

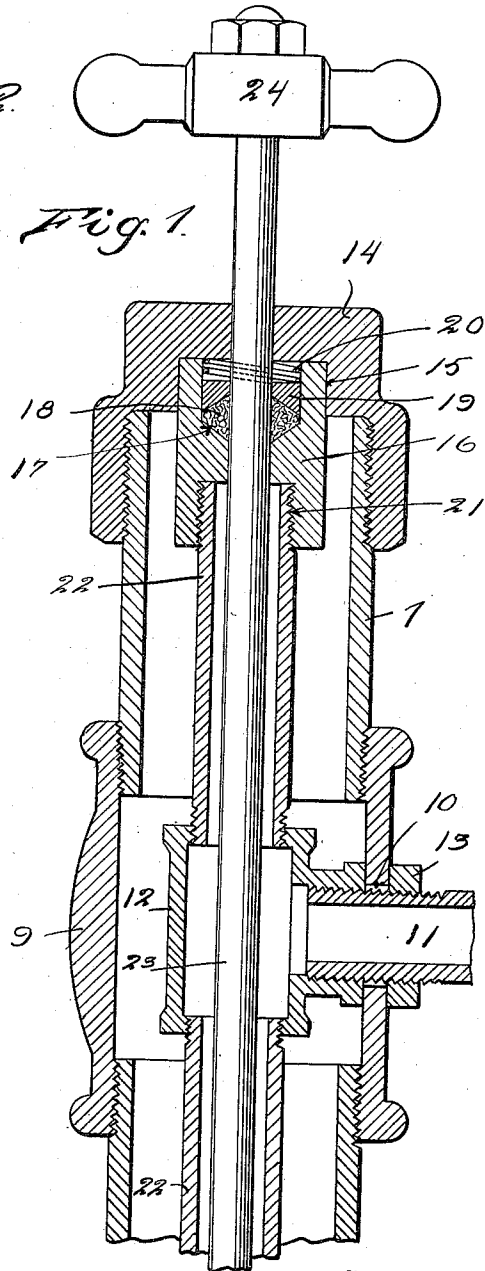
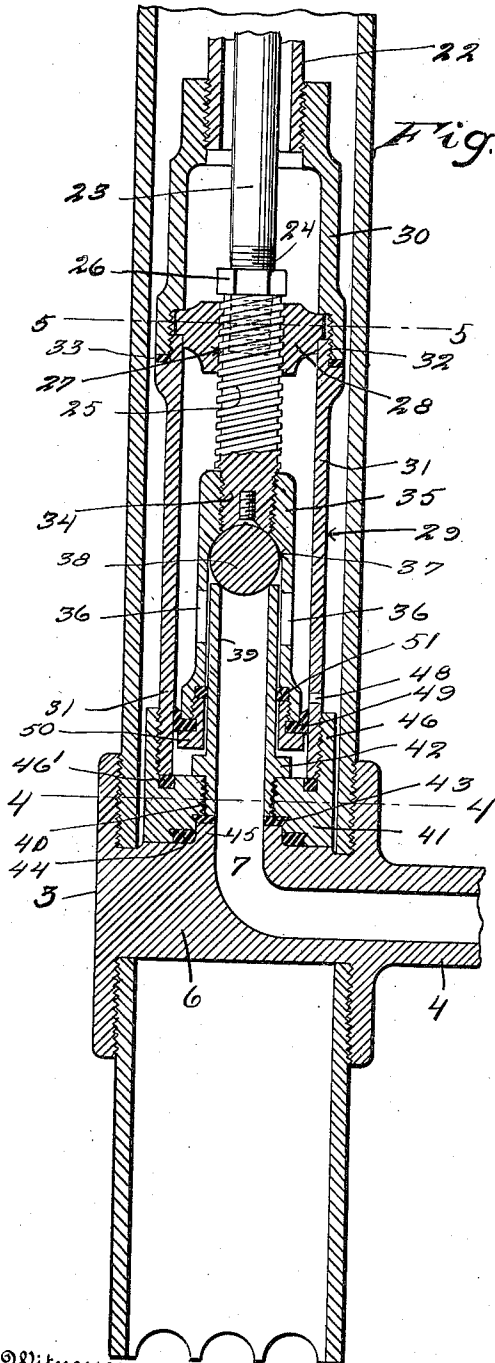
M. N. PHILLIPS.  
HYDRANT.

APPLICATION FILED MAY 15, 1912.

1,062,356.

Patented May 20, 1913.

2 SHEETS—SHEET 1.



Witnesses  
J. Milton Jester  
B. P. Kuhlman

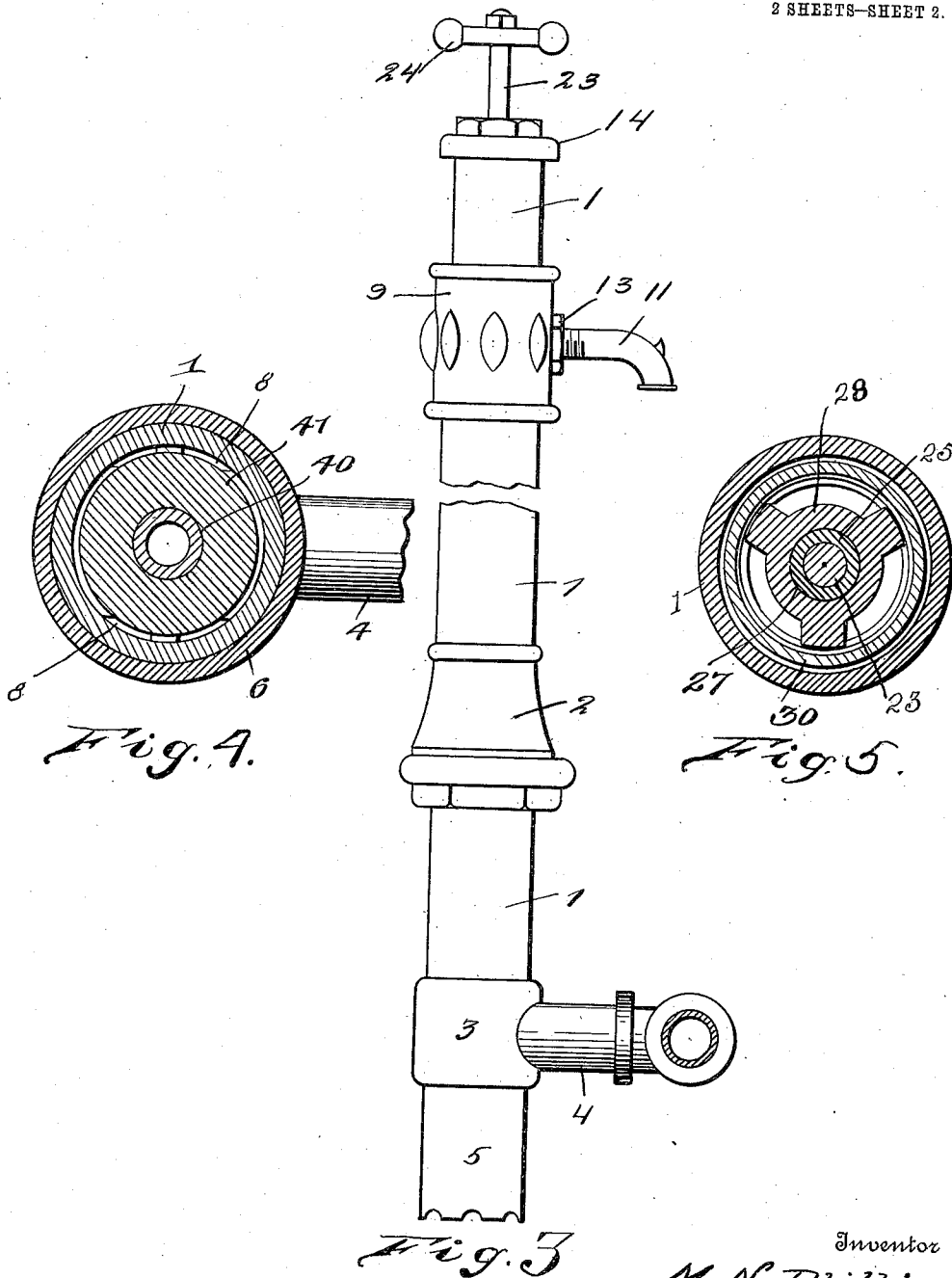
By

Inventor  
M. N. Phillips  
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Witnesses  
J. Milton Jester  
B. J. Johnson

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# UNITED STATES PATENT OFFICE.

MARTIN N. PHILLIPS, OF ELIZABETHTOWN, KENTUCKY.

## HYDRANT.

1,062,356.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed May 15, 1912. Serial No. 697,434.

*To all whom it may concern:*

Be it known that I, MARTIN N. PHILLIPS, a citizen of the United States, residing at Elizabethtown, in the county of Hardin and State of Kentucky, have invented certain new and useful Improvements in Hydrants, of which the following is a specification.

The present invention relates to certain new and useful improvements in hydrants.

10 An important object of this invention is to provide a hydrant so constructed that the operating parts thereof may be easily and quickly removed from the outer casing or stand pipe without disturbing the same, for  
15 the purpose of cleansing or repairing said operating parts.

A further object of the invention is to provide a hydrant which will operate in a highly satisfactory manner and is durable.

20 A further object of the invention is to provide novel means for holding a ball valve, which regulates the passage of water into the discharge pipe, whereby said valve is continuously revolved or moved so that  
25 deposits will not form thereon.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a  
30 part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a central longitudinal sectional view through the upper portion of the hydrant, Fig. 2 is  
35 a similar view through the lower portion thereof, Fig. 3 is a side view of the entire hydrant, portions thereof being broken away, Fig. 4 is a horizontal sectional view taken on line 4—4 of Fig. 2, and, Fig. 5 is  
40 a similar view taken on line 5—5 of Fig. 2.

In the drawings wherein for the purpose of illustration, I have shown a preferred embodiment of my invention, the numeral 1 designates an outer casing or stand pipe, which may be formed of a single pipe or in  
45 any suitable number of sections. Disposed upon the outer casing 1 in a desired vertical position with relation thereto is a base 2, clamped to the same by a chisel bur or other  
50 means. Connected with the lower end of the outer casing 1 is a T-coupling 3, carrying a short pipe 4 to be suitably connected with a main (not shown). A drain cup 5  
55 has screw-threaded engagement at its upper end with the coupling 3, as more clearly shown in Fig. 2. The T-coupling 3 com-

prises a diametrically arranged section of material or web 6, having an opening or port 7 formed therethrough, which is in free communication with the opening of the  
60 short pipe 4. Upon opposite sides of the web 6 are openings or passages 8, serving to establish communication between the lower end of the outer casing 1 and the upper end of the drain cup 5. Connected in  
65 the outer casing 1 near and spaced from the upper end thereof, is a sleeve or coupling 9, preferably having screw-threaded engagement therewith, as shown. The coupling 9 has an opening 10 formed through its sides,  
70 for receiving the inner screw-threaded end of a discharge spout 11. The inner screw-threaded end of this discharge spout has screw-threaded engagement and is detachably connected with a T-coupling 12, dis-  
75 posed concentrically within the coupling 9, as clearly shown in Fig. 1. A clamping nut 13 engages the screw-threaded portion of the spout 11 outwardly of the coupling 9 and serves to lock such spout against accidental  
80 movement.

The numeral 14 designates a cap, which has screw-threaded engagement, and is detachably connected, with the upper end of the outer casing 1. This cap 14 is provided  
85 upon its inner face with a cylindrical recess 15, for receiving the upper end of a combined stuffing box and coupling 16. The upper end of this combined stuffing box and coupling 16 is provided with a recess 17,  
90 receiving suitable packing 18, engaged by a ring 19, which is forced downwardly by a compressible coil spring 20. The lower end of the combined stuffing box and coupling 16 is provided with a screw-threaded recess 21,  
95 for receiving the upper screw-threaded end of a conducting or discharge pipe 22. The T-coupling 12 is connected in this conducting pipe 22 and has screw-threaded engagement with parts thereof, as shown. The  
100 numeral 23 designates a valve stem or rod extending axially through the conducting pipe 22 and passing through suitable openings in the combined stuffing box and coupling 16 and cap 14, as shown.  
105

Rigidly connected with the upper end of the valve stem or rod 23 is a handle 24, by means of which the valve stem may be turned on its longitudinal axis. The lower  
110 end of the valve stem or rod 23 is screw-threaded, as shown at 24, for engagement within a screw-threaded opening formed in

the upper end of an operating screw 25. This screw-threaded portion 24 carries a locking nut 26, adapted to clamp against the upper end of the operating screw 25 to positively prevent relative rotary movement between the stem 23 and said operating screw 25. The operating screw 25 passes through a screw-threaded opening 27 formed centrally through a three-arm spider 28. Disposed within the lower portion of the outer casing 1 is an intermediate casing 29, comprising upper and lower sections 30 and 31, having screw-threaded engagement, as shown at 32. A packing ring 33 is preferably interposed between the adjacent ends of the sections 30 and 31. The upper section 30 has screw-threaded engagement with the lower end of the conducting pipe 22. The arms of the spider 28 are clamped between portions of the sections 30 and 31, and thus held stationary. It is seen that by turning the stem 23, the operating screw 25 is also turned, whereby said operating screw is raised or lowered.

The operating screw 25 is provided with a reduced screw-threaded extension 34, engaging within a screw-threaded opening formed in the upper end of a valve casing 35. This valve casing is tubular and is provided at diametrically opposite points between the ends thereof, with openings 36. The upper end wall of the main opening of the tubular valve casing 36 is substantially semispherical, as shown at 37, to receive a ball valve 38. This ball valve is adapted to engage the upper end of a tubular valve seat 39, which telescopes the tubular valve casing 35. The lower end of the tubular valve seat 39 is screw-threaded, as shown at 40, to engage within a screw-threaded opening formed in a head 41. This tubular valve seat 39 is provided with an annular flange 42, which engages the head 41, as shown. A packing ring 43 is interposed between portions of the tubular valve seat 39, head 41, and the web 6, as shown. A packing ring 44 fits within an annular groove formed in the lower end of the head 41 and surrounds an upstanding boss 45 of the web 6, as shown. The head 41 carries an upstanding approximately annular flange 46, internally screw-threaded for engagement with the screw-threaded lower end of the section 31. This lower end of the section 31 engages a packing ring 46', as shown. The head 41 is formed smaller in diameter than the internal dimension of the outer casing 1, to provide an annular space in free communication with openings 8. The section 31 is provided near its lower end and above the flange 46 with a drain opening 48, adapted to be covered and uncovered by an annular packing ring 49, disposed in engagement with the lower end of the valve casing 35. This packing ring 49 is held in place by a

screw-threaded clamping ring 50 extending within the lower screw-threaded end of the tubular valve casing 35, as shown. The numeral 51 designates a packing ring held in place by the upper end of the clamping ring 50, such packing ring 51 slidably engaging the tubular valve seat 39.

The operation of the device is as follows:—When it is desired to obtain a discharge of water, handle 24 is suitably turned to elevate the operating screw 25, which raises the tubular valve casing 35, whereby the ball valve 38 is released and will be unseated by the pressure of the water and at about the same time the packing ring 49 will be elevated to cover or close the drain opening 48. The water passes through the short pipe 4, port 7, tubular valve seat 39, about ball valve 38, whereby it is turned or rolled to prevent deposits thereon, openings 36, intermediate casing 29, conducting pipe 22, and finally through the spout 11. By turning the handle 24 in a reverse direction, the ball valve 38 is seated to cut off the flow of water, while the drain opening 48 is uncovered, thus allowing the water held in the several parts of the device to discharge downwardly through openings 8 into the drain cup 5. When it is desired to remove the operating parts of the hydrant from within the outer casing 1, the cap 14 is unscrewed from the upper end of the casing 1, whereby such parts, including the head 41, may be readily removed and will remain in their assembled state until they are separated, which may be readily accomplished subsequently to their removal.

It is to be understood that the form of my invention herewith shown and described, is to be taken as a preferred example of the same, and that certain changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. A hydrant of the character described, comprising an outer casing, a coupling connected with the lower portion thereof to be connected with a water supply pipe, an intermediate casing connected with a portion of the coupling, a conducting pipe connected with the upper end of the intermediate casing, a spout connected with the upper end of the conducting pipe and extending through the outer casing, a valve stem extending through the conducting pipe, an operating screw connected with the lower end of the valve stem, a spider having a screw-threaded opening to receive the operating screw and held stationary within the intermediate casing, a tubular valve casing connected with the operating screw, a valve mounted in the tubular valve casing, and a

tubular valve seat telescoping the tubular valve casing and having free communication with the water supply pipe.

2. A hydrant of the character described, comprising an outer casing, a coupling connected with the lower end thereof and adapted to be connected with a water supply pipe, an intermediate casing disposed in the lower portion of the outer casing, a head closing the lower end of the intermediate casing, a tubular valve seat mounted upon the head and having its axial opening in free communication with the opening of the coupling, said intermediate casing being provided with a drain opening, a tubular valve casing telescoping the tubular valve seat and provided with an opening and carrying a ring adapted to cover and uncover said drain opening, a freely rotatable ball valve disposed in the valve casing above the tubular valve seat, a conducting pipe connected with the upper end of the intermediate casing, and means to raise and lower the tubular valve casing.
3. A hydrant of the character described, comprising an outer casing, an intermediate casing formed of two sections having screw-threaded engagement, a spider provided with a screw-threaded opening and having its arms clamped between portions of the sections of the intermediate casing, an operating screw passing through the screw-threaded opening of the spider, a valve casing connected with the operating screw, a valve mounted within the valve casing above the tubular valve seat, a conducting pipe connected with the upper section of the intermediate casing, and a stem connected with the operating screw.
4. A hydrant of the character described, comprising an outer casing, an intermediate

casing disposed therein, a conducting pipe connected with the intermediate casing, a spout extending through an opening in the outer casing and detachably connected with the conducting pipe, a cap detachably connected with the upper end of the outer casing, a combined stuffing box and coupling engaging the cap and having connection with the conducting pipe, a stem extending through the cap, combined stuffing box and coupling, and conducting pipe, and means operated by said stem to control the flow of water through the conducting pipe.

5. A hydrant of the character described, comprising an outer casing, a coupling connected with the lower end thereof and provided with a web extending therethrough having a port and forming diametrically arranged openings upon opposite sides of said web, a drain cup connected with the lower portion of the coupling and having free communication with the lower portion of the outer casing through said diametrically arranged openings, an intermediate casing disposed within the outer casing and provided with a drain opening, a valve casing operating within the intermediate casing and carrying means to cover and uncover the drain opening, a tubular valve seat in free communication with said port and telescoping the tubular valve casing, a valve disposed within the valve casing, a conducting pipe connected with the intermediate casing, and means to raise and lower the valve casing.

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

MARTIN N. PHILLIPS.

Witnesses:

W. C. MONTGOMERY,  
H. L. JAMES.