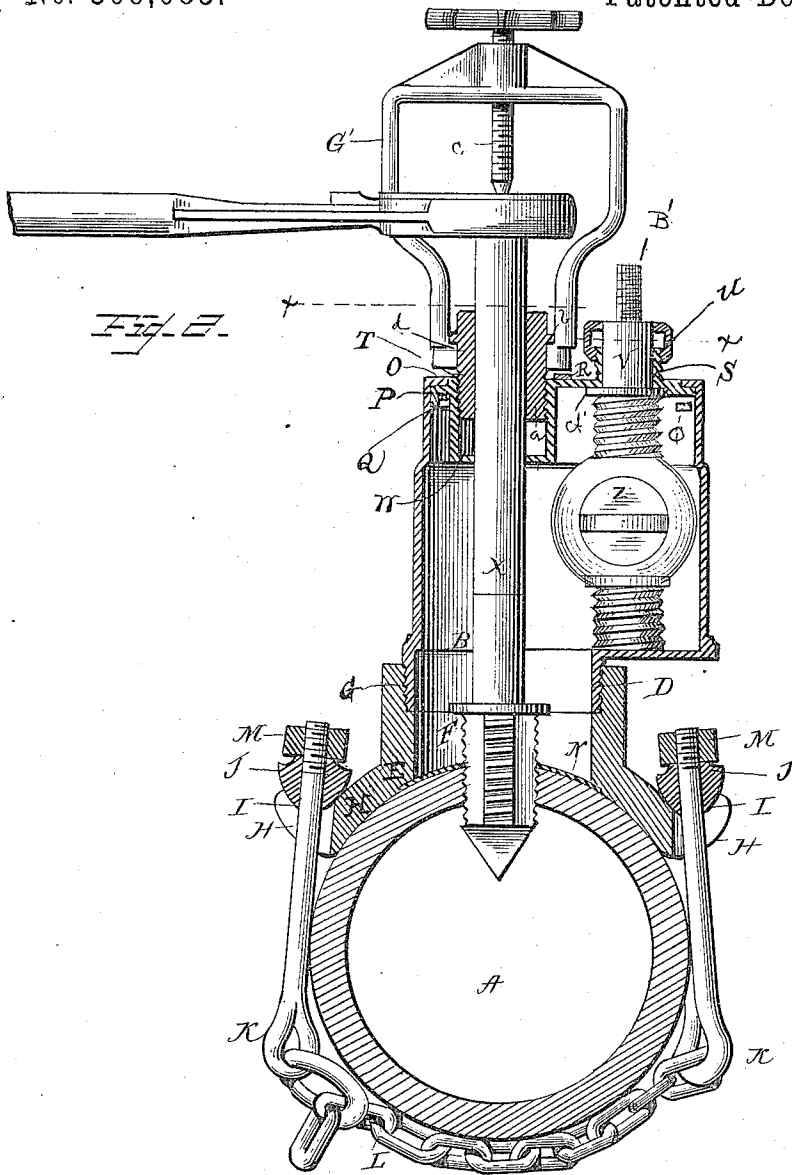
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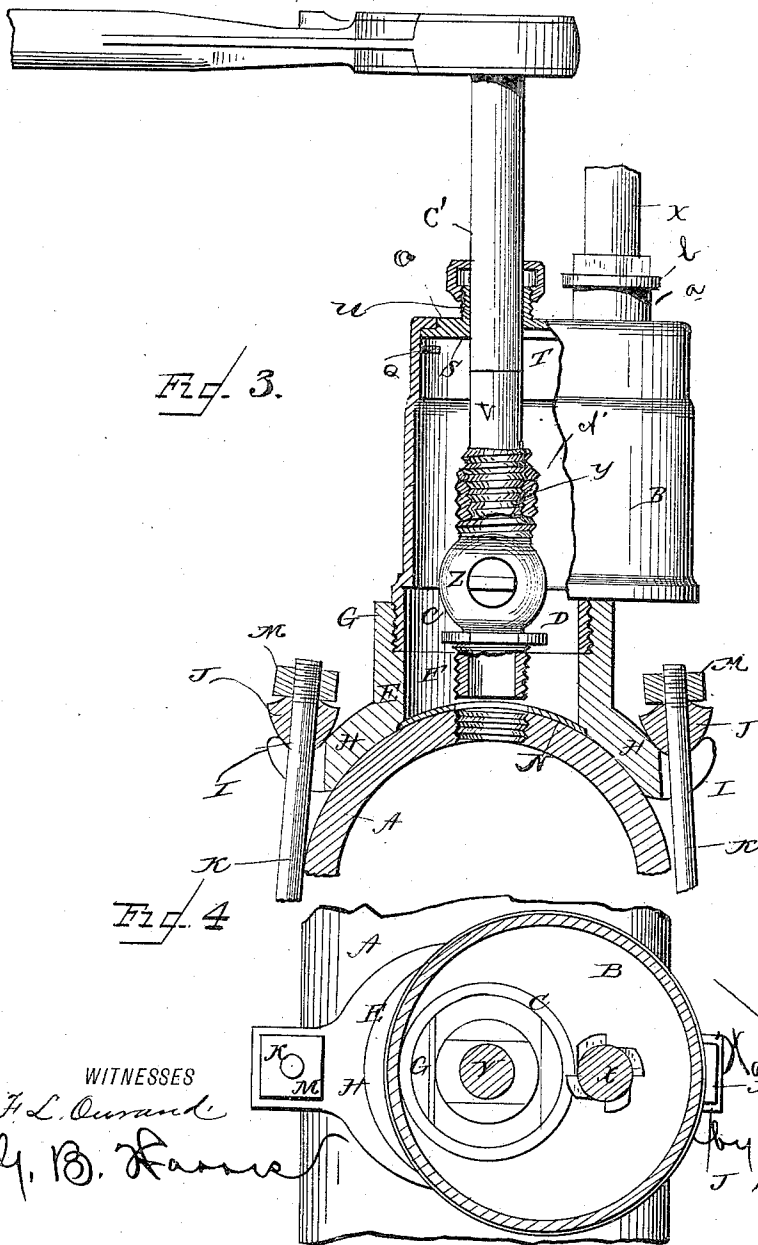
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UNITED STATES PATENT OFFICE.

WALTER S. PAYNE, OF TITUSVILLE, PENNSYLVANIA.

DEVICE FOR TAPPING MAINS.

SPECIFICATION forming part of Letters Patent No. 309,085, dated December 9, 1884.

Application filed January 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. PAYNE, a citizen of the United States, residing at Titusville, in the county of Crawford and State of Pennsylvania, have invented a new and useful Device for Tapping Mains, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to a device for tapping mains; and it has for its object to provide a device of this character which shall be cheap and simple in its construction, effective in its operation, and strong and durable.

With these ends in view the invention consists in the improved construction and combinations of parts, hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view showing my invention complete and in position for operation. Fig. 2 is a vertical sectional view. Fig. 3 is a part sectional elevation showing the device ready for adjusting a cock in the main, and Fig. 4 is a horizontal sectional view through the chamber or casing.

In the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, A represents the main or pipe to be tapped, and to which a connection is then to be made.

B is the casing of my improved device. Said casing consists of a hollow casting, mainly cylindrical in form, and having in its bottom an eccentrically-located opening, C, surrounded by a downwardly-extending exteriorly-threaded flange, D.

E represents a curved saddle, the face curve of which corresponds to the curve of the main to be tapped. A set of such saddles, with curves to fit mains of various sizes, may be furnished with each complete tapping device.

The saddle E has a central opening, F, surrounded by an upwardly-extending interiorly-threaded collar or flange, G, to receive the flange D of casing B, which is thus connected to said saddle. The ends of the saddle are provided with lugs H, having notches I to receive yokes J, having openings to receive eyebolts K, which are connected under the main by a chain, L. By tightening the nuts M upon the eyebolts the chain is tightened, and the saddle and casing thus firmly secured upon the main by the use of a single chain.

Between the saddle and the main a rubber gasket or collar, N, is interposed in order to insure a water-tight joint.

The casing B has a revolving top plate, O, which in the process of manufacture is put in the core of the casting for the chamber, which is then cast around it, thereby saving a joint in the machine, and preventing the possibility of a leak.

Two diametrically-opposite lugs, Q, are provided on the inner side wall of the casing B, near the upper end thereof, said lugs extending inwardly, as shown. A downwardly-extending lug, P, is provided on the top plate, which is so arranged that when the top plate is turned it can make but one-half of one revolution, as the top plate can only be moved the distance between the two lugs Q, which, as before stated, is half the circumference of the casing.

The top plate, O, is provided with handles R, which are secured thereto, as shown, and by the use of which the tapping device may be carried. They also afford convenient means for turning the top plate when necessary. The top plate, O, is also provided with two diametrically-opposite openings, S T. The former of these openings, S, has an upwardly-extending exteriorly-threaded collar, U, to receive an interiorly-threaded cap having an opening in its upper side, said collar and cap forming a guide for the cock-holding stem or mandrel V. The other opening, T, is provided with a downwardly-extending tube, W, larger in diameter than the drill to be used, and provided with an opening at its lower end for the passage of said drill. The said tube W is interiorly threaded near its upper end to receive the lower exteriorly-threaded end of a plug, a, the upper end of which extends beyond the top of the casing, and is provided with an annular flange, b, said plug and tube forming a guide for the stem of the drill and screw-tap X.

The head of the mandrel V has screw-threads of various diameters, so that a cock, Z, of any desired size, may be attached thereto, as shown, and held while being adjusted. The said cock Z is formed with an angular seat, A', near its upper end, for the reception of a wrench, by which it may be tightened in the main after it is adjusted therein.

The upper end of the stem of the mandrel V is threaded at B' to receive an extension, C', the upper end of which is squared to receive the adjusting-wrench. This extension is detached during the operation of drilling and tapping the main, in order not to interfere with the operation of the wrench by which the tool is operated.

G' represents a frame or casting, the lower end of which is formed with a semicircular seat, d, to receive the plug a, the flange b of said plug resting on said semicircular seat d.

The upper end of the frame or casting G' is provided with a screw-threaded opening to receive a feed-screw, c, which is pointed at its lower end, said pointed end resting or bearing in a recess or depression formed in the top of the drill X.

A ratchet-wrench of any desired construction may be used to operate the drill, the same, however, being fed downward to the pipe or main by the feed-screw before the wrench is operated.

In the construction of the drill and tap, the wrench, and the stop-cock no novelty is herein claimed, and any well-known construction may be employed which will operate in conjunction with the parts constituting and embodying my invention. The several parts may be made in any suitable manner, and of any material which may be deemed preferable.

In operation, after adjusting the saddle upon the main, the stop-cock is adjusted upon the mandrel V, and inserted through the opening C into the casing, the mandrel-stem passing through the opening S of the top plate. The latter is then turned or reversed to bring the said mandrel and cock into the position shown in Fig. 1. The casing is then attached to the saddle, the drill or tap having been first inserted through the plug a into the chamber, its upper end projecting up through the plug a. The casting or frame G' is then adjusted upon the upper end of the plug a, and the ratchet-wrench fitted on the end of the tap X. The said tap is then adjusted down upon the main by means of the feed-screw c. The wrench may then be operated until a threaded opening of the desired size has been produced in the main. The drill is then withdrawn from said hole or opening, while of course the water-tight casing B prevents the fluid from escaping. The top plate, O, is then turned, which brings the cock directly over the hole

formed for its reception. The extension C' is then adjusted upon the mandrel-stem, by means of which the cock may be readily adjusted in the main. The tapping device and the mandrel may then be detached, and the cock finally tightened in position by a suitable wrench, for the reception of which the seat A' was formed.

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

1. In a device for tapping mains, the combination, with a suitable casing provided with an opening, S, having an upwardly-extending collar, and a cap to fit the same, of a mandrel having screw-threads of various diameters, and an extension detachable therefrom, substantially as set forth.

2. In a device for tapping mains, the combination, with a suitable casing, of a revolving top plate, and lugs for preventing said top plate from making more than one half-revolution, as set forth.

3. In a device for tapping mains, the combination, with a suitable casing having a revolving top plate provided with a downwardly-extending interiorly-threaded tube, lugs for preventing said top plate from making more than one half-revolution, an exteriorly-threaded plug fitting in the same, a frame carrying a feed-screw, a drill-tap, and means for operating the same to form an opening in the main, as set forth.

4. In a device for tapping mains, the combination, with a suitable casing having inwardly-extending diametrically-opposite lugs, of a top plate having a downwardly-extending lug, whereby said top plate is prevented from making more than one half-revolution, substantially as set forth.

5. In a device for tapping mains, the combination, with a suitable casing, of a revolving top plate, handles for moving the same secured to the upper side thereof, and lugs for preventing said top plate from making more than one half-revolution, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WALTER S. PAYNE.

Witnesses:

JOHN O'NEILL,
BEN SKINNER.