J. C. Morris,

Ejecting Pump.

No. 42,679. Patented May 10, 1864.

Fig. 2

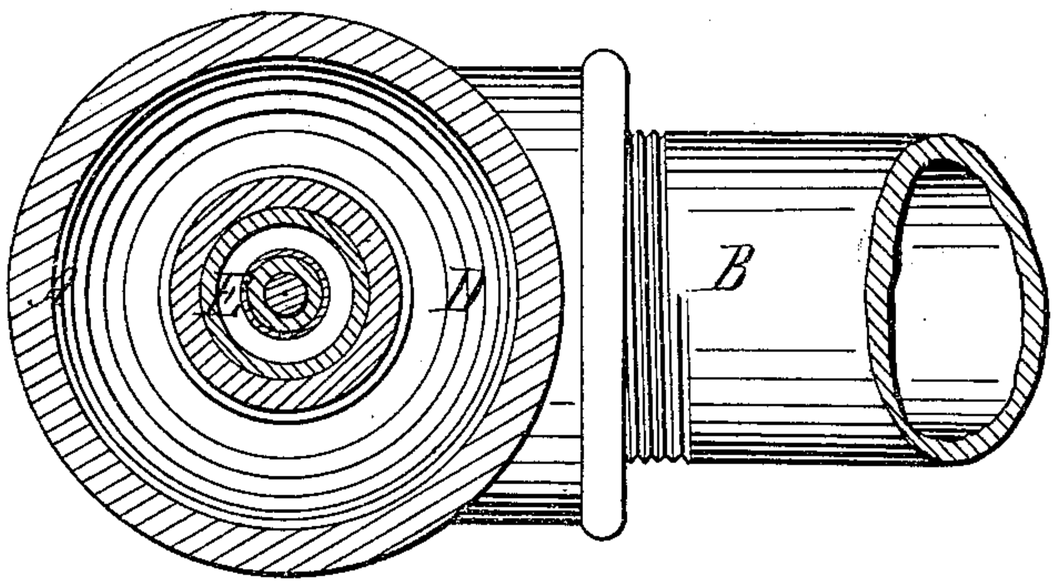
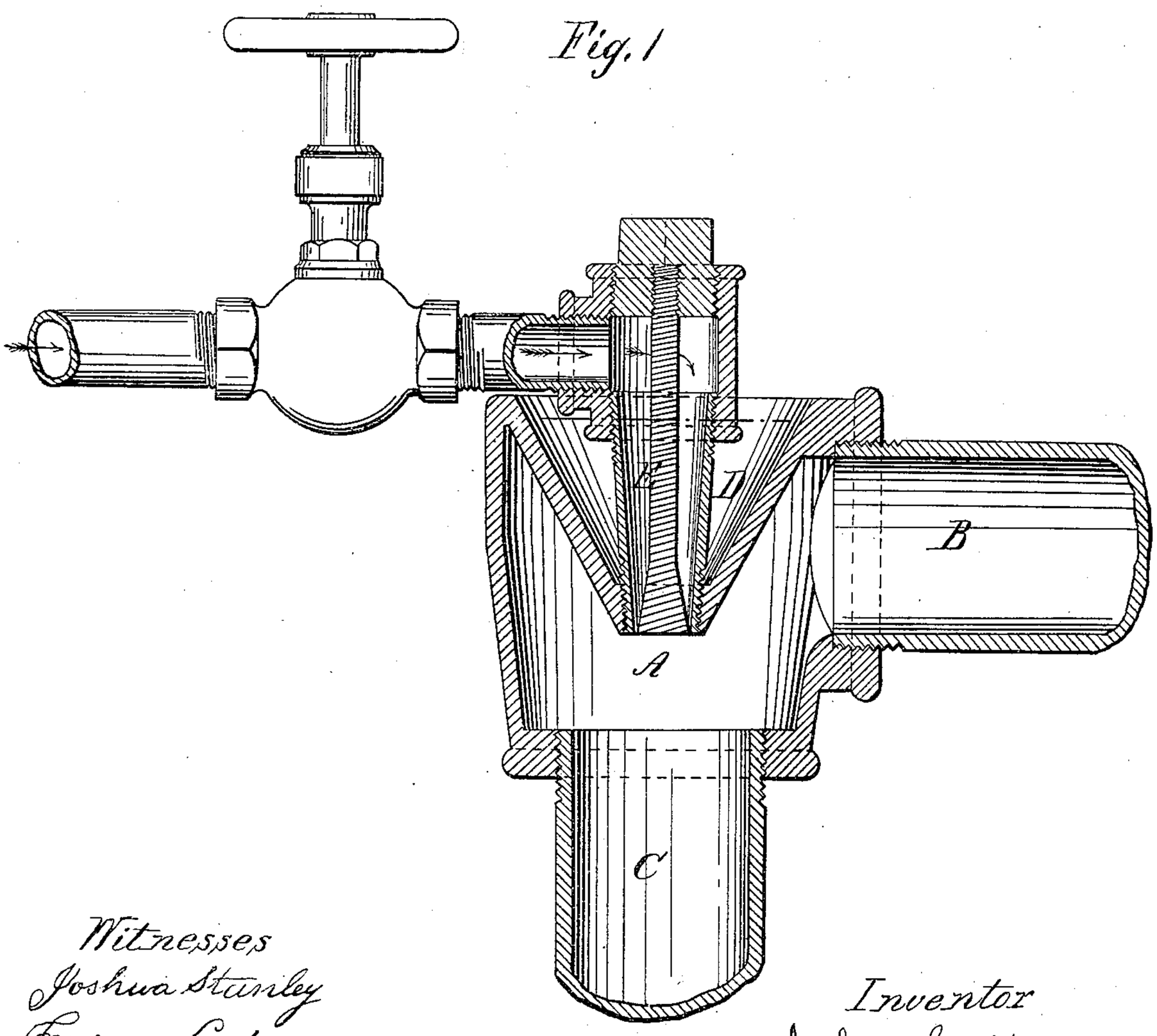


Fig. 1



Witnesses
Joshua Stanley
Ezra Cope

Inventor
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UNITED STATES PATENT OFFICE.

JOHN C. MORRIS, OF CINCINNATI, OHIO.

IMPROVED APPARATUS FOR RAISING WATER.

Specification forming part of Letters Patent No. **42,679**, dated May 10, 1864.

To all whom it may concern:

Be it known that I, JOHN C. MORRIS, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved Apparatus for Raising and Forcing Water and other Fluids; and I hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1 represents a central vertical section of the apparatus, and Fig. 2 represents an elevation of the same, wherein is shcwn a recess or shield and a cross-section of a jet-tube or termination of a steam-pipe secured therein.

Like figures refer to like parts.

Letter A represents a joint formed with an ajutage at the side or bottom to receive and secure the suction-pipe B, and an ajutage at one end to receive and secure the vacuum or delivery pipe C, equal in size to the suction-pipe B. At the other end of the joint A there is screwed in or formed the recess or shield D, reaching interiorly nearly quite across the suction-pipe opening, where the steam-pipe or jet-tube E is received, secured, and terminates. The shield is formed conically, and proportioned so as to preserve the same area of cross-section throughout the suction-pipe, joint, and delivery-pipe. The suction-pipe is of a suitable length to reach the source of supply of fluid to be raised or forced, not exceeding the limit of lifting by vacuum. The delivery-pipe is of a length to suit for the desired point of delivery, not less than three feet long. The steam-pipe leads from the boiler or other vessel supplying steam to the apparatus, with a steam-valve intervening.

For sizes of four inches diameter and under, ordinary gas pipe and fittings, with their standard screws or threads, may be used to make up the entire apparatus. Larger sizes require flanged joints for suction and delivery pipes. The steam-pipe is reduced in area where it delivers the steam by making it conical when a solid central jet is desired, or slightly conical, with a plug inserted, as shown in the drawings, when an annular jet is desired.

The office of the recess or shield is to prevent the condensation of the steam arising from the rapid flow of water or other fluid that is being raised or forced by the power of a jet of steam against and around the jet-tube, chilling it and condensing the steam therein the more effectually as the more water or other fluid of lower temperature than that of the steam is passed.

To operate this apparatus for such suitable work as that of wrecking or draining, &c., it is only necessary to put the suction-pipe in proper communication with the fluid to be passed, and adjust the apparatus so as to deliver as desired. Attachment of steam-pipe to boiler being made, steam is let on and controlled by means of the valve.

Steam-hose may be used to make the connection between the steam-valve and the jet-tube.

The axis of the jet-tube, when secured in the shield, should in all cases coincide with that of the shield and joint, in order that the steam may begin its duty centrally at the entrance of the vacuum or delivery pipe.

What I claim, and desire to secure by Letters Patent, is—

The shield D, for the purposes specified, in combination with the general arrangements, all substantially as and for the purposes set forth in the foregoing specification.

JOHN C. MORRIS.

Witnesses:

JOSHUA STANLEY,

EZRA COPE.