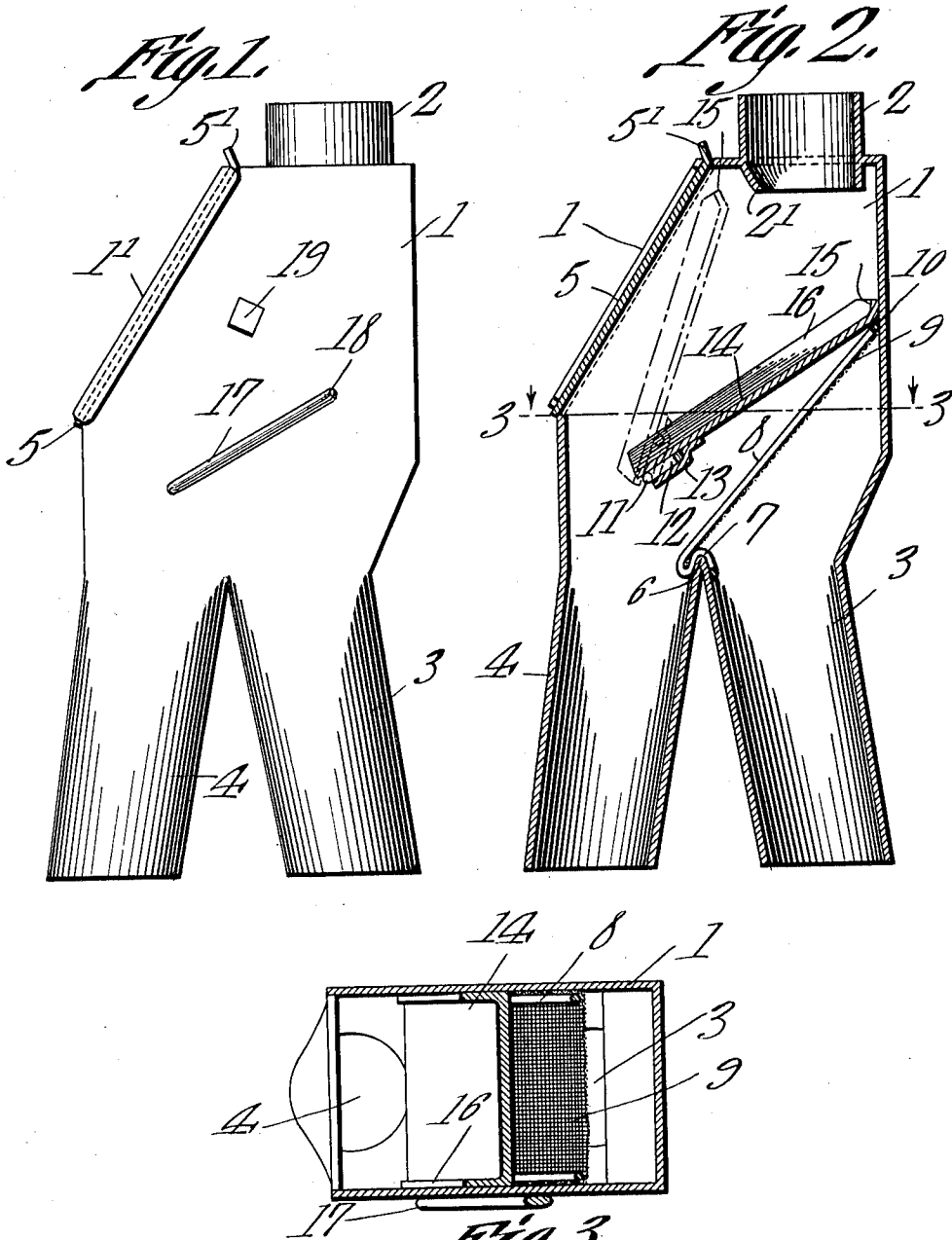


C. & C. S. HINES.
 FILTER.
 APPLICATION FILED JUNE 23, 1911.

1,022,136.

Patented Apr. 2, 1912.



Witnesses

J. R. Dornier
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Fig. 3.

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UNITED STATES PATENT OFFICE.

CHRISTIAN HINES AND CHARLES S. HINES, OF NAPOLEON, OHIO.

FILTER.

1,022,136.

Specification of Letters Patent.

Patented Apr. 2, 1912.

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To all whom it may concern:

Be it known that we, CHRISTIAN HINES and CHARLES S. HINES, citizens of the United States, residing at Napoleon, in the county of Henry, State of Ohio, have invented a new and useful Filter, of which the following is a specification.

This invention relates to improvements in filters, the primary object of the invention being a novel form of cistern filtering device, which is adapted to catch and direct the rain water to the cistern, filtering the same and preventing any material that may obstruct the same from entering the cistern, the said filter comprising a casing having an inlet, and two spaced outlets, said outlets being in communication with the cistern and exterior thereof to convey the surplus water therefrom, a filtering screen being adjustably mounted within the casing and disposed to prevent obstructions from entering the cistern and being further provided with a valve adapted to permit the water to flow through the cistern conduit or away therefrom as may be desired, a locking device being provided for such valve as will presently appear.

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 invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a side elevation of the complete filter in the position it assumes when permitting the water to flow through the discharge outlet and away from the cistern. Fig. 2 is a vertical central sectional view thereof, dotted lines showing the position of the valve when permitting the water to flow to the cistern conduit. Fig. 3 is a cross section taken on line 3—3 of Fig. 2.

Referring to the drawings, the numeral 1 designates the main casing, having the inlet spout 2, provided with the forward inturned lip or guiding portion 2', the said casing 1 being further provided with the conduit 3 leading to a cistern, and a conduit 4 leading therefrom to conduct the surplus water to the sewer or any drainage

source that may be desired. In the front inclined portion of the casing 1, is an aperture provided with the parallel guide strips 1', between which is slidably mounted a door or closure 5, provided with the upturned lip 5', by means of which said slide may be removed to have access to the interior of the filter.

Fitting upon the shoulder 6 formed at the junction of the conduits 3 and 4 of the filter, is a hooked end 7 of the wire frame 8, which carries the filtering screen 9 and by contacting the rear wall of the casing 1, as indicated at 10, provides an inclined support for the said screen 9 and a screened closure for the conduit 3, so that the water is filtered or screened before entering said conduit 3 and the cistern to which it leads.

Pivoted transversely in the walls of the casing 1 is a rod or shaft 11 provided centrally thereof within the casing with a crank 12, which removably fits in the receptacle 13 formed upon the rear or near the lower end of the valve or gate 14, which is provided with parallel edges or flanges 16 and the inclined lip 15 at its upper end. By this means it will be seen that the said gate or valve 14 may assume the position as shown in Fig. 2 both in full and dotted lines, and that by reason of its connection with the shaft 11, the same may be lifted from the position as shown in dotted lines in Fig. 2 through the aperture in the casing 1 controlled by the closure 5 and replaced to permit access to the screen 9, so that the said screen when worn or injured may be replaced. This feature is a very important feature in a device of this character, in that it provides a properly constructed and disposed valve or gate to permit the water to flow to the conduit 3 and the obstructions that might enter the same be deflected by the screen 9 into the conduit 4, and when the cistern has received sufficient quantity of water, to assume the position as shown in Fig. 2 and thereby convey the water, from the induction conduit 2 to the discharge conduit 4. When the deflector or gate 14 is in the position as shown in Fig. 2, its lip 15 will rest against the rear wall of the casing 1 above the contact place 10 of the screen support, and when describing the arc of the circle with the shaft 11 as its center, the said lip 15 will pass below the inturned lip 2' of the induction conduit 2 and out of contact therewith.

By producing the lip 2' as indicated in Fig. 2, the water instead of being conducted straight downwardly is deflected slightly to the rear, so that the danger of any leakage through the aperture controlled by the closure is prevented to a great extent.

Mounted upon the outer end of the shaft 11, is a lever or arm 17, whose contact point 18 is adapted to frictionally engage the side of the casing 1, and when the gate or deflector 14 assumes the position as shown in dotted lines in Fig. 2, the said hooked portion 8 will engage the lug or ear 19 carried by the exterior of the casing 1 and hold the same in such position.

From the foregoing description, it is evident that a filter constructed according to this invention renders the parts easily accessible and interchangeable, permitting the deflector to be removed at will so as to renew or clean the screen 9, this being a very important feature of this invention.

What is claimed is:

1. In a filter, a casing having two spaced transversely disposed outlets and an inlet in line with the rear outlet, a screen mounted in the casing and having its lower end gripping the edges at the junction between the outlets and inclined rearwardly to cover the rear outlet and be permanently interposed between the inlet and rear outlet of the casing, a shaft having a central crank and journaled transversely within the casing at a point above the forward outlet of the casing, means for turning the crank exteriorly of the casing, and a plate valve having a pocket to receive the crank of the shaft removably mounted upon the shaft and of sufficient length to normally have its upper end interposed between the screen and the inlet of the casing to guide the water from the inlet to the forward outlet.

2. In a filter, a casing, an inlet conduit disposed at the upper end thereof and provided with a rearwardly bent deflecting wall or lip, two spaced outlet conduits connected to the lower end of said casing, said casing being provided with an aperture in the forward wall thereof paralleled by grooved flanges, a closure slidably mounted in said grooved flanges, a frame carrying a screen insertible through aperture of the casing and adapted to have its lower ends engage the wall at the junction of the two outlet conduits and inclined to have its upper end engage the rear wall of the casing to produce a screen for the rear outlet conduit, a shaft provided with a central bail-shaped crank journaled transversely of the casing

below the aperture and above the unscreened conduit of the casing, a deflector, a flange carried upon the lower end of said deflector and forming a receptacle for the bail-shaped crank of the shaft, whereby the deflector is bodily carried by the shaft and is adapted to swing within the casing to deflect the water from the screened conduit to the unscreened conduit, said deflector being of a size to permit its insertion or withdrawal through the aperture of the casing, and a spring terminal for the shaft exterior of the casing for engaging the casing and retaining the deflector in adjusted position.

3. In a filter, a casing, an inlet conduit disposed at the upper end thereof and provided with a rearwardly bent deflecting wall or lip, two spaced outlet conduits connected to the lower end of the casing, said casing being provided with an aperture in the forward wall thereof, paralleled by grooved flanges, a closure slidably mounted in said grooved flanges, a frame carrying a screen insertible through the aperture of the casing and adapted to have its lower end engage the wall at the junction of the two outlet conduits and inclined to have its upper end engage the rear wall of the casing to produce a screen for the rear outlet conduit, a shaft provided with a central bail-shaped crank journaled transversely of the casing below the aperture and above the unscreened conduit of the casing, a deflector, a flange carried upon the lower end of said deflector and forming a receptacle for the bail-shaped crank of the shaft, whereby the deflector is bodily carried by the shaft and is adapted to swing within the casing to deflect the water from the screened conduit to the unscreened conduit, said deflector being of a size to permit of its insertion or withdrawal through the aperture of the casing, a spring terminal for the shaft exterior of the casing for engaging the casing and retaining the deflector in adjusted position, and an abutment mounted upon the casing and in the path of the terminal of said spring terminal for engaging the same and locking the deflector in upright position.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

CHRISTIAN HINES.
CHARLES S. HINES.

Witnesses:

OLIVER HIGGINS,
E. A. HETTEL.