No. 610,538. Patented Sept. 13, 1898.

G. R. HISLOP.

DIP PIPE VALVE.

(Application filed Dec. 20, 1897.)

(No Model.)

FIG. 1.

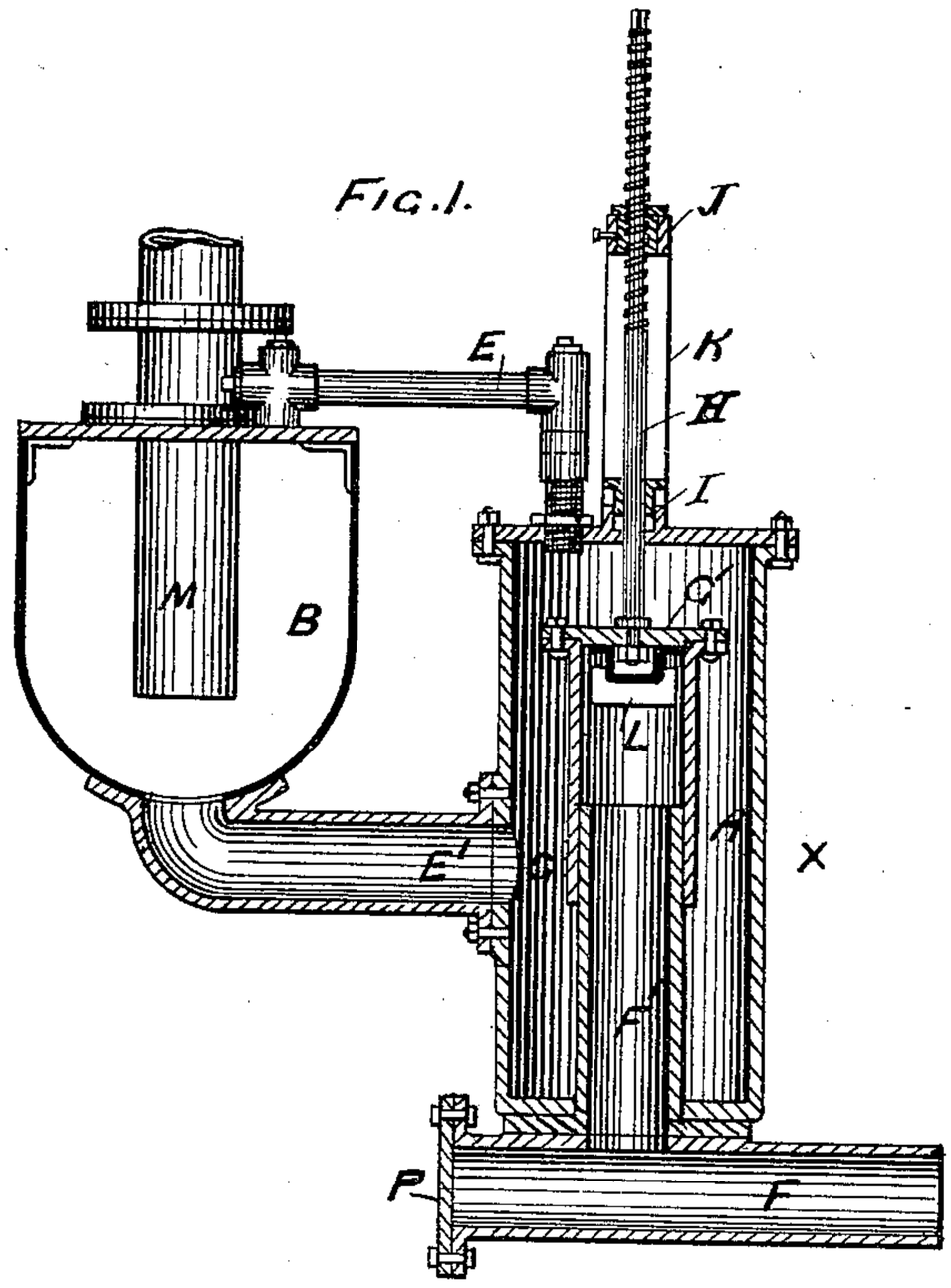


FIG. 3.

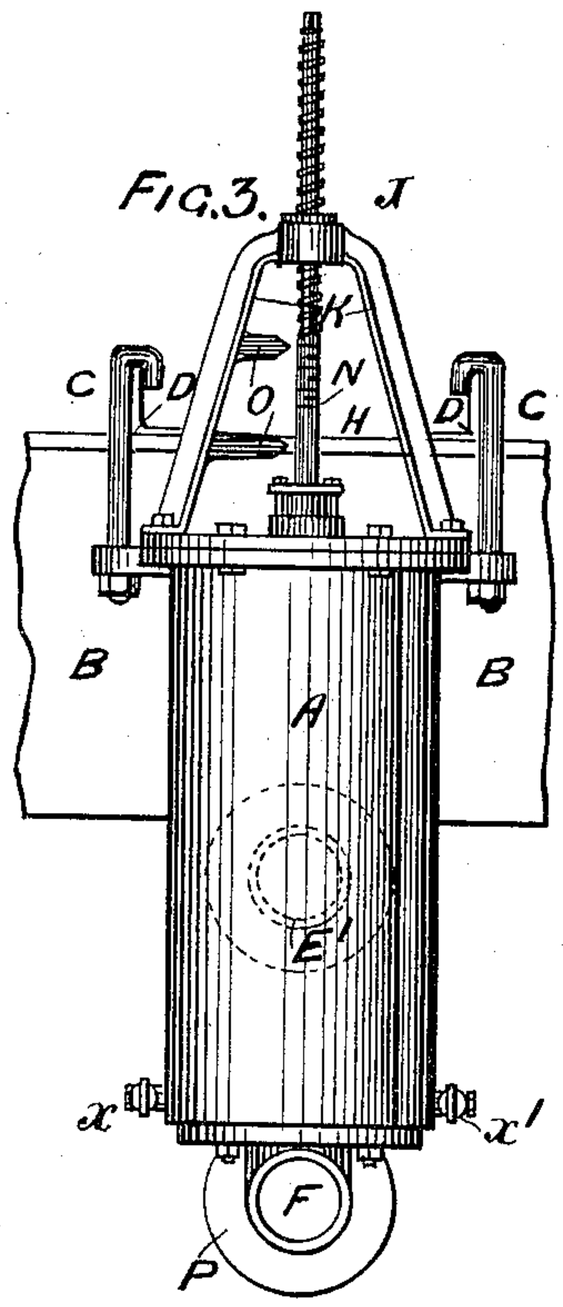
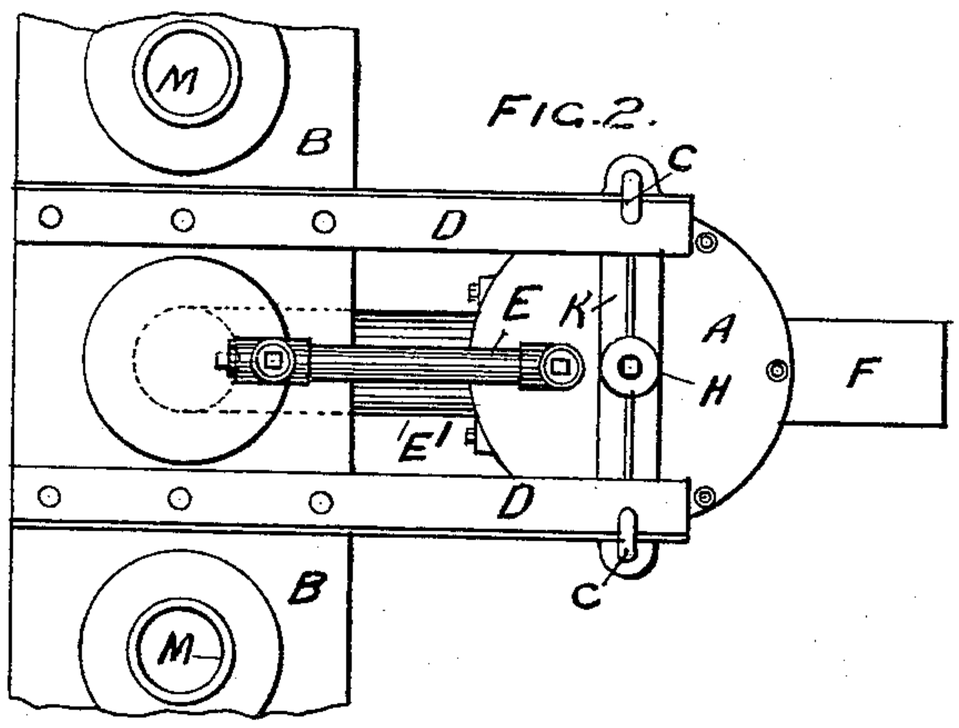


FIG. 2.



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UNITED STATES PATENT OFFICE.

GEORGE ROBERTSON HISLOP, OF PAISLEY, SCOTLAND.

DIP-PIPE VALVE.

SPECIFICATION forming part of Letters Patent No. 610,538, dated September 13, 1898.

Application filed December 20, 1897. Serial No. 662,517. (No model.) Patented in England December 31, 1891, No. 22,810.

To all whom it may concern:

Be it known that I, GEORGE ROBERTSON HISLOP, engineer and gas-works manager, of Paisley, in the county of Renfrew, Scotland, have invented certain new and useful Improvements in Dip-Pipe Valves, (patented in Great Britain December 31, 1891, No. 22,810,) of which the following is a specification.

This invention has for its object by improved apparatus to afford greater facility for regulating the seal in and for drawing or conducting away the tar from hydraulic mains in gas-works and from like receivers, and also to afford means for shutting off communication of the main with the discharge-pipe without the use of stop-cocks.

As represented in the accompanying drawings, in vertical section at Figure 1, in plan at Fig. 2, and in elevation, looking from X, Fig. 1, at Fig. 3, the improved apparatus consists of a vessel A, preferably cylindrical in form, but which may be of other shape, and which is suspended at one side of the hydraulic main B by hooks or catches C, taking over angle-iron bars D, bolted to the top of the main or by other means of suspension.

The vessel A is at its upper end connected by a pipe E to the top of the hydraulic main for the purpose of equalizing the pressure in both, and it is also connected by a pipe or branch E′ to the bottom of the main, while to the lower part of the vessel a flanged T-shaped pipe F is secured, the vertical branch F′ of the pipe passing up through the center of the vessel to such a height that its upper end is level or about level with the bottom of the main B, as shown, so as to be capable of emptying or drawing off the whole of the tar and liquid therefrom.

Over the upper end of the branch F′, and which is turned true externally, a hollow piston G is fitted, the piston being bored out to receive the branch and render the same tar and water tight.

The upper end of the hollow piston G is closed by a faced flange-plate G′, bolted to a faced flange on the piston, and in the center of the plate a spindle or lifting-rod H is secured, the said rod, which is screwed at its upper end, passing through a stuffing-box I in the cover of the vessel A and thence through a tapped nut J, carried by a saddle or bracket K, bolted to the said cover. The hollow piston G has openings or ports L made near its upper end, through which the tar and liquor flow from the interior of the vessel A into the pipe F and thence away from the plant, the depth of seal in the main B above the bottom of the dip-pipe M being regulated by the height of the under sides or lips of the openings L above the bottom of the pipe M. The spindle H, regulating the position of the piston, has a scale marked upon it, as at N, Fig. 3, which, in conjunction with the pointers O, secured to or formed on the bracket K, indicates the depth of seal or whether the main is empty, which it is when the piston G is screwed down until the ports L are opposite the upper end of the branch F′. When the ports L are below the level of the upper end of the branch F′ and the under side of the cover G is screwed down against the upper edge of the said branch, the hollow piston G is out of action.

The improved apparatus constructed as hereinbefore described thus possesses the following advantages: First, it provides for accurate adjustment of the depth of seal above the bottom of the dip-pipe M; second, it enables the hydraulic main to be flushed or emptied at pleasure, and, third, by screwing down the hollow piston until its cover G′ bears upon the upper end of the branch F′ communication between the main B and the pipe F is shut off, and by removing the flange P on the end of the pipe F access can be had for the purpose of cleaning out the same, and that without the employment of any stop-cocks and without interfering with the regular working of the main. Also by removing the cover of the vessel A and weighting down the piston G access can be had to the interior of the vessel. The vessel A is furnished with stop-cocks x x' at its lower end for the admission of steam or hot water when required.

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

The combination with the main B and drop-pipe M, of bars D extending at one side thereof, vessel A suspended from said bars pipe E′ connecting the bottom of the main B with vessel A, pipe F′ extending into vessel A, about to the level of the bottom of main B, a hollow piston movable on pipe F′, said piston having an opening near its top, and being closed at the top, and means for moving the piston, as set forth.

Signed at Glasgow, in the county of Lanark, Scotland, this 6th day of December, 1897.

GEORGE ROBERTSON HISLOP.

Witnesses:

WALLACE FAIRWEATHER,

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