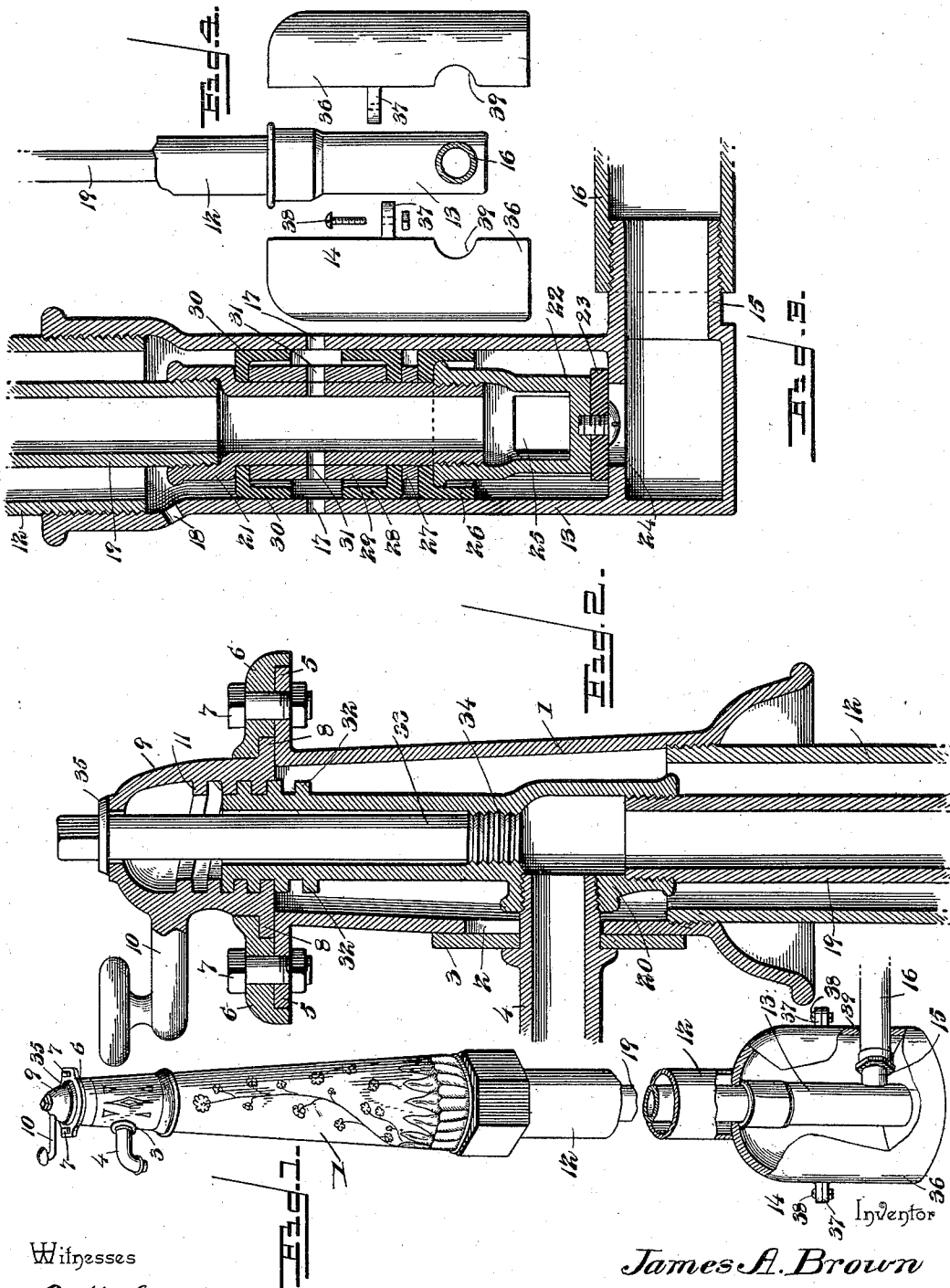


(No Model.)

J. A. BROWN.
HYDRANT.

No. 586,092.

Patented July 13, 1897.



Witnesses

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JAMES A. BROWN, OF MITCHELL, SOUTH DAKOTA.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 586,092, dated July 13, 1897.

Application filed June 3, 1895. Serial No. 551,582. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. BROWN, a citizen of the United States, residing at Mitchell, in the county of Davison and State of South Dakota, have invented a new and useful Yard-Hydrant, of which the following is a specification.

This invention relates to hydrants, and has for its object to reduce the friction of the operating parts, to secure a direct flow and strong pressure of water, to insure a responsive action upon rotating the operating-handle either to open or close the valve, to lessen the chances of freezing, to provide for a quick and easy thawing out in the event of freezing, to obviate the banking of the earth around the lower end of the hydrant, so that the water may drain off quickly, and, lastly, to improve the general construction and arrangement of the parts whereby the effectiveness and usefulness of the device are increased.

Other objects are contemplated, and to a full knowledge of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a hydrant constructed in accordance with this invention, parts being broken away. Fig. 2 is a sectional detail of the upper portion of the hydrant. Fig. 3 is a sectional detail of the lower portion of the hydrant. Fig. 4 is a detail view showing the parts of the sand-cup separated and placed upon opposite sides of the lower portion of the hydrant.

The same reference-numerals denote corresponding and like parts in all the figures of the drawings.

The numeral 1 designates the body or casing of the hydrant, and is formed in one or more sections and has an opening 2 in its side near the upper end, and which is closed by a plate 3, mounted upon the nozzle 4. The

upper end of the body terminates in an outer flange 5, upon which is fitted a ring 6, and which is secured thereto by bolts 7, said ring being rabbeted at its inner peripheral edge to provide an annular groove, into which is fitted an outer flange 8 at the lower end of a cap 9, the latter being provided with a handle 10, by means of which the cap is rotated to effect an opening and closing of the valve, as will appear more fully hereinafter. This cap 9 is internally threaded, as shown at 11, the thread being about four to the inch, whereby a quick motion is attained for opening and closing the valve upon rotating the said cap. A stand-pipe 12 connects with the lower end of the body or casing 1 and may be of any required length to suit the depth of the service-pipe, and is provided at its lower end with the valve-casing 13 and the sand-cup 14, the latter encircling or housing the valve-casing 13 and of such relative size as to prevent the banking of the earth around the valve-casing and to contain a sufficient quantity of waste water in the event of the hydrant being opened and closed a number of times in quick succession.

The valve-casing 13 has a threaded nipple 15 at its side, to which is coupled the service-pipe 16, by means of which water is conveyed from the main to the hydrant. Openings 17 and 18 are formed in the sides of the valve-casing at different elevations and provide escapes for the water remaining in the stand-pipe and discharge-pipe after the hydrant is closed, and thereby obviating freezing.

The discharge-pipe 19 is supplied at its upper end with a T-coupling 20, to which is attached the nozzle 4, and has a plunger 21 at its lower end to operate in the valve-casing 13, said plunger having a cap 22 at its lower end, provided with a valve 23, which closes an ingress-opening 24 within the lower portion of the valve-casing and above the nipple 15. An opening 25 is formed in the side of the cap 22 and affords a passage for the water from the valve-casing into the plunger and thence to the discharge-pipe, and this opening is located above the valve 23, the latter shutting off the supply of water when seated. A leather or rubber washer 26 encircles the lower portion of the plunger and is held between the upper end of the cap 22 and a ring

27 and is designed to prevent the passage of the water into the upper portion of the valve-casing and the stand-pipe. A similar washer 28 is confined between the ring 27 and a sleeve 29 and extends across the openings 17 to close the latter when the valve 23 is unseated, thereby preventing the wanton waste of the water. A third washer 30, similar to the washers 26 and 28, is secured between the upper end of the sleeve 29 and a shoulder near the upper end of the valve-casing and is intended to prevent the escape of the water from the plunger into the stand-pipe. Openings 31 are had in the sides of the plunger and sleeve 29 at a point about midway between the washers 28 and 30 and register with the openings 17 when the valve 23 is closed, thereby admitting of the escape of the water from the discharge-pipe when the hydrant is not in use, thereby obviating freezing.

The upper end of the T-coupling 20 is in line with and forms in effect a continuation of the discharge-pipe 19, and is externally threaded at 32 to correspond with the thread 11, so that upon rotating the cap 9 the discharge-pipe with its attached parts will be reciprocated or moved vertically in the stand-pipe and casing, so as to unseat the valve 23 or seat the same accordingly as it is required to draw water or close the hydrant. A rod or plug 33 extends through an opening in the upper end of the cap 9 and has its lower end threaded and screwing into a threaded portion 34 of the T-coupling above the nozzle 4, so as to completely and effectually close the upper portion of the T-coupling or discharge-pipe at a point above the nozzle. An outer flange 35, near the upper end of the plug 33, extends over the opening in the cap through which the plug passes, and that portion of the plug above the flange 35 is made angular or otherwise constructed to receive a tool or wrench by means of which the plug can be unscrewed when it is required to remove it to gain access to the interior of the discharge-pipe for the purpose of thawing the same in the event of the hydrant freezing. After the plug is removed a heated object or medium, such as a hot rod, can be introduced into the discharge-pipe 19 and will thaw the same out, as will be readily understood.

The sand-cup 14 is preferably formed of similar parts 36, which are fitted about the valve-casing and which are held together by being provided with ears 37, which overlap when the parts 36 are brought together, and which have registering openings, through which are passed bolts or pins 38, notches 39 being formed in the edges of the parts 36 to receive the service-pipe 16. This sand-cup is of sufficient capacity to receive the waste water from the discharge-pipe 19 a number of times, thereby admitting of the water escaping quickly from the discharge-pipe should the hydrant be opened and closed a number of times in quick succession.

Having thus described the invention, what is claimed as new is—

1. In a hydrant, the combination of a body, a valve-casing connected with the lower end of the body, a discharge-pipe extending through the body and having a valved plunger at its lower end to control the supply of water, a centrally-apertured cap rotatably fitted to the upper end of the body and having a screw-thread connection with the discharge-pipe to move the latter vertically upon turning the said cap, and a plug passing through the cap and removably fitted within the upper end of the discharge-pipe to close the same, and providing means for thawing the discharge-pipe and hydrant, substantially as set forth.

2. In a hydrant, the combination with the body having an outer flange at its upper end and a valve-casing connected with its lower end, and a discharge-pipe extending through the body and having a valved plunger in connection with its lower end to control the supply of water, of a cap rotatably fitted to the upper end of the hydrant-body and having an outer flange at its lower end and formed with an outer handle and an inner thread, a ring secured to the flange of the body and having its inner edge rabbeted to receive the outer flange of the cap, a T-coupling secured to the upper end of the discharge-pipe and forming a continuation thereof and exteriorly threaded at its upper end to match with the inner thread of the cap, whereby upon rotating the latter the discharge-pipe will be reciprocated within the hydrant-body and a plug fitted into the upper end of the T-coupling and operating through the cap, substantially as and for the purpose set forth.

3. In a hydrant, the combination of a body having a valve-casing provided with escape-openings connected with its lower end and having an outer flange at its upper end, a discharge-pipe located within the hydrant-body and having a valved plunger at its lower end to control the water-supply and the escape-openings of the valve-casing, a T-coupling having connection with the upper end of the discharge-pipe and having an exterior thread at its upper end and interiorly threaded at a point above its horizontal branch, a cap rotatably secured to the upper end of the body and having a handle and inner thread to match with the outer thread of the T-coupling, and a plug passing centrally through the cap and into the upper portion of the T-coupling and having positive connection with the inner threaded portion thereof, and having an outer flange near its upper end to extend over the opening in the cap, and having its outer portion made angular, substantially as set forth for the purpose specified.

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Witnesses:

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