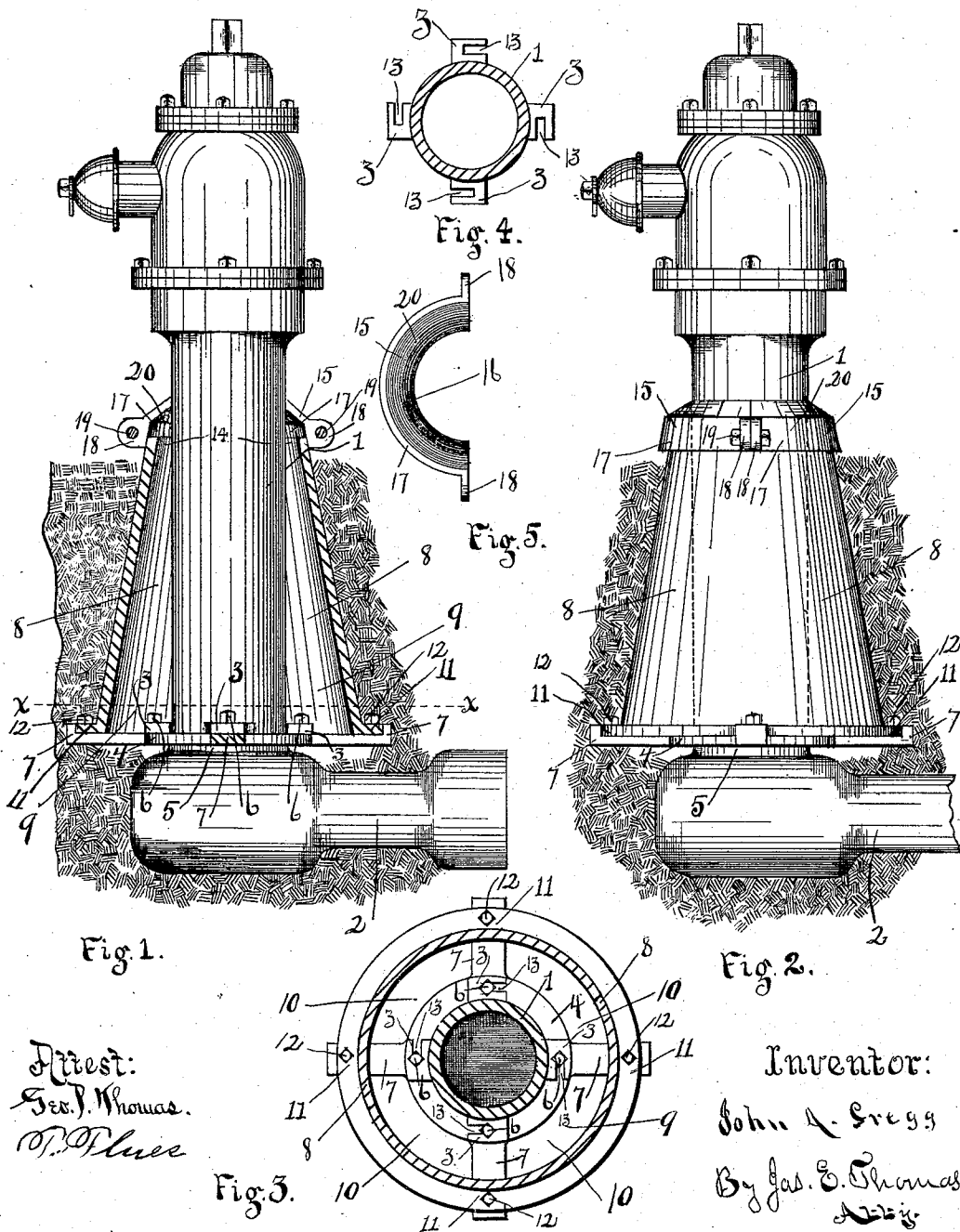


(No Model.)

J. A. GREGG.
HYDRANT.

No. 484,197.

Patented Oct. 11, 1892.



Witness:
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UNITED STATES PATENT OFFICE.

JOHN A. GREGG, OF WEST BAY CITY, MICHIGAN.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 484,197, dated October 11, 1892.

Application filed March 14, 1892. Serial No. 424,828. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. GREGG, a citizen of the United States, residing at West Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Hydrants, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in hydrants; and it consists in the combination, with the vertical hydrant-column, of an outer casing or jacket for inclosing the lower portion of the column, and with the upper end of the jacket fitted to the column and with its sides diverging in a conical form for inclosing an annular chamber between the column and the jacket, and with the lower end of the chamber open to receive the gases from the earth below; and the invention also consists in the construction, arrangement, and combination of the parts, together with the operation of the same, as I shall hereinafter explain in detail, and which will also be especially set forth in the claims.

The objects of the invention are to provide means for preserving the lower portion of a hydrant-column and the valve contained therein from the action of cold and frost, whereby the valve is rendered at all times free and easily operated, and the connections and joints are preserved against leakage and breakage.

Another object is to provide a jacket for the lower portion of a hydrant to protect the column and the valve from the action of frost and at the same time to allow the earth inclosing the lower portion of the jacket to heave and expand by the action of frost without lifting the column.

Another object is to provide a jacket for the lower portion of a hydrant-column which will direct the leakage and overflow of water from the use of the hydrant, and also the water from rain-storms and melted snow away from the lower portion of the hydrant-column, and which will at the same time receive the contracting force of freezing earth around its base and leave the column free from liability of being broken and leaky from the action of frost. I attain these objects by the devices shown in the accompanying drawings, in which—

Figure 1 represents my invention in vertical section as attached to a hydrant-column. Fig. 2 is a view of the same in elevation. Fig. 3 is a horizontal section of Fig. 1, taken at *xx*. Fig. 4 is a transverse section of the lower end of the hydrant-column, shown detached. Fig. 5 is a plan view of one of the cap-sections detached.

1 represents a hydrant-column of any desired form and construction, and 2 is a branch from the water-main connected to the lower end of the column by radial lugs 3 on the base of the column and a radial flange 4 on the upwardly-turned portion 5 of the pipe 2, the lugs 3 being each provided with a slot 13, while the flange 4 is provided with bolts 6, tapped into the flange, so that when the lugs 3 are placed upon the flange 4 the column can be turned to pass the slots 13 over the bolts below their head portions, and the bolts are then tightened to draw the parts together in the usual manner, and this allows the bolts to be loosened and the column to be turned until the bolts are free from the slots, and the column may then be removed for repairs or replacement, as will be more fully explained presently.

7 are a series of lugs extending from the outer edge of the flange 4, with a suitable space between, and on the outer portion of these lugs rests the base of a jacket 8, which has a conical form and surrounds the lower portion of the hydrant-column, its upper end being of a dimension to provide an annular space 14 between the jacket and the column just above the surface of the earth, in which the lower part of the column is embedded, while the base of the jacket is of such a dimension as to provide an annular space or chamber 9 between the column and the jacket, and also to leave openings 10 from the earth below to the chamber 9 between the lugs.

20 is a cap or cover for closing the upper end opening of the chamber 9, and this cover 20 is composed of two halves or sections 15, as shown in Fig. 5, each having an inner recess 16 for inclosing one-half of the column, and is provided on its periphery with a downwardly-extending flange 17, fitted to pass tightly over the upper end of the jacket, and is also provided on its end portions with radially-projecting ear-pieces 18, which when the

two sections are in position to cover the upper end of the jacket the parts are firmly clamped together by bolts 19, passed through the ear-pieces.

5 The lower edge of the jacket is provided with a radially-extending flange 11, which rests upon the lugs 7, and bolts 12 are passed through the flange and the lugs for holding the jacket in place. When the jacket is thus firmly
10 fixed in place and secured to the lugs 7, the cap-sections are then placed in position and secured, and the earth is then filled in around the jacket nearly to its upper end portion, and should it become necessary to repair the
15 hydrant the cap-sections are loosened and removed, and then a wrench fitted to the heads of the bolts 6 is passed downward through the opening 14 and the chamber 9 and engaged with the bolt-heads, which being loosened allows the hydrant-column to be turned
20 to disengage the bolts from the slot 13, and the column may then be lifted out and again replaced and the parts adjusted without digging or otherwise disturbing the earth which incloses the jacket. The branch pipe 2 and
25 the lower portion of the hydrant-column being placed in the earth below the action of frost and the lower portion of the jacket being also below the action of frost and within
30 the influence of the warmth derived from the earth below the frost-line, the chamber 9, which is open below and with a free communication with the heat radiating from the warmer strata of earth below, brings the air
35 contained in the chamber 9, by means of the usual circulation on account of the greater area below and the limited area of air-space at the top to a temperature above the freezing-point, and as this temperature surrounds
40 the lower portion of the hydrant-column which contains the valve the column is kept free from frost and is always ready for being quickly opened when required for fire or other purposes, and the jacket being arranged for inclosing
45 a chamber of greater area at the bottom than at the top brings the outside of the jacket to the form of a cone, or so it has an upward taper, and this form when the surface of the earth freezes around the upper
50 portion of the jacket allows the earth to move upwardly by expansion without adhering to the periphery of the jacket, so that the hydrant-column remains solidly in position, notwithstanding the upheaval of the earth around

and in proximity thereto, and thus the liability of straining the joints of the column and branch pipe is obviated, so that leakage and the expense of repairs is prevented. It will also be noticed that by having the jacket separated from and outside of the hydrant
60 and arranged in the form of a cone, so that the bottom of the jacket is located at a considerable distance from the base of the hydrant-column, all water dripping or leaking from the hose connections is conducted away
65 from contact with the hydrant-column, so that when the earth saturated thereby freezes the jacket the chamber between the jacket and the column prevents the freezing from
70 effecting the column and provides a means of preserving the hydrant in a condition ready for use at all times.

Having described my invention, what I claim as new, and desire to secure by Letters
Patent, is—

1. The combination, with a vertical hydrant-column provided on its lower portion with radially-extending lugs, of a jacket of conical form around the lower portion of the column, and with its base resting upon and
80 bolted to said lugs, and with its upper end provided with a cover fitted around the column above the earth-line, and with a conical annular chamber between the column and the jacket and having openings between the lugs
85 to the base of the chamber, for the purpose set forth, substantially as described.

2. In a hydrant, the combination of the branch pipe 2, having an upwardly-turned portion 5, provided with radially-extending
90 flange 4, and with lugs 7, projecting from the flange, and with the bolts 6, tapped into and projecting above the flange, with the hydrant-column 1, with its lower end resting on said flange 4 and provided with lugs 3, having
95 slots 13, passed over the bolts 6 beneath their head portions, and a jacket 8 around the column and with its lower open end secured to said lugs 7 and having its upper end covered by a removable cap-piece fitted to encircle the body of the column, substantially as set forth.

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

JOHN A. GREGG.

Witnesses:

JAS. E. THOMAS,
GEO. P. THOMAS.