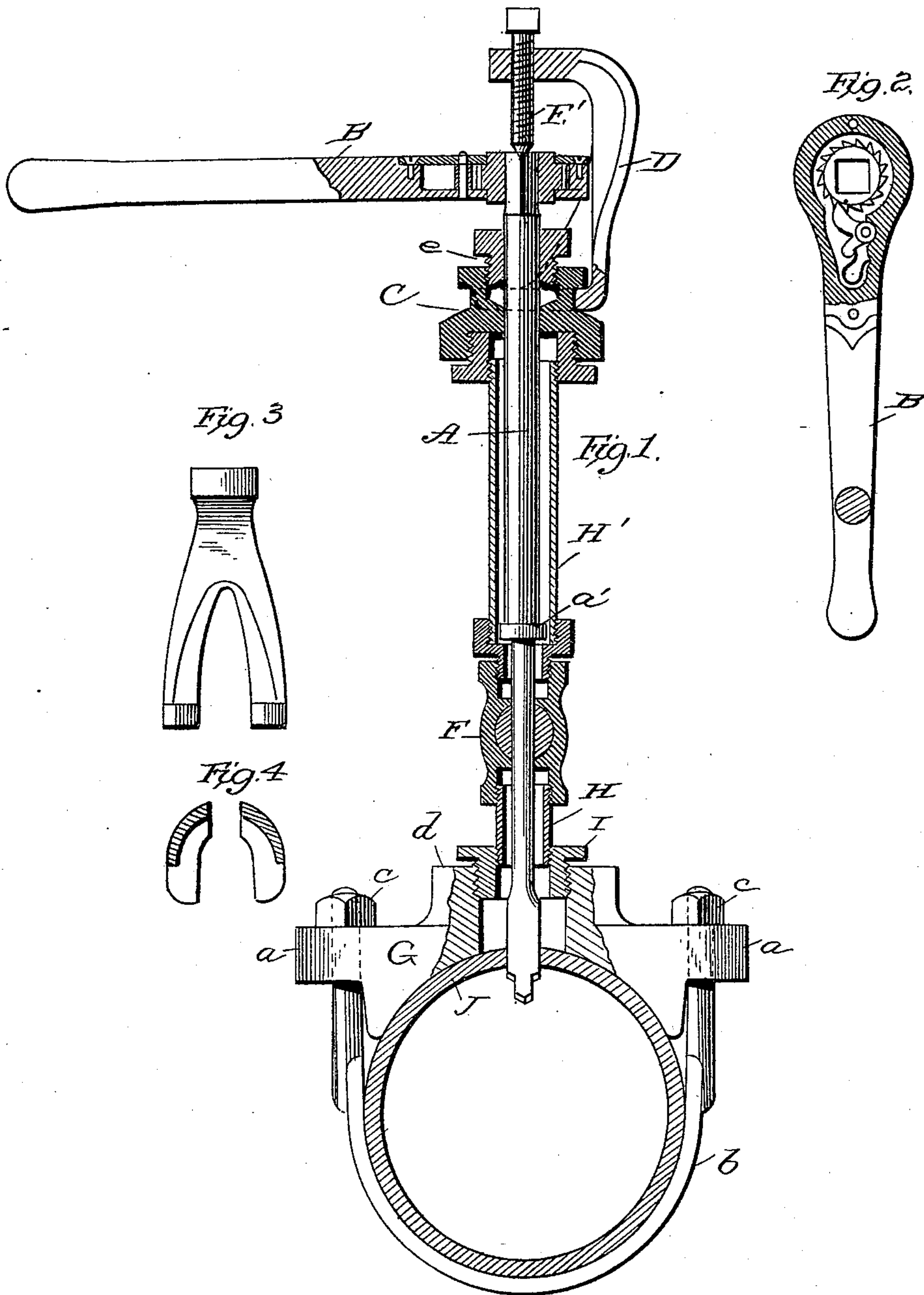


(No Model.)

M. P. MADDEN.
DEVICE FOR TAPPING MAINS.

No. 459,638.

Patented Sept. 15, 1891.



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UNITED STATES PATENT OFFICE.

MARK P. MADDEN, OF CORONADO BEACH, CALIFORNIA.

DEVICE FOR TAPPING MAINS.

SPECIFICATION forming part of Letters Patent No. 459,638, dated September 15, 1891.

Application filed May 4, 1891. Serial No. 391,577. (No model.)

To all whom it may concern:

Be it known that I, MARK P. MADDEN, a citizen of the United States of America, residing at Coronado Beach, in the county of San Diego and State of California, have invented certain new and useful Improvements in Devices for Tapping Mains, of which the following is a specification.

My invention is a device for tapping water-mains; and it consists in the devices and the combination of devices hereinafter particularly set forth.

I have illustrated the invention in the accompanying drawings, in which—

Figure 1 represents a side elevation, partly in section, of the apparatus as applied to a water-main, the main being shown in section. Fig. 2 is a detail view of the operating-handle and ratchet; and Figs. 3 and 4 represent details of construction, the latter figure being a section of Fig. 3.

In the figures the main is represented at J, and this may represent any pipe which it is desired to tap and in which there is contained water or other liquid under pressure. The drill and its supporting-shaft and its supporting parts are all sustained in place by means of a saddle G, which is made concave on its under face so as to fit the periphery of the main J. This saddle has projecting ears *a a*, and it is held to the main securely by means of a metal strap or band *b*, which encircles the main, as shown in Fig. 1. The upper ends of the strap pass through the ears *a* and are provided with nuts *c*, by means of which the saddle is held in place. The saddle is provided centrally with a projection *d* on its upper face, which has a central opening to the periphery of the pipe to be tapped. The upper part of this opening is screw-threaded and is adapted to receive a threaded bushing or coupling I. A casting F, provided with a turning cock, is connected to and supported from the bushing I by a short section of tube H, which, as shown, is screw-threaded into bushing I and the lower end of the casting F. The upper end of the casting F is provided with a bushing screw-threaded therein, and between this bushing and a third bushing is interposed a section of pipe H'. The upper

bushing is provided with an exterior thread, and this thread is engaged by a thread on the inner face of the flange of a casting C, which serves also as a packing-box for the shaft A of the drill and has a suitable gland *e* and packing fitting a recess in the upper face of this casting. The shaft A passes through the opening in the casting and through the pipe H' to the lower end thereof, where it is provided with a shouldered portion *a'*, of larger diameter than the main extent of the shaft. Into a suitable socket in this shaft is secured the drill, which may be of any ordinary construction, this drill passing through the opening in the cock F and through the pipe H and the opening in the projection *d* of the drill to the periphery of the main. The upper end of the shaft A is squared and is adapted to receive the end of the operating-lever B, which is provided with a pawl-and-ratchet connection, so as to impart a rotary movement to the shaft and through it to the drill. In order to apply the proper amount of pressure to the drill, I mount upon the casting C a bracket D, having a bifurcated lower end with a horizontal extension on each side, and these extensions are adapted to fit snugly a groove extending around the periphery of the casting C. The upper end of the bracket D is directly over the central line of the shaft A, and through a threaded hole in the bracket I pass a screw E', which is provided with a conical bearing-point, and this point is kept constantly pressed against the upper end of the shaft A. It will be seen that rotary movement may be imparted to the drill while the parts are held firmly upon the main, and by reason of the water-tight connection between all the parts and at the upper end of the column the tapping can be proceeded with without any danger of the pressure of water interfering with the work. As soon as the shell of the pipe has been penetrated, the bracket D with its screw may be removed and the shaft A lifted, which will withdraw the drill above the line of the cock in the casting F, and as soon as the point is withdrawn from the opening in the cock this is turned, so as to present one of its imperforate walls to the opening, thus preventing

the passage of the water beyond this point. The other parts above this point may be removed and the proper connection can be made with the main.

5 I claim as my invention—

1. In combination, a drill, a hollow jointed structure inclosing said drill, means for supporting the same upon the main, and a cut-off located in said structure, having an opening
10 for the passage of the drill and adapted to be turned to close the opening when the drill is removed, substantially as described.

2. In combination with a drill and means for rotating the same, a hollow supporting
15 structure for inclosing the said drill, means for supporting said structure on the main, a cut-off in said structure, and removable means

for applying pressure to the outer end of the drill, substantially as described.

3. In combination, the hollow jointed structure, with means for supporting it upon the main, said structure having a closed upper end, a drill within said structure carried upon a shaft, a cut-off located in said structure, means for rotating the shaft, and means for
25 applying pressure thereto, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MARK P. MADDEN.

Witnesses:

J. H. HARTAPEE,
F. E. A. KIMBALL.