No. 713,951. Patented Nov. 18, 1902.

C. L. BURKHART.

HYDRANT.

(Application filed June 3, 1902.)

(No Model.)

Fig. 1

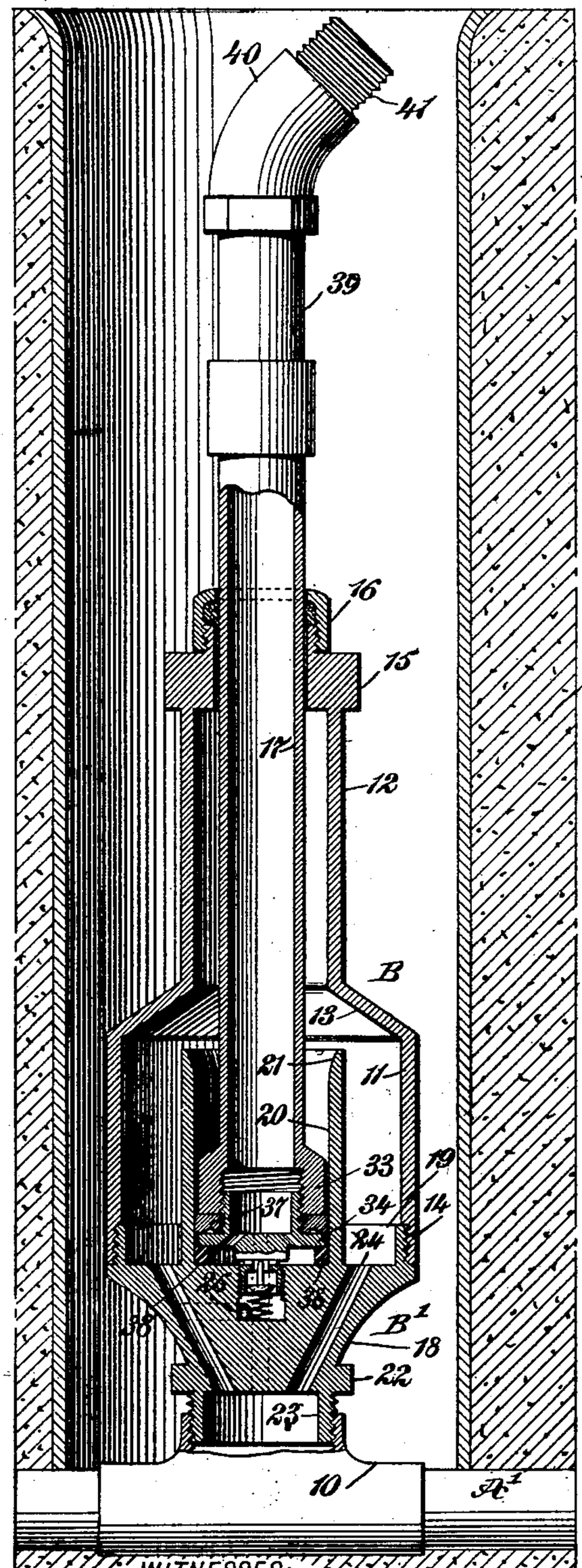


Fig. 5

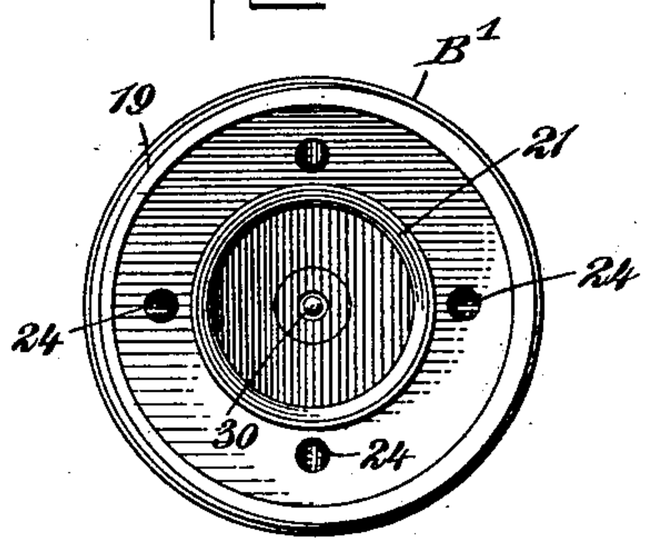


Fig. 2

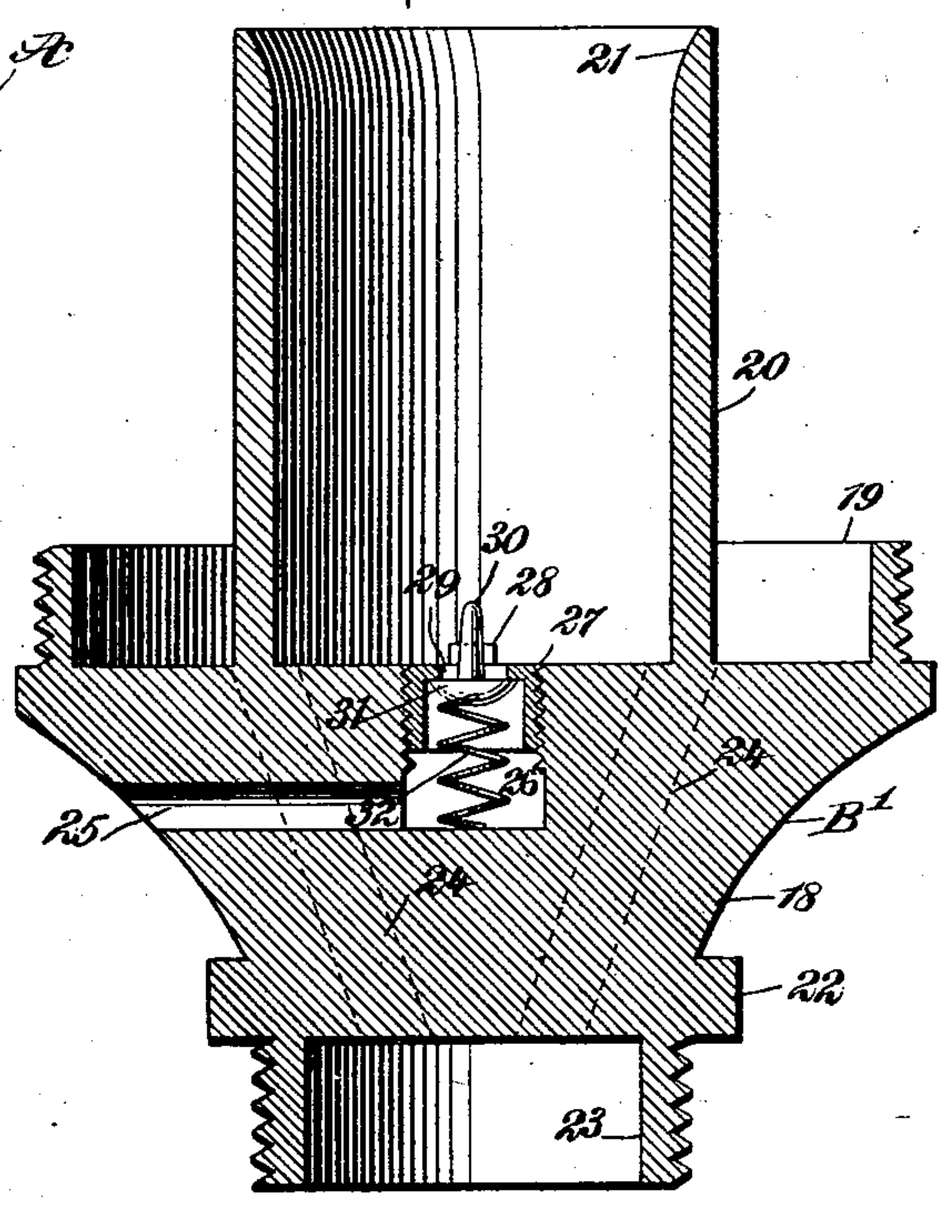
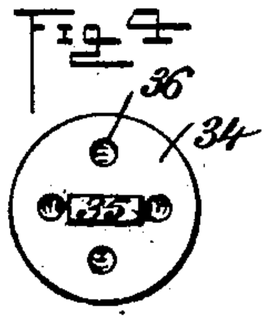


Fig. 4



WITNESSES:

J. Ed. Ackers

INVENTOR

Charles L. Burkhart

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES LLOYD BURKHART, OF DAYTON, WASHINGTON, ASSIGNOR OF ONE-HALF TO JOHN W. McLACHLAN, OF DAYTON, WASHINGTON.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 713,951, dated November 18, 1902.

Application filed June 3, 1902. Serial No. 110,049. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LLOYD BURKHART, a citizen of the United States, and a resident of Dayton, in the county of Columbia and State of Washington, have invented a new and Improved Hydrant, of which the following is a full, clear, and exact description.

My invention relates particularly to lawn-hydrants.

The purpose of the invention is to provide such a hydrant with a tubular piston capable of rotary and vertical movement and to so construct the body of the hydrant and its piston that when the piston is in an upper position it will permit the water to flow uninterruptedly to the discharge end of the piston and to the hose connected at such point and so that when the piston is in its lowest position the supply of water will be cut off and the pressure of water will serve to hold the piston in its cut-off position until purposely removed therefrom.

Another purpose of the invention is to provide a means whereby the piston is rendered self-draining, and the hydrant is consequently antifreezing, and a construction whereby the hose may be carried to any point in a circular direction without altering the flow of water or rupturing the hose where it is connected with the hydrant.

Another purpose of the invention is to so construct the hydrant that when not in use it will be out of the way of a lawn-mower and so that the hydrant can be disconnected from the source of water-supply whenever desired without disturbing its surrounding casing.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through the improved hydrant set up and the casing for the same. Fig. 2 is an enlarged vertical central section through the detached lower portion of the body of the hydrant. Fig. 3 is a plan view of the bottom portion of the hydrant-body, and Fig. 4 is a bottom plan view of the piston.

A represents a casing, which may be built of any suitable material, and said casing extends from the water-supply pipe A′ to a point at or near or slightly above the surface of the ground, as may be desired. This casing may have a shelf or cover therein to prevent leaves and trash from falling into the bottom portion of the casing. The water-supply pipe A′ is provided with a coupling 10, shown in the form of a T, but which may be an L, if desired, and said coupling is located at about the central lower portion of the casing A. Through the medium of this coupling the hydrant, to be hereinafter described, is connected with the said water-supply pipe, as is clearly shown in Fig. 1.

The body of the hydrant is constructed in two sections—an upper section B and a lower section B′. The upper section consists of a lower member 11, an upper member 12, and an intermediate member 13, all of said members being circular in cross-section. The lower member 11 is of greater diameter than the upper member 12, while the intermediate member 13 inclines upwardly and inwardly from the lower to the upper member, as is also shown in Fig. 1.

An interior thread 14 is produced at the lower end of the lower member 11 of the body of the hydrant, and exteriorly near the upper end of the upper member 12 of the hydrant a nut 15 is formed. Above the nut 15 the upper member 12 of the hydrant-body is provided with an exterior thread to receive a packing-nut 16, through which packing-nut a tubular piston 17 is snugly passed down into the lower member 11 of the said upper section B of the hydrant-body, as is also shown in Fig. 1.

The lower section B′ of the hydrant-body consists of a tapering or somewhat conical base 18, (shown in Figs. 1 and 2,) and near the lower portion of the base 18 an exterior nut 22 is provided. Below the nut an exteriorly-threaded collar 23 is formed, the interior of which collar constitutes a water-chamber, as this collar 23 is screwed into the coupling 10 on the water-supply pipe A′, as is illustrated in Fig. 1.

The upper surface of the lower section B′ of the body is preferably flat, and near the periphery of the upper portion of the said lower section B′ of the hydrant-body an upright annular flange 19 is formed, exteriorly threaded, so that the lower section B′ of the hydrant may be screwed into the lower end of the bottom member of the upper section B of said body, and centrally upon the upper surface of the lower section B′ of the hydrant-body an upright circular shell 20 is formed integral with the upper surface of the bottom body-section B′, and this shell constitutes a cylinder for the head of the piston 17. This cylinder 20 extends some distance up beyond the flange 19 sufficiently to have its upper portion near the inclined intermediate member of the upper section B of the body when the two sections B and B′ are brought together, as shown in Fig. 1, and in order that the head of the piston may be conveniently guided into the cylinder 20 the inner face 21 of said cylinder at its top is inclined upwardly and outwardly, and the upper end of the cylinder is entirely open.

Water-supply passages 24 are produced in the base 18 of the lower section B′ of the hydrant, and these water-passages extend from the chamber formed by the collar 23 diagonally upward from the lower surface of the said base member 18 of the lower section B of the hydrant at a point between the cylinder 20 and the flange 19, as is shown in Figs. 1 and 3. A drainage-passage 25 is horizontally produced in the base member 18 of the lower body-section B′, and this drainage-passage 25, which is adapted to take off the water from the piston 17 when said piston cuts off the supply of water, is connected with a central chamber 26, produced in the base 18 of the lower section of the body, as is best shown in Fig. 2. This chamber 26 extends to the top of the base 18 and receives an exteriorly-threaded capped bushing 27, having lugs 28 at its upper surface at opposite sides of a central opening 29 therein, and the stem 30 of a valve 31 extends upward through the opening 29, the body of the valve being within the bushing 27 and is normally held to close the opening 29 through the medium of a spring 32, extending from the bottom of the chamber 26 to an engagement with the under surface of the valve 31.

The lugs 28 on the bushing 27 facilitate securing the bushing in place and likewise serve in a measure to protect the stem 30 of the valve 31.

An annular enlargement 33 is formed at the lower end of the piston 17, as is best shown in Fig. 1, and this enlarged portion of the piston is interiorly threaded to receive an exteriorly-threaded collar carried upward from a disk-head 34, which in a measure closes the lower end of the piston 17; but this disk-head 34 is provided with a central lug 35 on its under surface, adapted for engagement with the stem 30 of the relief-valve 31 when the piston is in its lowest position, and at such time any water that may be in the piston will drain out therefrom through openings 36, produced in the disk-head 34, which water will find its way to the opening 29, then uncovered by the valve 31, and to the drainage-passage 25. Thus as no water will remain in the piston should the hydrant be used in winter there is but little danger of its freezing.

A washer 37, preferably of hard rubber, is located between the bottom end of the piston and its disk-head 34, and ordinarily spurs are produced on the said disk-head to enter the said washer or gasket, so that the head will not become unscrewed when the piston 17 is turned around in the body—as, for example, when a hose is to be connected with the piston or is to be removed therefrom or when the hose is moved from place to place, at which time the piston 17 turns also. When the piston reaches its lowest position, it engages with an elastic cushion 38, located at the bottom of the cylinder 20, and this cushion serves to relieve the piston from shock on its downward movement and also serves to make a water-tight connection between the head of the piston and the lower section of the hydrant-body.

At the upper end of the piston 17 a section of pipe 39 is suitably coupled to the piston, and this section of pipe may be of any suitable length, and at the upper end of this section of pipe 39 an elbow 40 is secured, the male thread 41 of which is uppermost, and upon this thread the hose-coupling is screwed. This elbow 40 is below the upper end of the casing A, so that it will not offer an obstruction to the passage of a lawn-mower over the lawn, for example.

In operation when the hydrant is to be used the piston is drawn upward until its head-section is carried out from the cylinder 20, whereupon the water which is always contained in the body will pass upward through the openings 36 in the disk-head of the piston and will find its way to the hose connected with the piston. As the hose is moved around on the lawn the piston moves also, so that the hose can be taken conveniently from place to place without danger of kinking where it connects with the hydrant and without danger of the supply of water being cut off or lessened.

When the hydrant is not in use, the piston is forced downward until it is seated on the base 18 of the lower section B′ of the body, and at such time, since the gasket 37 fits closely to the inner wall of the cylinder 20, water cannot enter the piston 17, and the pressure of the water in the body operating upon the head-section of the piston serves to hold the piston in its lower or cut-off position. As stated, when the piston is in its lowest position the relief-valve 31 is opened and all water will drain out from the piston.

When a hydrant is constructed as above set forth, it may be readily removed from con-

nection with the water-supply without injuring the casing A, as it is simply necessary to remove the elbow 40 and slip a suitable tool down over the piston to an engagement with the nut 15 at the upper portion of the body, and upon turning the said instrument or tool the body will be unscrewed from the coupling 10.

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

1. In a hydrant, a body, means for connecting said body with a source of water-supply, a cylinder within the body, closed at its lower end and open at its upper end, the water-supply entering the said body around the said cylinder, and a tubular piston having an apertured head-section adapted for vertical movement in the cylinder, the piston being also capable of rotary movement in the body, for the purpose set forth.

2. In a hydrant, a body, means for connecting said body with a source of water-supply, a cylinder within the body, closed at its lower end and open at its upper end, the water-supply entering the said body around the said cylinder, a tubular piston having an apertured head-section adapted for vertical movement in the cylinder, the piston being also capable of rotary movement in the body, a relief-valve located in the body and unseated by the piston when in its lowest position, and a drainage-passage connected with the relief-valve, whereby the water from the piston is automatically discharged when the piston is in its lowest or cut-off position, as set forth.

3. In a hydrant, the combination with a body having one continuous chamber, said body being provided with means for attachment to a source of water-supply, and with water-passages leading from the water-supply to the bottom portion of the chamber of the body, a cylinder open at the top and located in the bottom portion of the chamber of the body, the water-inlet passages entering the said chamber between said cylinder and the outer wall of the chamber, of a tubular piston having vertical and rotary movement in the body, said piston being provided with an apertured disk-head at its lower end, and a gasket held in position by the said head, the gasket being adapted for engagement with the inner wall of the said cylinder, and means, substantially as described, for connecting a hose with the upper end of the piston, as set forth.

4. In a hydrant, the combination with a body provided with a continuous chamber and a base having means for attachment to a water-supply pipe, a cylinder located within the said chamber, being secured to the central portion of the bottom thereof, said cylinder being open at the top and said base of the body being provided with water-inlet passages leading to the space between the cylinder and the wall of the body-chamber, the base being also provided with a central chamber having an opening at the central portion of the base within the cylinder, a drainage-passage connected with the base-chamber, and a spring-controlled valve located within said chamber and arranged to normally close the upper opening of the same, of a tubular piston having sliding and rotary movement in the said body, the piston being provided at its lower end with a packing for engagement with the inner wall of the cylinder, and a head provided with apertures extending through it and in communication with the interior of the piston, whereby when the piston is in its lowest position the valve in the base is opened and the water in the cylinder is discharged, and the pressure of the water in the body serves to hold the piston in its lowest position, and whereby when the piston is carried out from the cylinder the water in the body is free to flow out through the piston, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES LLOYD BURKHART.

Witnesses:
J. FRANK PORTER,
J. A. MACLACHLAN.