Nov. 28, 1933. A. N. VOLKHARDT 1,937,302

HYDRANT

Filed June 9, 1931 2 Sheets-Sheet 1

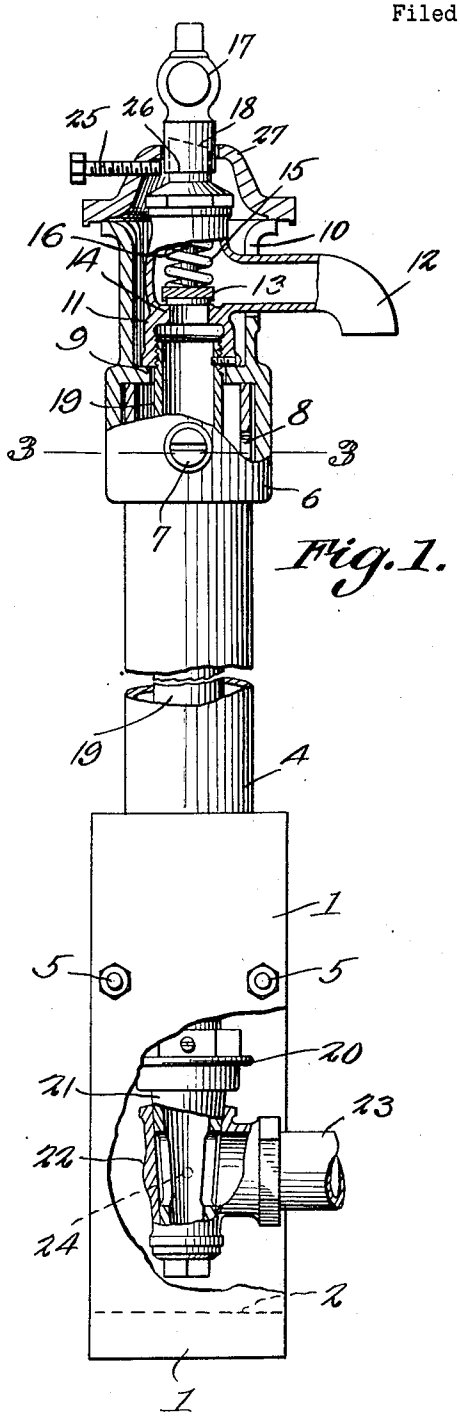


Fig. 1.

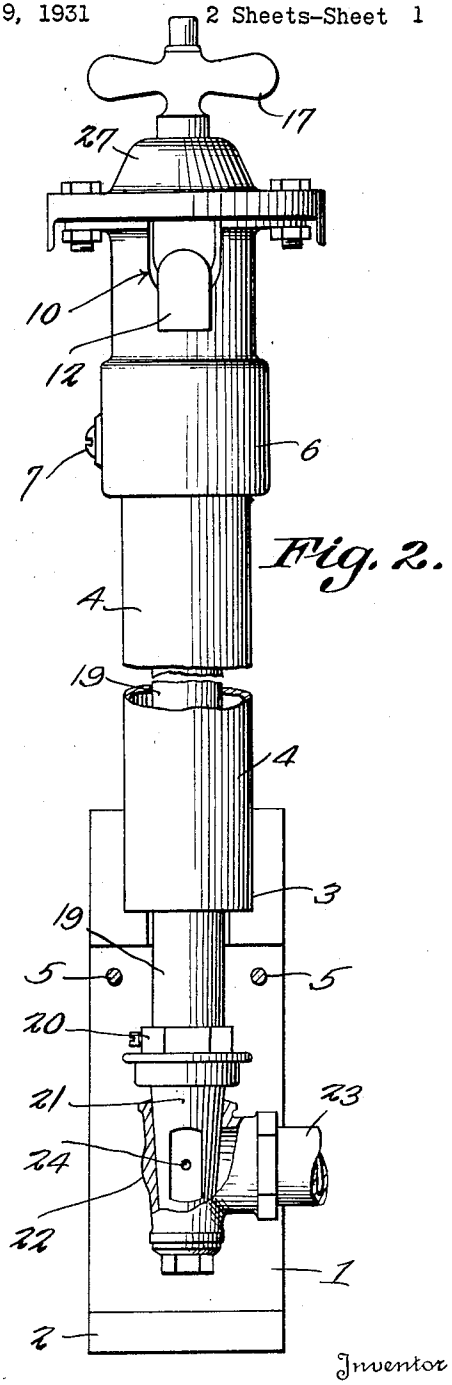


Fig. 2.

Inventor

A. N. Volkhardt

By Cachow & Co.

Attorneys.

Nov. 28, 1933. A. N. VOLKHARDT 1,937,302

HYDRANT

Filed June 9, 1931 2 Sheets-Sheet 2

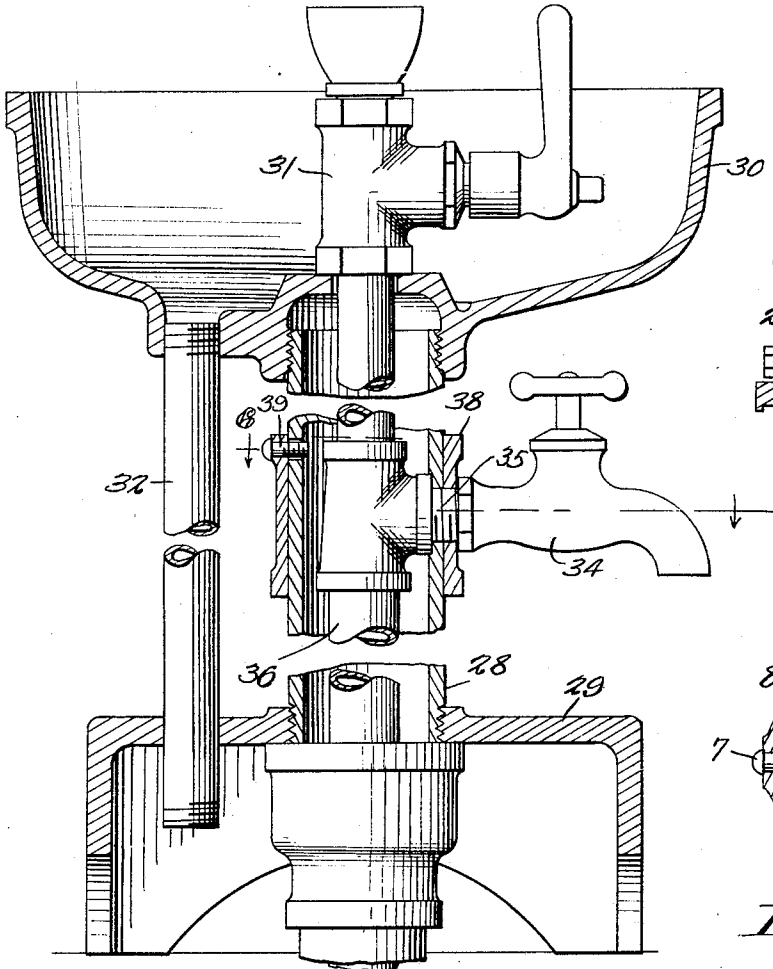


Fig. 5.

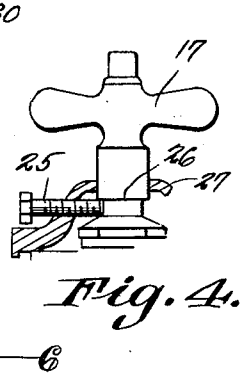


Fig. 4.

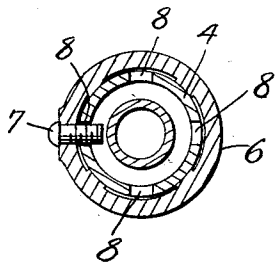
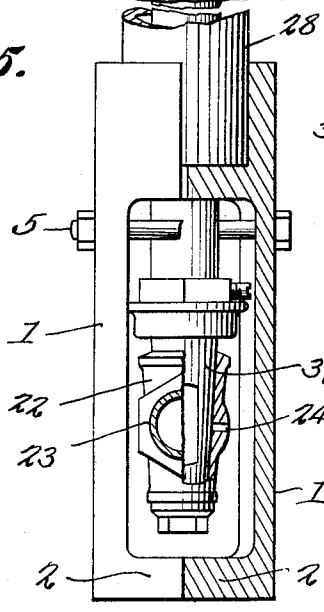


Fig. 3.



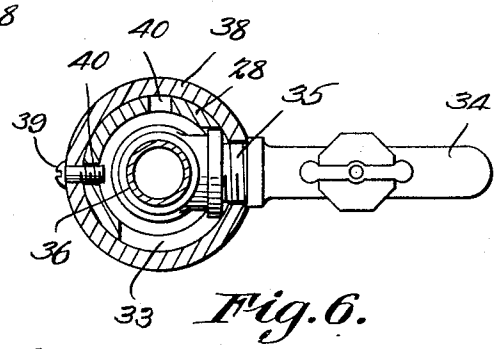


Fig. 6.

Inventor

A. N. Volkhardt

By Cachow & Co.

Attorneys.

Patented Nov. 28, 1933 1,937,302

UNITED STATES PATENT OFFICE

1,937,302

HYDRANT

Aquila N. Volkhardt, Stapleton, N. Y.

Application June 9, 1931. Serial No. 543,166

2 Claims. (Cl. 137—13)

This invention relates to a hydrant for use during all seasons of the year without danger of freezing and without producing an excessive waste of water.

In cemeteries, public parks, and other localities it is the practice to provide water hydrants for drinking and other purposes. In order to prevent freezing it has been found desirable to use hydrants which will drain into the soil when the valve is closed. These hydrants have operated in the same manner at all times of the year with the result that, during warm weather when the demand for water is greatest, there has been a vast waste due to the fact that every time the hydrant has been closed it has also been drained. As no need of draining is present during warm weather, this waste has been entirely unnecessary. It has also been objectionable because the roots of nearby vegetation have sought the moisture supplied by drainage and have quickly accumulated in a mat around the drain portion of the hydrant, some of the roots frequently working into the drain opening or bleeder and choking it, thereby preventing proper functioning of the hydrant.

It is an object of the present invention to provide a hydrant which is simple and efficient in construction and can be converted quickly from a warm-weather, non-draining fixture into a self-draining, non-freezing device for winter use.

Another object is to provide a hydrant the drain or bleeder opening of which is entirely closed during the plant growing season so that it will not attract plant life by underground waste water nor allow any nearby root growths to enter and choke the opening.

A still further object is to provide a hydrant in which the water is kept under pressure from the main at all times so as thus to be maintained fresh and sanitary instead of becoming stale as when cut-off from the main and exposed to atmospheric action between periods of use.

Another object is to provide a hydrant which can be used as a bubble or drinking fountain and still have all of the advantages enumerated.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings:

Figure 1 is a view partly in side elevation and partly in section of a hydrant having the present improvements, parts being broken away and the valve shown in open, non-draining position.

Figure 2 is a similar view showing the valve closed and in draining position for winter use.

Figure 3 is a section on line 3—3, Figure 1, looking downwardly.

Figure 4 is a vertical section through a portion of the hydrant showing the outlet valve fastened in open position.

Figure 5 is a vertical section through a modified structure including a bubble fountain, parts being broken away.

Figure 6 is a section on line 6—6, Figure 5, the faucet being shown in plan.

Referring to the figures by characters of reference 1 designates opposed foot members or castings having contacting inturned lower ends 2 while their upper ends are recessed at 3 to embrace and clamp upon the lower end of a casing pipe 4, there being transverse bolts 5 in the foot members for drawing them together.

The upper end of the casing pipe is housed in a sleeve 6 carrying a screw 7 adapted to be inserted into any one of several holes 8 formed in the casing pipe 4 and spaced apart approximately 90°.

Sleeve 6 has an interior flange 9 which bears on the upper end of pipe 4 and extending downwardly into the sleeve from its upper end is a slot 10.

Seated in the sleeve 6 and bearing downwardly on flange 9 is a control faucet 11 the nozzle 12 of which extends through slot 10. The valve 13 of the faucet is preferably of that type held normally in closed position on its seat 14 by a spring 15. The stem 16 of the valve extends through the top of the faucet and is turned by means of a handle 17. Cooperating cam faces, indicated generally at 18, act to unseat the valve against the action of spring 15 when the stem is rotated in one direction. When the handle is released the spring will tend to close the valve. This is an old construction and, in itself, forms no part of the present invention.

Secured to the facuet 11 so as to rotate therewith is a riser pipe 19 which extends downwardly within the casing pipe 4 and into the space between the foot members 1. Here it is secured in a socket member 20 carried by the upper end of a main valve in the form of a tapered plug

21. This valve is seated in a casing 22 into which opens a supply pipe 23. Opposed drain or bleeder openings 24 are provided in casing 22 and when valve 21 is open to the pipe 23 these openings will be closed. However when the main valve 21 is given a one-quarter turn so as to close communication with pipe 23 the outlets 24 will be opened and all water trapped in the valve and in the riser pipe opening thereinto will drain into the soil. This last position has been shown in Figure 2.

During warm weather when there is no danger of freezing and when there is a frequent demand for water, the screw 7 is removed and the nozzle 12 of the controlling faucet is used as a handle for turning the faucet, the sleeve 6 and the rise pipe 19 through 90°. This will bring main valve 20 to the position shown in Figure 1 so that water from the main will be supplied constantly under pressure to the faucet where it is normally cut off from the atmosphere. By reinserting screw 7 into the adjacent aperture 8 the parts will be held in these positions. Thus by opening the valve in the faucet the water can be drawn at will and at no time will there be any drainage into the soil at 24 tending to promote root growth.

During the winter season when the water is used infrequently the screw 7 is removed and the faucet nozzle is swung through 90° to close the main valve and uncover the drain or bleeder openings. Thus water trapped in the riser pipe will quickly drain into the soil and as there is no plant development at that time, the moisture delivered to the soil will not tend to promote root growth.

Whenever water is desired the faucet can be swung back to its original position so as to open the main valve. The main valve can be secured in closed position by inserting screw 7 into one of the holes 8 while the main valve is closed.

The faucet valve will close automatically under the action of its spring but can be held open if desired by means of a screw 25 adapted to be forced under a shoulder 26 movable with the handle 17. See Figure 4.

In the structure shown in Figures 1 and 2 the sleeve 6 is provided with a dome-like cap 27 the shape of which will prevent objects from being wedged under the handle 17 by unauthorized persons endeavoring to produce a continuous flow from the faucet.

A modification of the device has been illustrated in Figures 5 and 6. In this structure the casing pipe 28 is secured to a base 29 adapted to rest on the ground. A bowl 30 is mounted on the upper end of the pipe 28 and supported therein is a valved drinking fountain 31. A drain pipe 32 extends downwardly from the bowl.

A slot 33 in the casing pipe 28 extends partly therearound and projecting therethrough is a faucet 34 attached to a branch 35 extending from riser pipe 36. This riser pipe opens at its upper end into the fountain 31 while its lower end is connected to a main valve 37 and operates it in the same manner as hereinbefore explained.

A sleeve 38 is rotatable on the casing pipe 28 and extension 35 projects through it. This sleeve covers slot 33 and carries a screw 39 which can be inserted in either of two openings 40 in the casing pipe, thereby to hold the riser pipe and the valve 37 in either open or closed position.

What is claimed is:

1. A hydrant including a casing pipe, foot members connected to the lower end of the pipe, a valve casing between said members having an inlet and a drain outlet, a tubular plug valve for opening the inlet and the drain outlet separately, a riser pipe opening into and rigidly connected to the plug valve, a sleeve rotatable upon and bearing downwardly on the casing pipe, a faucet extending from the riser pipe and through the sleeve, said faucet bearing on the sleeve to support the riser pipe, the faucet constituting means for rotating the sleeve and riser pipe to actuate the plug valve and open or close either the inlet or the drain outlet, a spring seated valve reciprocable in the faucet, a handle, a cam operated thereby for reciprocating said valve to unseat it, means for engaging under the handle to hold the valve unseated, and means for holding the sleeve and faucet against rotation.

2. A hydrant including a casing pipe, a valve casing having an inlet and a drain outlet, a tubular plug valve for opening the inlet and the drain outlet separately, a riser pipe opening into and rigidly connected to the plug valve, a sleeve rotatable upon the casing pipe, a faucet extending from the riser pipe and through the sleeve, the faucet constituting means for rotating the sleeve and riser pipe to actuate the plug valve and open or close either the inlet or the drain outlet, a spring seated valve reciprocable in the faucet, a handle, a cam operated thereby for reciprocating said valve to unseat it, means for engaging under the handle to hold the valve unseated, and means for holding the sleeve and faucet against rotation.

AQUILA N. VOLKHARDT.