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GEORGE SHELLEY.

Improvement in Machines for Tapping Gas and Water Mains.

No. 122,668.

Fig. 1.

Patented Jan. 9, 1872.

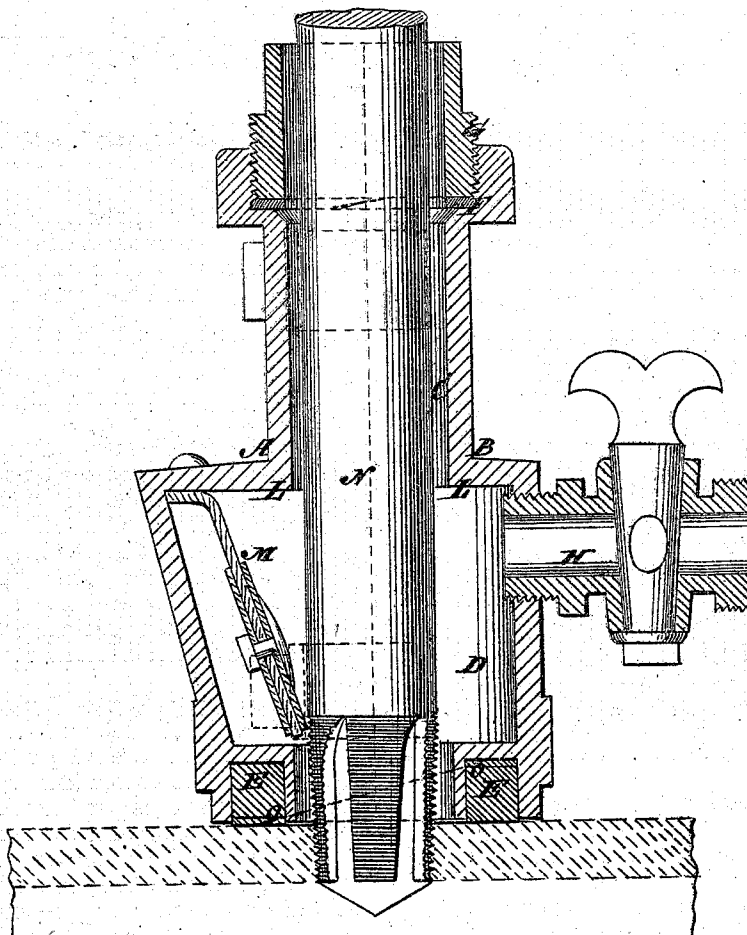
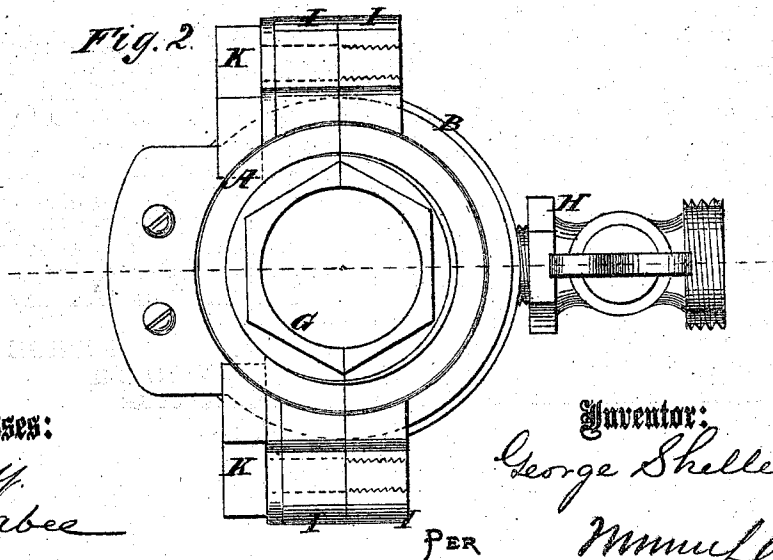


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE SHELLEY, OF EASTON, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR TAPPING GAS AND WATER MAINS.

Specification forming part of Letters Patent No. 122,668, dated January 9, 1872.

Specification describing a new and Improved Apparatus for Tapping Water and Gas Mains, invented by GEORGE SHELLEY, of Easton, in the county of Northampton and State of Pennsylvania.

My invention consists of a drill-case for clamping upon the main, divided vertically in two parts, for separating, to be detached from the pipe when it is connected to the main, which case is provided with a divided flexible packing-ring in an annular groove in the bottom; a valve-chamber and a check-valve, to be opened by the drill when it is inserted, and closed by the water when said drill is withdrawn after boring and tapping the main, and then opened again when the pipe is put in; a packing-ring above the check-valve to prevent the escape of the water when the valve is open; and the valve-chamber is provided with a cock to be opened when required to let the cuttings or chips be washed out, so they will not obstruct the closing of the valve, all as hereinafter described.

Figure 1 is a sectional elevation of my improved apparatus, and Fig. 2 is a top view.

Similar letters of reference indicate corresponding parts.

A and B represent the two upper parts of the case, with a hole, C, in the upper part about the size of the shank, a valve-chest, D, in the lower part, a packing-ring, E, in an annular groove in the lower end, a flexible packing-ring, F, in the top, secured by a hollow divided nut, G, and a cock, H, in the valve-chest, for washing out the chips. The said two parts are provided with ears I, by which they are held together with bolts K, which can be readily taken out to separate the parts for removing the case when the pipe has been screwed into the main. By the enlargement of the valve-chamber a valve-seat is provided at L for a check-valve, M, to close against by the upward pressure of the water. The annular packing-ring F is so made, in respect of the size of the hole through it for the drill-shank N, that it

hugs said shank sufficiently tight to prevent the escape of the water during the time the valve remains open after the drill has been withdrawn from the hole in the main sufficiently to allow water to escape, and before it is withdrawn sufficiently to let the valve close; also, the water which escapes during the time the valve is opened for inserting the pipe, and before it is screwed in tight. The cock H is opened before the drill is wholly withdrawn to allow the chips to be washed out to prevent them from getting under the valve. I prefer to use a combined tap and drill for boring the hole and cutting the threads at the same time, but other tools may be used. The ears I are used for clamping the drill-case to the main by instruments secured to the main by set-screws in the same way other instruments of like character are.

The packing-rings E and F may be made in two pieces, with beveled ends lapping each other at the joints of the two parts of the case, as indicated by the dotted line O, for separating to remove the case; or they may be made in one piece, with one joint formed by beveled lapping ends, and be taken off after the two parts of the drill-case are removed.

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

1. The combination, with the two-part case, constructed as described, of the valve M and packing-ring F, substantially as specified.
2. The combination, with the valve-chest of the said case, of a cock, H, for washing out chips, all substantially as specified.
3. The combination of the divided and lapped flexible packing-ring E with the said divided drill-case, substantially as specified.

The above specification of my invention signed by me this 11th day of November, 1871.

Witnesses

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GEO. W. MABEE,
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