

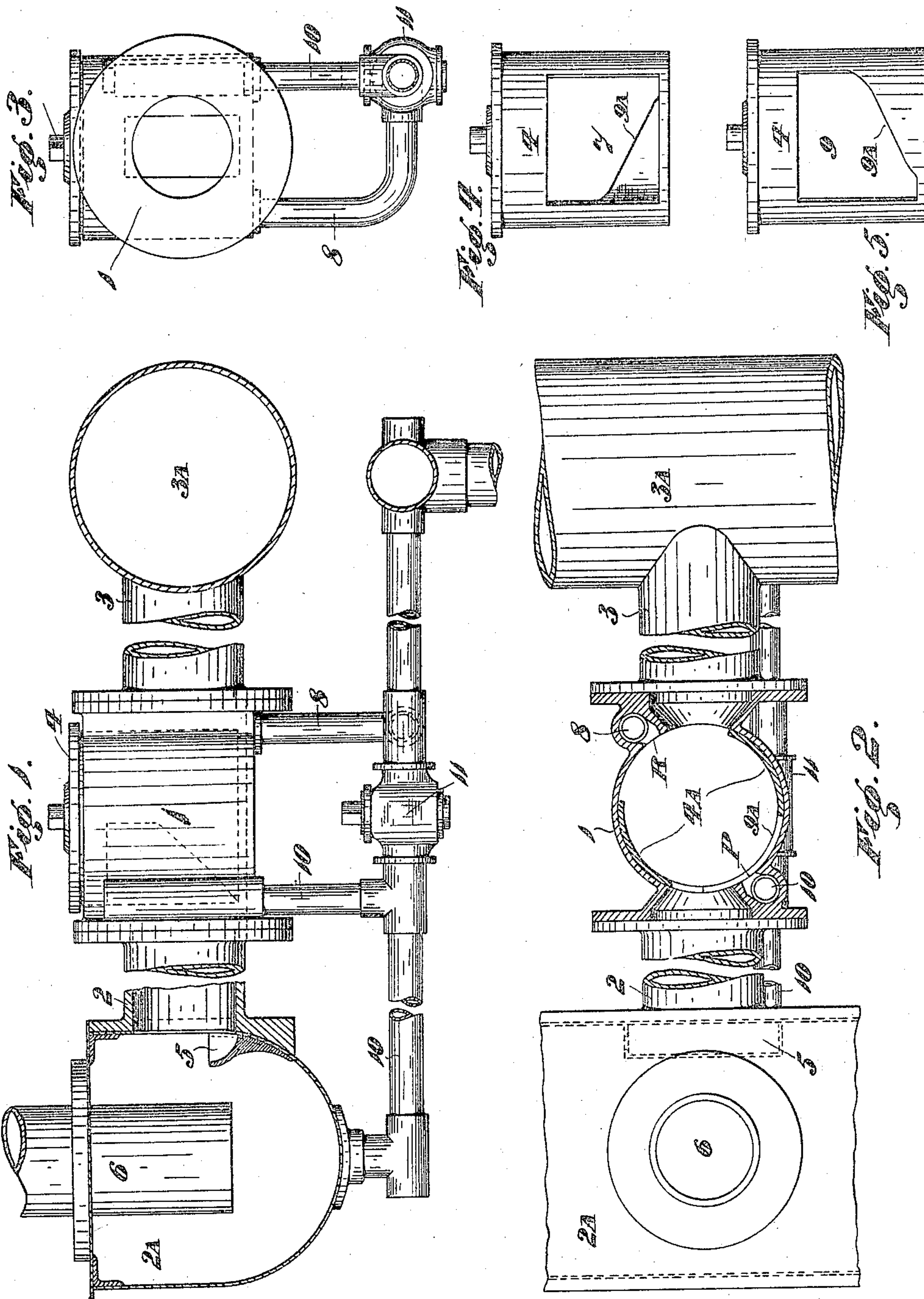
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T. REDMAN.

VALVE CONNECTED WITH GAS HYDRAULIC MAINS.

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Attest:

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UNITED STATES PATENT OFFICE.

THOMAS REDMAN, OF BOLTON, BRADFORD, ENGLAND.

VALVE CONNECTED WITH GAS HYDRAULIC MAINS.

SPECIFICATION forming part of Letters Patent No. 793,679, dated July 4, 1905.

Application filed November 18, 1904. Serial No. 233,344.

To all whom it may concern:

Be it known that I, THOMAS REDMAN, a subject of the King of Great Britain and Ireland, residing at The Priory, Bolton, Bradford, in the county of York, England, have invented certain Improvements in and Relating to Valves Connected with Gas Hydraulic Mains, (for which I have made application for a patent in Great Britain, No. 22,110, dated the 14th day of October, 1904,) of which the following is a specification.

This invention relates to certain improvements in valves applicable for use in gas-works for connecting together a hydraulic main with the "foul-main" range of pipes; and the object is to so construct and connect the valves that gas, tar, and liquor entering the hydraulic main may flow through said valve as generated and to allow the gas to pass, but to stop the flow of tar and liquor through the valve for a time when more seal to the dip-pipes is required; also, to be enabled to reduce the seal or completely unseal the dip-pipes when necessary and to entirely stop the flow of gas, tar, and the like through the valve when desired; also, to provide means for the speedy refilling of the hydraulic main to the depth for the resealing of said pipes.

In describing my invention in detail reference is made to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents an elevation of a hydraulic main and foul-main shown in section with my improved valve placed between them. Fig. 2 is a plan of same, showing the valve in section. Fig. 3 is an end view of valve, showing the elongated opening through branch into circular cavity for shell-plug. Fig. 4 is a view of the shell-plug removed from valve-casing, showing one of the openings through plug; and Fig. 5 is a similar view showing the other opening through plug-wall, the said opening having an inclined sill.

In carrying out my invention I form a suitable valve-casing 1 and secure same to branches 2 and 3 of the hydraulic main 2^A and foul-main range of pipes 3^A. The valve-casing 1 is provided with a hollow shell-plug 4, machined to fit the interior of casing and

adapted to be rotated therein in any convenient manner. Through the circular wall of each plug openings are formed admitting a full-way passage between the before-mentioned mains and through intervening valve, or when the shell-plug is turned to the position bringing the two webs or shutter-covers 4^A of circular wall opposite the branches 2 and 3 the passage is entirely closed. The hydraulic main is provided with a shield 5 for retaining the level of tar and the like within hydraulic main above the bottom of branch opening 2 and dip-pipes 6, the latter of which are inserted in the hydraulic main 2^A in the ordinary manner. The depth of seal to said pipes is controlled as follows: In shell-plug 4 is an opening 7, extending some distance upward from near bottom of plug, as shown by Fig. 4, and when the plug is in the position shown by Fig. 2 said opening communicates with outlet branch 3 and drain-pipe 8. An opening 9 on the opposite side of plug is in a position to engage with branch 2 and a port-hole in connection with pipe 10.

The base of opening 9 in shell-plug commences at or about level with the bottom of opening through branch 2 and inclines upward, forming a circumferential inclined plane 9^A, the remainder of opening being of any suitable configuration, such as shown by Fig. 5. On adjusting the rotary position of said plug so that the inclined plane 9^A is brought opposite branch 2 and port-hole P and on turning the plug a little to the right or left it will be obvious that the depth of port-hole P is more or less covered and the amount of opening through outlet branch 3 and port-hole R unaltered.

The outlet for tar and the like from hydraulic mains of the type named is through pipe 10, connecting bottom of hydraulic main with interior of valve-casing, and the tar and the like escaping through said pipes passes through port-hole P and over sill 9^A of inclined opening into center of shell-plug, from which it escapes by passing through opening 7 and port-hole R to drain-pipe 8, suitably sealed at open end. This pipe is shown connected to pipe 10 by a flushing valve or tap 11, on the opening

of which pipes 10 and 8 may be flushed by the release of tar and the like stored in hydraulic main. On turning shell-plug 4 so that the sill of inclined opening 9^A uncovers the bottom portion of port-hole P the tar and the like will run off from hydraulic main through pipe 10 to an extent so as to unseal dip-pipes 6, the liquid, as before described, passing across interior of shell-plug to port-hole R, through which it escapes to drain-pipe 8. In order to fill up the hydraulic main and reseal the dip-pipes quickly, shell-plug 4 is rotated to the position in relation to port-hole P for the sill 9^A of inclined plane to give the desired depth of seal. The refilling of the hydraulic main to the desired level may be accomplished by opening a valve or tap in a pipe connecting said hydraulic main with a supply-cistern.

After reading the manner of performance or function of the valve as described it will be understood that with unshielded hydraulic-main outlets the depth of seal to the dip-pipes can be accomplished by the sill 9^A of inclined plane covering up to some extent the bottom of opening through branch 2. The tar and the like then runs over said sill from branch into the interior and across the shell-plug, as before described.

What I claim as my invention is—

1. A valve comprising a casing having pipe connections thereto and a rotary shell-plug having openings 7 and 9 through same, the sill of latter opening inclined circumferentially substantially in the manner and for the purpose set forth.

2. A valve comprising a valve-casing having port-holes therein and a rotary shell-plug having openings 7 and 9 through same, the sill of latter opening inclined at 9^A said openings combined with port-holes through valve-casing and pipe connections therewith for the purpose substantially as described.

3. A valve comprising a casing, pipe connections thereto, said casing having port-holes therein, pipes 8 and 10 leading from said holes and a shell-plug in said casing having openings 7 and 9, the sill of opening 9 being inclined circumferentially at 9^A, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

THOMAS REDMAN.

Witnesses:

RALPH REDMAN,
JOHN GILL.