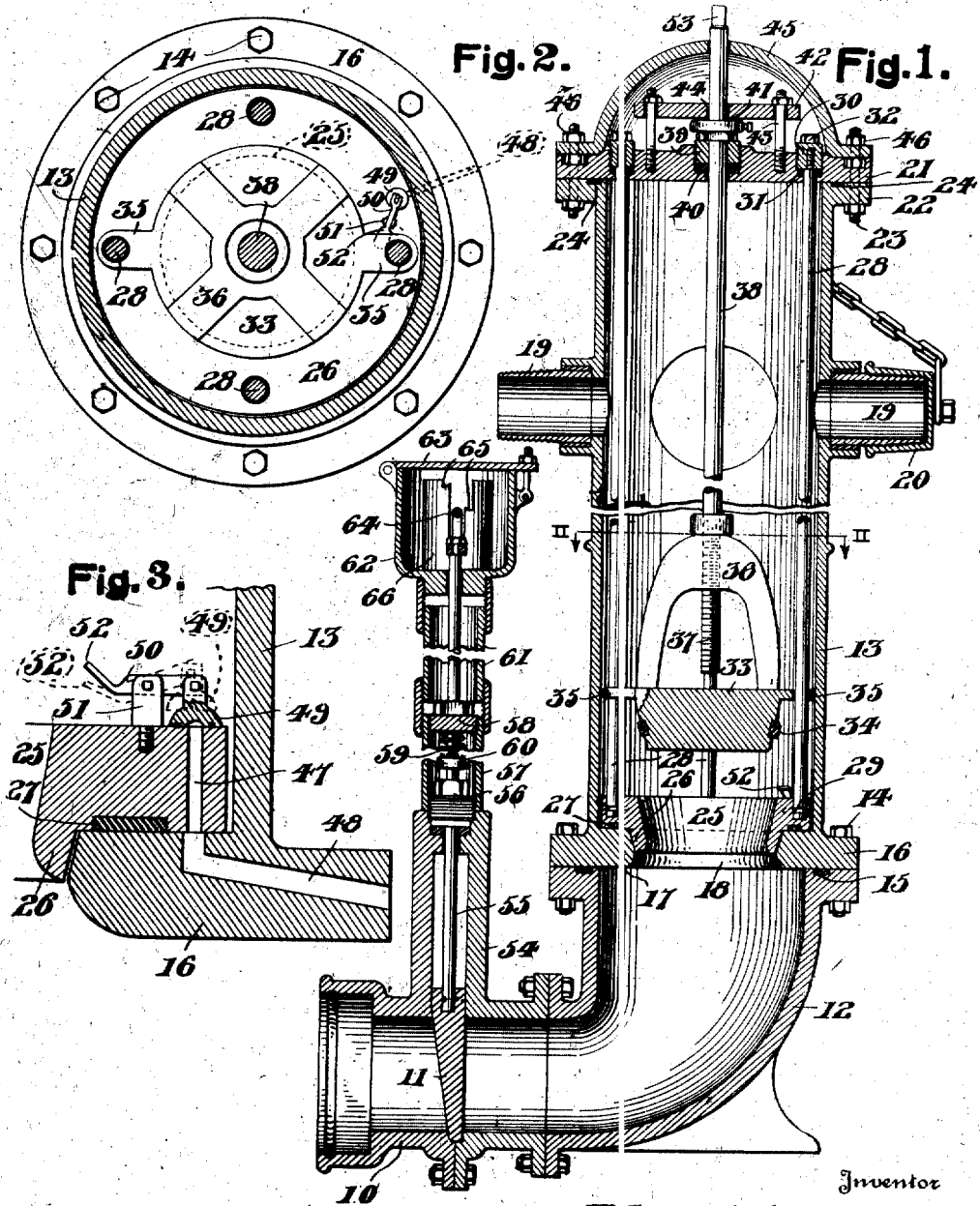


E. C. RIEBSAME.
WATER PLUG.
APPLICATION FILED DEC. 12, 1916.

1,216,167.

Patented Feb. 13, 1917



Inventor
Edward C. Riebsam

334

J. H. Clark

Attorney

UNITED STATES PATENT OFFICE.

EDWARD C. RIEBSAME, OF WILLIAMSPORT, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO LEWIS C. SMITH, OF WILLIAMSPORT, PENNSYLVANIA.

WATER-PLUG.

1,216,167.

Specification of Letters Patent.

Patented Feb. 13, 1917.

Application filed December 12, 1916. Serial No. 136,459.

To all whom it may concern:

Be it known that I, EDWARD C. RIEBSAME, a citizen of the United States of America, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Water-Plugs, of which the following is a specification.

This invention relates to certain new and useful improvements in street water system controlling means.

The primary object of the invention is the provision of suitable controlling devices for water conducting mains such as those arranged in streets whereby the water outlet is accurately controlled, a renewable valve mechanism which is readily removable being included in the structure.

A further object of the invention is the provision of an outlet member or hydrant for water mains, the same having a valve structure arranged beneath the freezing level of the surrounding soil readily operable from a point above the ground and having a normal firmly retained valve seat which may be easily removed for repairing and renewing.

A still further object of the invention is the provision of an outlet controlling means for water mains providing a removable valve seat having a normal retaining means upon which the valve member of the device is journaled, both the valve and its seat being removable either separately or collectively.

The present structure provides a cut-off valve in the form of a slide gate for the water main positioned adjacent the controllable outlet thereof, such gate being normally resiliently maintained in its closed position, means being provided for adjusting the same in its open relations.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and then claimed.

In the drawing forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:—

Figure 1 is a vertical central longitudinal sectional view through the device and through a cut-off gate arranged upon the

water main adjacent thereto, parts being broken away.

Fig. 2 is a horizontal transverse sectional view taken upon line II—II of Fig. 1, and,

Fig. 3 is an enlarged detail view of the drip mechanism employed.

Referring more in detail to the drawing, a water main 10 of the usual construction found in street service piping systems is herein illustrated provided with a cut-off or gate valve 11 operated in the manner hereinafter described while an elbow 12 is provided for the main upon which a tubular casing 13 after the manner of a hydrant is secured in upright position by means of bolts 14, an annular packing 15 being preferably provided between the adjacent ends of the casing and elbow for insuring a water-tight connection. The base 16 of the casing 13 projects inwardly as at 17 in an annular arrangement having a circular central seat or opening 18 arranged therein. It will be understood that the base 16 is to be arranged beneath the surface of the ground and below the freezing level thereof so that the water within the elbow 12 will be free from freezing while the upper portion of the casing 13 which is provided with outlet nipples 19 is arranged at a suitable distance above the level of the ground, caps 20 being provided for the said nipples in the usual well-known manner.

A cap or coping 21 is detachably mounted upon the upper rim 22 of the casing 13 by means of bolts 23, a suitable packing 24 being preferably arranged between the said rim and coping. An annular valve seat 25 is normally arranged upon the base portion 17 having a depending flange 26 frictionally engaging within the base opening 18 while an annular packing 27 is carried by the seat 25 between the same and the flange portion 17. Retaining rods 28 are swiveled as at 29 at their lower ends to the seat 25 while their upper ends are extended through the coping 21 having reduced threaded upper ends 30 arranged within threaded sockets 31 of the said coping while lock nuts 32 are threaded within said sockets 31 and upon extensions 33 for firmly seating the member 25 upon the annular base portion 17 in its operative position as a valve seat. It will be understood that when the coping 21 is in position and the nuts 32 are firmly attached to the upper ends of the rods 28, the said nuts may be

screwed into the sockets 31 thereby lowering the rods 28 and the valve seat 25 while said rods are free to turn upon the swivels 29. It will also be seen that by removing the coping 21, the rods 28 and valve seat 25 may be readily removed for re-grinding the seat 25 or renewing any desirable portion.

A valve 33 is arranged within the casing 13 adapted for reception within the seat 25 and provided with an annular packing 34 upon its outer face while side lugs 35 carried by the said valve are slidably arranged upon the rods 28.

A yoke 36 is carried by the valve 33 within which the threaded end 37 of an operating stem 38 is operatively threaded, the said stem being arranged axially of the casing 13 and freely extending through a centrally positioned block 39 threaded within a central socket 40 of the coping 21. A collar 41 is secured to the stem 38 above the block 39 while a retaining plate 42 is mounted above the collar 41 by means of bolts 43 attached to the coping 21, it being understood that the stem 38 freely extends through a central opening 44 in the said plate. A dome or cover 45 is mounted upon the coping 21 being secured thereto by the aforementioned bolts 23 having nuts 46 upon their upper ends.

A drip passage 47 is provided through the outer portion of the valve seat 25 adapted to communicate with an outlet port 48 arranged through the base 16 while a cup valve 49 controls the admission of fluid from the casing 13 to the passage 47. An operating lever 50 is attached to the valve 49 and pivotally mounted upon a post 51 carried by the seat 25, a projecting finger 52 of the said lever normally extending within the path of movement of the valve 33 whereby upon the closing of the said valve on its seat 25, the finger 52 will be depressed by engaging the valve 33, thereby opening the valve 49 permitting the water which remains within the casing 13 to freely escape through the passage 47 and outlet port 48.

The complete operation of the device having been described in the description of the structure and functions of each of its component parts, it is only necessary to note that by removing the coping 21 both the valve seat 25 and valve 33 are readily extracted from the casing 13 with the coping while by removing the nuts 30 from the rods 28, the coping 21 and the valve 33 with its stem 38 may be removed, allowing the seat 25 to remain within the casing, an essential consideration being the adjustment of the tension of the seat 25 within the base opening 18 by means of the nuts 30 while the swiveled rods 28 also function as guides for the valve 33 preventing any rotation of the latter whereby the threaded stem may

be rotated by applying any suitable member such as a wrench (not shown) to the squared upper end 53 thereof for reciprocating the valve 33 with respect to its seat 25.

The gate valve 11 being of plate form 70 slidably positioned within a housing 54 of the usual form, a stem 55 is swiveled to the valve and extends through a journaling nut 56 in the top of the housing and to which nut a tube 57 is secured. A block 58 is arranged within the tube 57 against which bears the upper end of a spring 59 which is tensioned against a collar 60 carried by the stem 55 and whereby the valve 11 is normally seated resiliently retained transversely 80 of the main 10 closing the passage there-through. An extension 61 is carried by the pipe 57 having a cup 62 therein to which is hinged a closure lid 63. A loop or ring form of handle 64 is swiveled to the upper 85 free end of the stem 55 within the cup 62 being adapted to seat within the desired one of a plurality of notches 65 arranged at different heights in a support 66 within the said cup 62 whereby the valve 11 may be 90 maintained at different adjustments during the opening operation. It will be understood that upon releasing the handle 64, the spring 59 again re-seats the valve 11 to its closed position. 95

While the form of the invention herein shown and described is what is believed to be the preferred embodiment thereof, it is nevertheless to be understood that various forms, modifications and arrangements of the parts may be made without departing from the spirit and scope of the invention as claimed. 100

What I claim as new is:—

1. A controlling device for water mains 105 comprising an upright casing, a base upon the said casing having an annular inwardly projecting portion provided with a central opening, a removable valve seat adapted for frictional engagement with the said annular 110 portion projecting within said opening, a coping detachably mounted upon the upper end of the casing, rods having their lower ends swivelly connected to the said seat and their upper ends projecting through said 115 coping, and reciprocating means for the said rods connected between the upper ends of the latter and the said coping.

2. A controlling device for water mains 120 comprising an upright casing, a base upon the said casing having an annular inwardly projecting portion provided with a central opening, a removable valve seat adapted for frictional engagement with the said annular 125 portion projecting within said opening, a coping detachably mounted upon the upper end of the casing, rods having their lower ends swivelly connected to the said seat and their upper ends projecting through said 130 coping, reciprocating means for the said rods

connected between the upper ends of the latter and the said coping, a valve for the said seat slidably arranged upon the said rods, an upright stem operatively threaded to the said valve, and journaling means for the said stem carried by the said coping.

3. A controlling device for water mains comprising an upright casing, a base upon the said casing having an annular inwardly projecting portion provided with a central opening, a removable valve seat adapted for frictional engagement with the said annular portion projecting within said opening, a coping detachably mounted upon the upper end of the casing, rods having their lower ends swivelly connected to the said seat and their upper ends projecting through said coping, reciprocating means for the said rods connected between the upper ends of the latter and the said coping, a valve adapted for positioning within the said seat, lateral projections carried by said valve slidably journaled upon said rods, a yoke carried by said valve, an operating stem for said valve threaded to the said yoke and having its upper end centrally journaled in the said coping, a collar fixed upon said stem above the coping, and a plate fixedly arranged above said collar having the said stem freely projecting therethrough.

4. A controlling device for water mains comprising an upright casing, a base upon the said casing having an annular inwardly projecting portion provided with a central opening, a removable valve seat adapted for frictional engagement with the said annular portion projecting within said opening, a coping detachably mounted upon the upper end of the casing, rods having their

lower ends swivelly connected to the said seat and their upper ends projecting through said coping, reciprocating means for the said rods connected between the upper ends of the latter and the said coping, a reciprocating valve for the said seat arranged upon said rods, an operating stem for the said valve journaled through the said coping and projecting thereabove, swiveled connections between the said coping and stem, and a removable dome carried by the said coping overlying the upper ends of the rods and having said stem freely projecting centrally therethrough.

5. A controlling device for water mains comprising an upright casing, a base upon the said casing having an annular inwardly projecting portion provided with a central opening, a removable valve seat adapted for frictional engagement with the said annular portion projecting within said opening, a coping detachably mounted upon the upper end of the casing, rods having their lower ends swivelly connected to the said seat and their upper ends projecting through said coping, reciprocating means for the said rods connected between the upper ends of the latter and the said coping, a reciprocating valve for the said seat, the said seat and adjacent portion of the base having communicating drip openings therethrough, a normally closed valve for said openings pivoted upon the said seat, and actuating means for said drip valve normally projecting within the closing path of movement of the main valve whereby the drip passages are open when the main valve is closed upon its seat.

In testimony whereof I affix my signature.
EDWARD C. RIEBSAME.