

J. J. QUINN.
Devices for Tapping Mains.

No. 157,419.

Patented Dec. 1, 1874.

Fig. 1

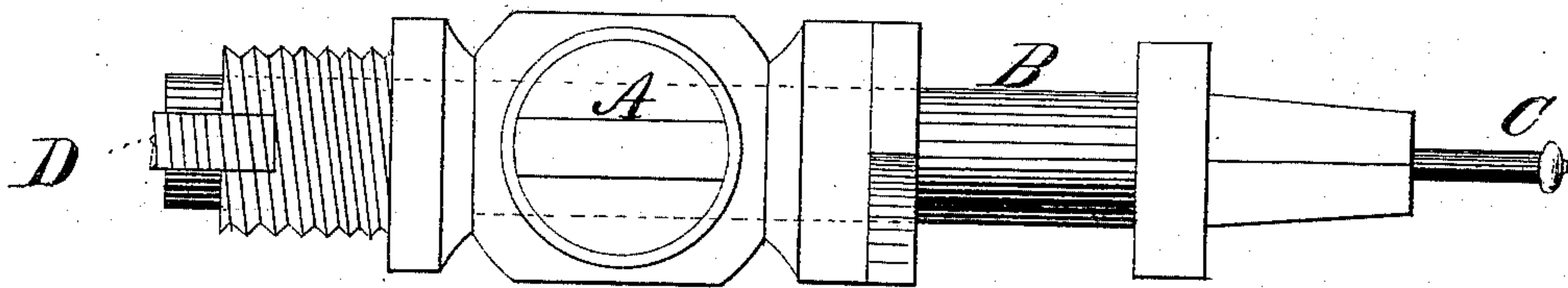


Fig. 2

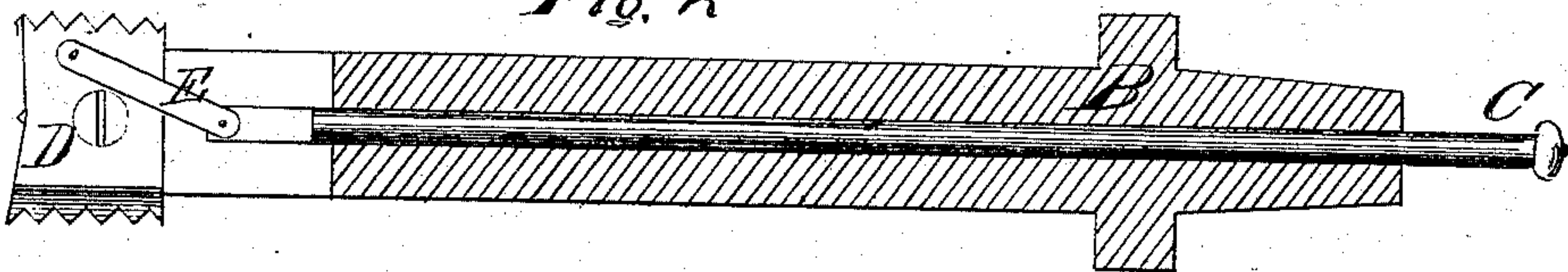


Fig. 3

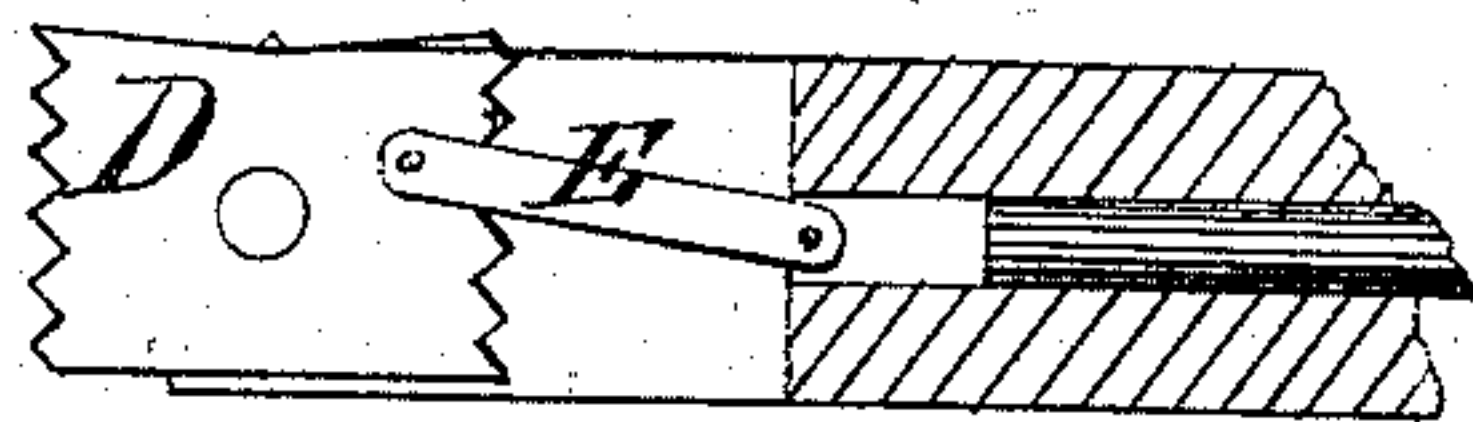


Fig. 4

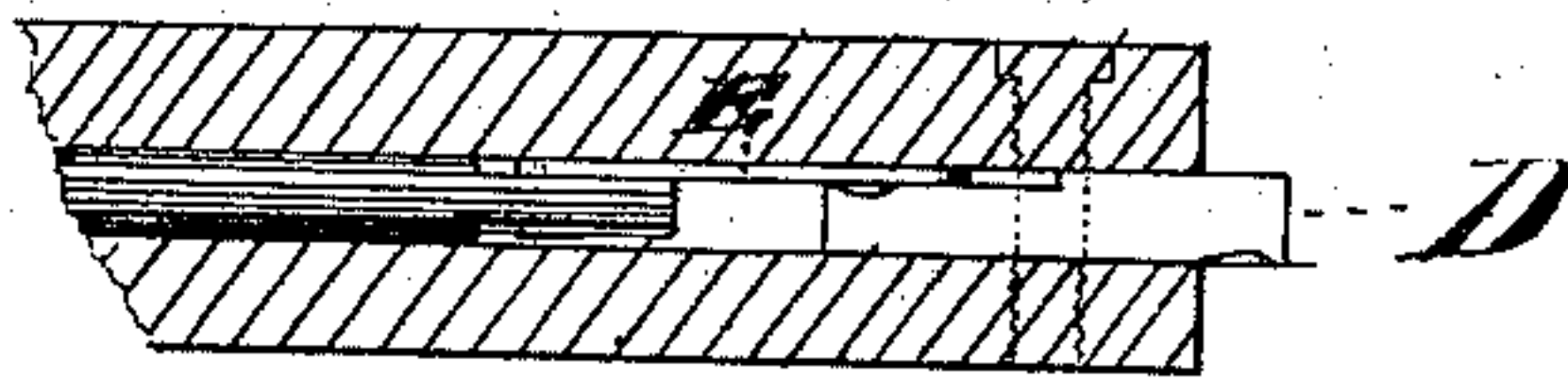
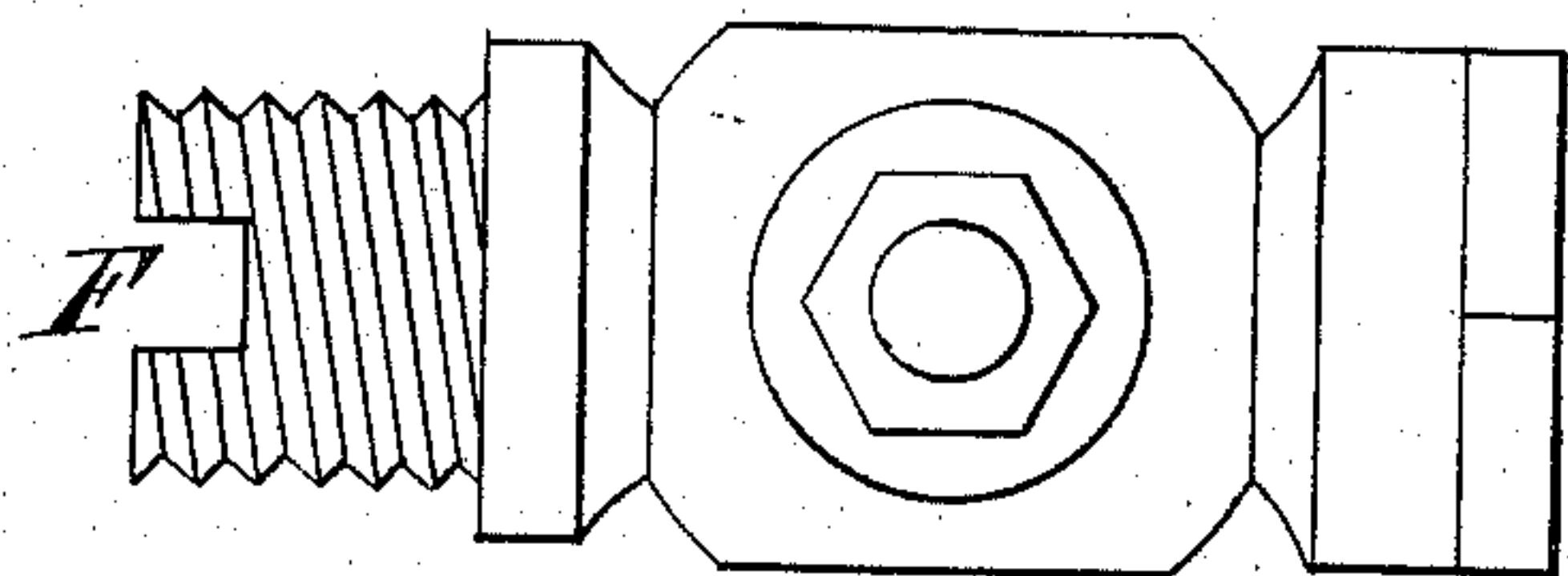


Fig. 5



Witnesses

P. B. Reilly
B. B. Bradley

By

John J. Quinn. Inventor

Comally Bros & Co. Attorneys

UNITED STATES PATENT OFFICE.

JOHN J. QUINN, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO THOMAS H. JAMESON, OF SAME PLACE.

IMPROVEMENT IN DEVICES FOR TAPPING MAINS.

Specification forming part of Letters Patent No. **157,419**, dated December 1, 1874; application filed October 27, 1874.

To all whom it may concern:

Be it known that I, JOHN J. QUINN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Tapping Water, Gas, and Steam Mains; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a top view of device ready for operations. Fig. 2 is a longitudinal section of drill-rod, mandrel, and threader and cutter. Fig. 3 is a longitudinal section of same, with threader and cutter in a different position. Fig. 4 is a cross-section of same. Fig. 5 is a plan view of valve-section with slot.

This invention has relation particularly to that branch of industry whose object it is to open main pipes and insert therein small service connections.

My object in this device is to furnish means whereby the boring or tapping and threading may be readily accomplished in the one single operation, and without stopping the flow or permitting any of the fluid or gas to escape. Ordinarily the hole must be first tapped, then threaded, and afterward the valve-section inserted. Whereas, I take any ordinary valve or cock already threaded, simply slot the end which is to enter the main, insert my tapper and threader, and at the same operation tap the main, thread the tap, and screw into the main the valve-section. This must evidently save much time and labor, and insures perfection as much as possible.

More particularly, my invention consists in a boring-tool, having a thread cut on its convex sides and fitting into a slot in the valve-section, and provided with a device, whereby, when the operation is finished, the position of the boring and threading tool may be regulated to allow of its withdrawal through the valve-section, and removal therefrom. This device consists of a hollow drilling-rod, slotted diametrically at the boring end, into which the cutter and threader is pivoted firmly.

This cutter and threader is operated in the slot by means of a mandrel running the entire length of the drilling-rod, and is attached thereto by a thin link or plate, pivoted at one end to the mandrel recessed for that purpose, and at the other eccentrically to the tapper and threader. By moving the mandrel in and out, the position of the tapper and threader is made transverse or perpendicular to the axis of the drill-rod. Thus, when ready for operations, the mandrel is pushed in, throwing the tapper and threader into its transverse and cutting position; then the drill-rod and mandrel are drawn together outwardly till the cutter and threader is thrown into the slot in the end of the valve-section, which holds it firmly, and also causes the screw on the valve to follow the cutter and threader into the main.

Reference being had to the accompanying drawings, A represents any ordinary cock or valve-section, threaded at the end for the main. B is a drilling-rod passing through the valve-section, and having a shoulder near its outer end, and is squared off for a crank or lever attachment. This drill-rod is hollow its entire length, and through it passes the mandrel C, which is attached to and operates the adjustment of the cutter and threader D by means of the link or lever E, and is recessed for the end of the same. F is the slot in the valve-section to receive and gripe the cutter and threader and cause the valve-section to screw into the main.

In cases where, on account of a faulty construction, the main is too thick on the side to be tapped to allow of the valve following all the way, a plain drilling-tool may first be used to enlarge the tap sufficiently to admit the shoulder of the section.

The *modus operandi* is as follows: Having braced the device by any ordinary means, the cutter and threader having been first inserted in the slot in the end of the valve-section, the drill is operated, and as it turns the valve-section turns with it, and as the thread is cut in the main the threads on the valve follow into them. The chips or cuttings fall, or are forced back, through hollows on the slides of the cut-

ter and threader into the slot in the end of the drill-rod, which is made large for the purpose. As soon as the hole is cut through, the drill-rod is advanced a little and the mandrel is withdrawn slightly, so as to throw the cutter and threader out of its transverse position and into the perpendicular, when it is removed and the valve shut. Then the service-pipe is laid from the valve.

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

1. A tapping, threading, and fitting device,

consisting of hollow drill-rod B, mandrel C, and boring-tool D, combined with the slotted valve-section A, as specified.

2. The tapper and threader D, as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of October, 1874.

JOHN J. QUINN.

Witnesses:

K. T. O'CONNOR,
T. J. MCTIGHE.