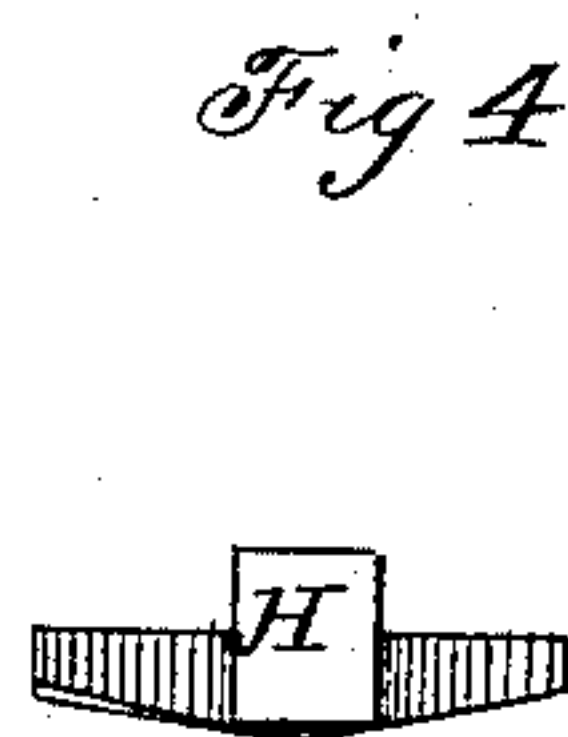
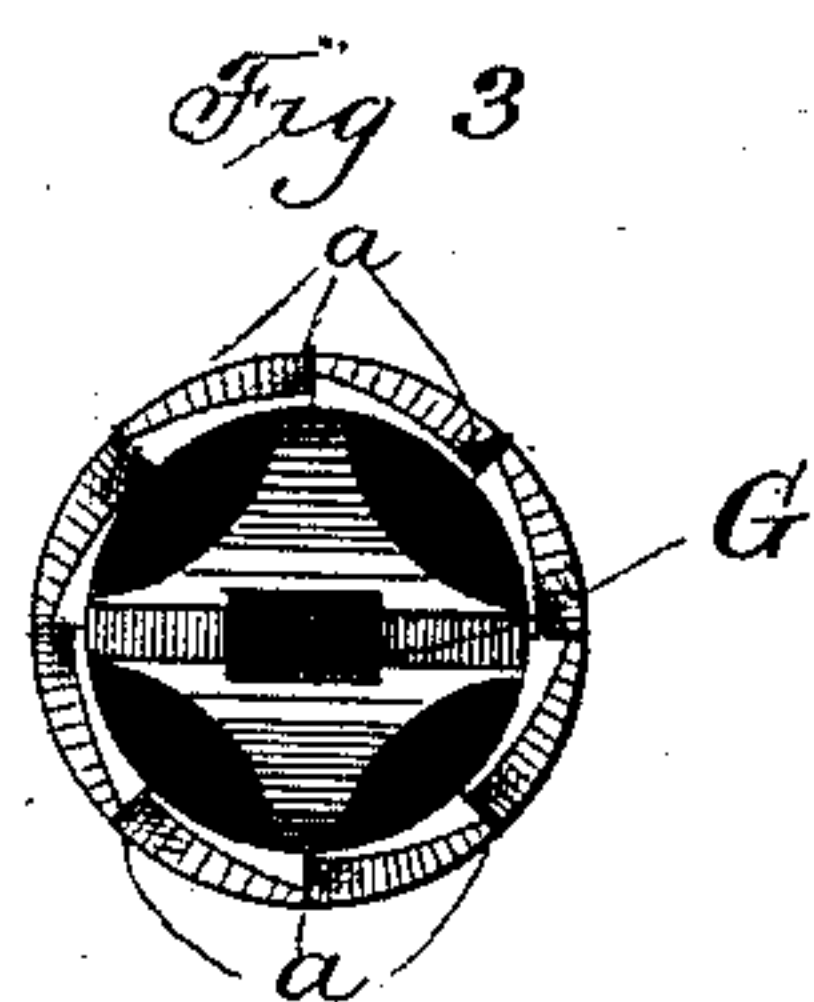
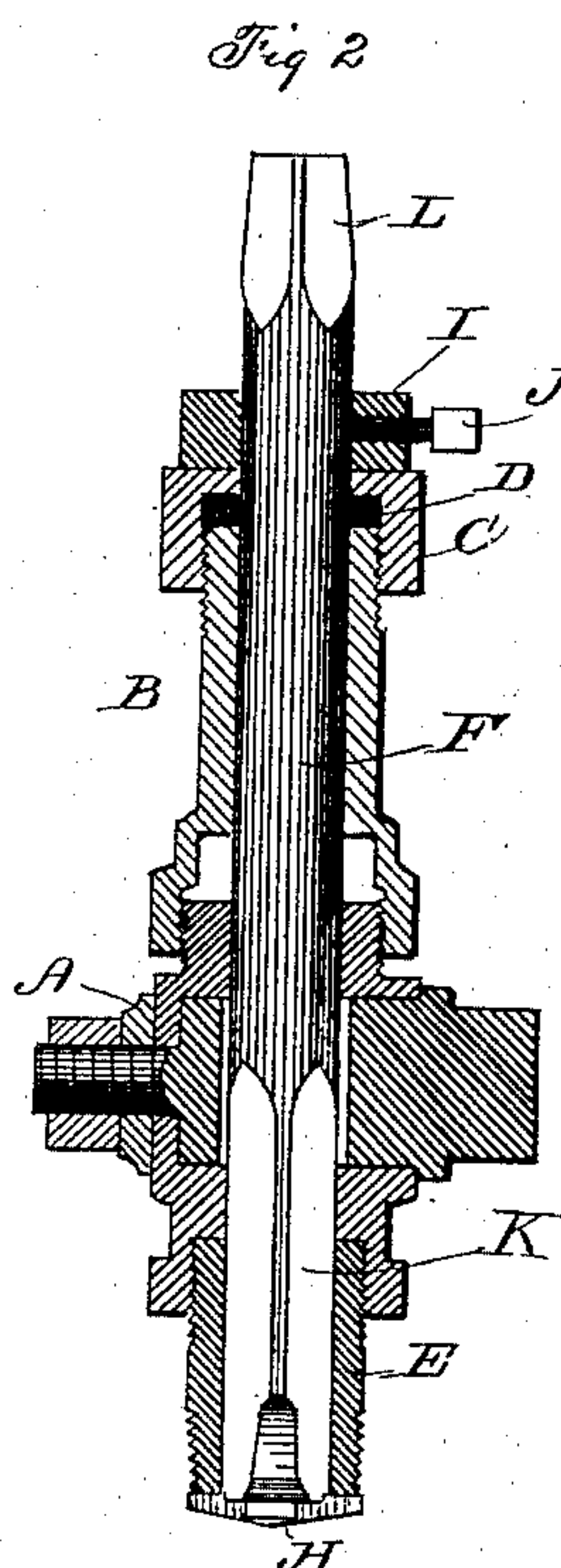
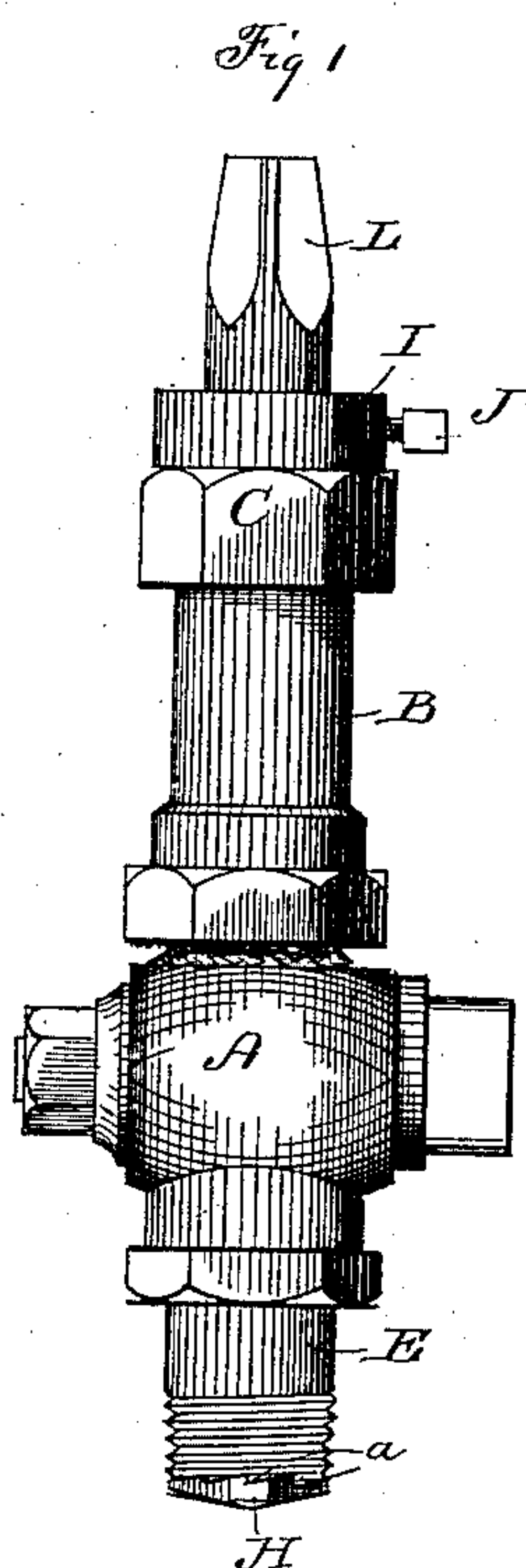


(No Model.)

G. RICHARDSON.
DEVICE FOR TAPPING MAINS.

No. 327,314.

Patented Sept. 29, 1885.



Witnesses
S. Williamson
W. P. Hawland

Inventor
George Richardson
By *Smith & Hubbard* Attys.

UNITED STATES PATENT OFFICE.

GEORGE RICHARDSON, OF BRIDGEPORT, CONNECTICUT.

DEVICE FOR TAPPING MAINS.

SPECIFICATION forming part of Letters Patent No. 327,314, dated September 29, 1885.

Application filed May 11, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RICHARDSON, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Devices for Tapping Water-Mains and the Like; 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 appertains to make and use the same.

My invention relates to certain new and useful improvements in devices for tapping mains containing water, steam, or gas under pressure, and has for its object to accomplish the result aimed at without shutting off the pressure and without allowing any of the water, steam, or gas to escape during the process of tapping, and, furthermore, to provide an exceedingly simple and economical device for this purpose; and with these ends in view my invention consists in certain details of construction and combination of elements, hereinafter explained, and then specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and operation, I will proceed to describe the same in detail, referring by letter to the accompanying drawings, in which—

Figure 1 is an elevation of my device assembled for operation; Fig. 2, a central section of the same; Fig. 3, an enlarged end view, the cutter being removed; and Fig. 4, a detail view of the cutter.

Similar letters denote like parts in the several figures of the drawings.

A is a stop-cock of ordinary construction, having secured to its upper stem an extension, B, the upper end of which is threaded externally.

C is an internally-threaded cap, which is run onto the extension B. Between this cap and the end of said extension is a ring, D, of any suitable packing material, the object of which will be presently explained.

E is a hollow tap, whose upper end is adapted to screw into the lower end of the stop-cock, its lower end being provided with cutting-teeth *a*.

F is a drill-shank, which passes through the cap, extension, cock, and tap, as shown in Fig. 2. This shank has in its lower extremity a recess, G, which acts as a seat for the cutter-point H.

I is a collar, secured around the shank just above the cap by a set-screw, J.

The lower portion of the shank is cut away at K, so as to afford an escape for the chips, and its upper end is adapted to receive a ratchet-wrench.

The operation of my improvement is as follows: The device is set against the main in which it is to be tapped, and any ordinary wrench placed upon the end L of the shank, pressure being gotten thereon in the ordinary manner. Now, by revolving the shank, the cutter-point H will be caused to drill a hole in the main against which it bears; but just before the hole is completed the tap E will commence to thread said hole. By continuing to revolve the shank and tap, the latter will make its way into the hole drilled by the former until it becomes water, steam, or gas tight. The shank is then withdrawn above the stop-cock, the packing D preventing any escape through the top of the cap. The cock is now turned off and the shank finally withdrawn from the extension B, when, by running off the cap, the desired piping may be secured to the extension.

It will be understood that in withdrawing the shank the cutter, which is held thereto by friction only, will drop into the main.

It will be readily seen that by the use of my improved device the tapping and inserting of stop-cocks in mains and the like under pressure is rendered exceedingly simple and easy without any of the contents of said main escaping.

I do not wish to be confined in the use of my tap to water, steam, or gas mains, as I believe that a tap having cutter-teeth formed integral therewith is broadly new.

The great advantage resulting from the use of my improvement in tapping mains is, that the main can be tapped at the side, and thereby allow the cock to be placed farthe below the surface of the ground, so that less annoyance will be experienced by freezing, whereas

all other similar devices by their construction must be applied directly on the top of the main.

Having thus described my invention, what I claim as new and useful is—

1. In a device for tapping mains and the like under pressure, the hollow threading-tap, in combination with a drill-shank passing through said tap, and having a detachable cutter-point, as specified.

2. In a device for tapping mains and the like under pressure, the hollow threading-tap secured to a stop-cock, in combination with a drill-shank passed through said cock and tap, and having a detachable cutter-point.

3. In a device for tapping mains under pressure, the stop-cock having a threading-tap secured to one end and an extension to the other, said extension being provided with a packing-cap, in combination with the drill-shank and its detachable cutter-point, substantially as shown and specified.

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

GEORGE RICHARDSON.

Witnesses:

S. S. WILLIAMSON,
H. T. SHELTON, Jr.