(No Model.)

C. H. WEIDERMAN.

FILTER.

No. 347,403. Patented Aug. 17, 1886.

Fig. 1.

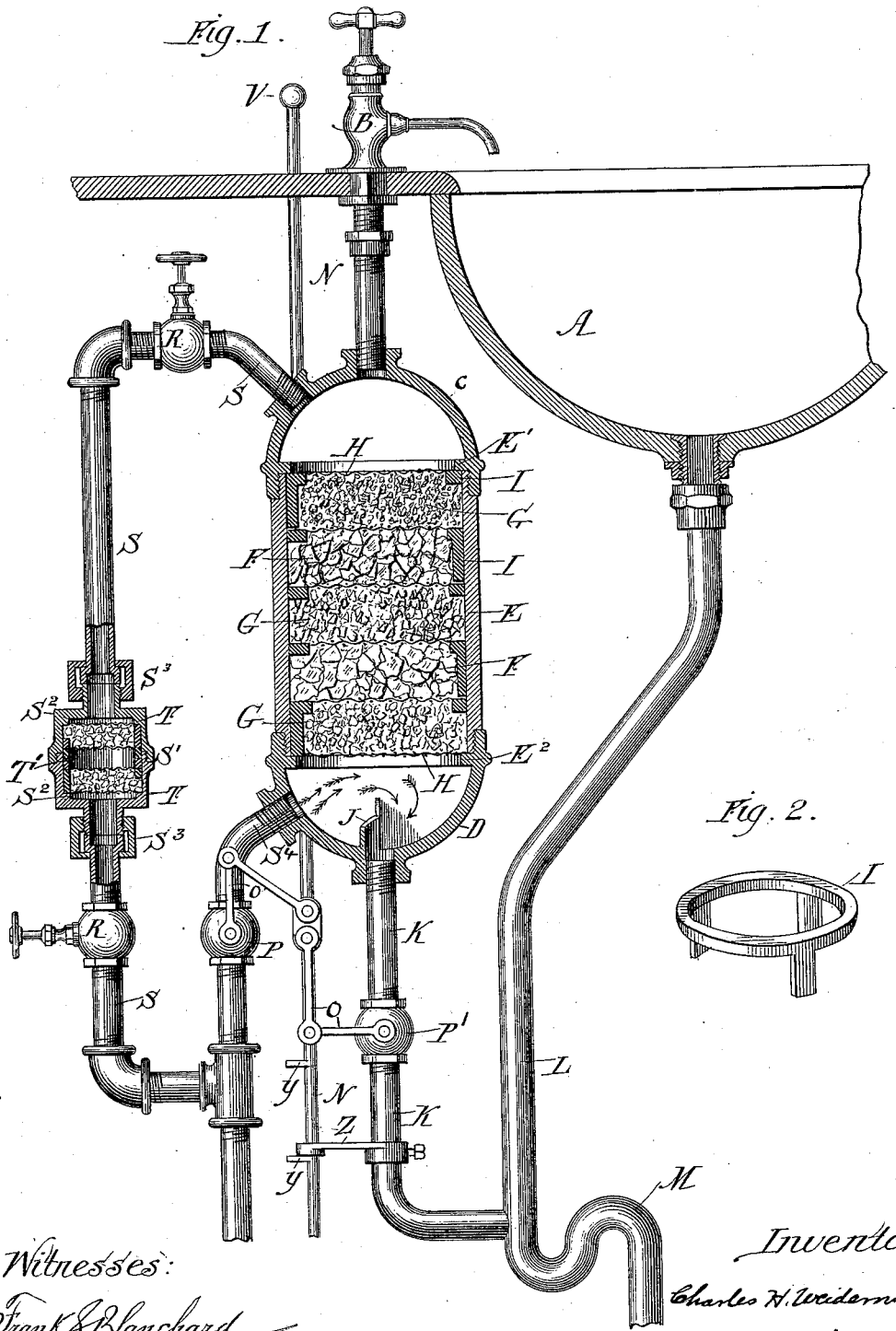

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES H. WEIDERMAN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO RICHARD SMITH, OF SAME PLACE.

FILTER.

SPECIFICATION forming part of Letters Patent No. 347,403, dated August 17, 1886.

Application filed December 26, 1885. Serial No. 186,713. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. WEIDERMAN, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Filters, of which the following is a specification.

My invention relates to filters such as are used in cities at the main or at the place where the water is discharged for use to filter and clean the water, and has for its object to provide a cheap and simple filter, easily controlled and thorough in action.

Figure 1 shows a vertical section of the complete device, and Fig. 2 a detail of one ring.

Like parts are indicated by the same letter in each figure.

I have shown my invention as applied to an ordinary wash basin or bowl.

A is the bowl; B, the faucet; C, the top of the main filter in the form of an inverted spheroid; D, the bottom of the filter, shaped like the top, but opening upward, and designed to act as a settling-chamber.

E is the body of the filter, screw-threaded by right and left screw-threads into the top and bottom.

E′ is a flange about the inner lower extremity of the top, and E^2 a similar flange about the top of the settling-chamber.

F F are layers of coarse filtering substances, and G G layers of fine filtering-matter.

H H are sieves which separate the layers.

I I are rings provided with legs. They rest one on top of the other, the lower one resting on the flange E^2, and support the sieves.

J is a flange, which extends across the bottom of the piece D, as shown, and is provided with a backward curve around the waste-pipe.

K is the waste-pipe from the filter; L, the waste-pipe from the bowl; M, the trap in the waste-pipe.

N is a valve-rod, which terminates above the bowl-table in the handle V, and is connected by the links O O to the valves P P′. One of these valves is in the filter-waste, the other in the filter-supply pipe.

R R are globe-valves in the pipe S S. This pipe is connected with the supply below the valve P, and opens into the top of the filter at an angle, as shown. The supply S^4 opens into the bottom of the filter at an angle, as shown. The valves P P′ are so linked to the rod N that by its movement it leaves one open while the other is closed.

S′ is a secondary filter in the pipe S. It is composed of two sections, S^2 S^2, which are screw-threaded together. Each part terminates in a screw-threaded portion, the end of which bears against the end of the pipe S, and it is securely held in place by the coupling S^3. On the inner end of each piece is the flange T, which supports a sieve and the feet of a ring. On top of each ring a smaller ring, T′, is put. When the two parts are screwed together, the whole of the contents will be held tightly in place. The body E, being held by right and left screw-threads, can be screwed out and removed without disturbing the parts. The secondary filter can be taken out by running the couplings back on the pipes. The flanges T T in the secondary filter leave a space at both top and bottom of the same.

The use and operation of my invention are as follows: The filters are put together as shown, the sizes and proportions of the parts being such that the contents of each filter is held securely in position. The whole is then attached beneath a wash-stand and connected as shown. Of course the device might be used at the main or at the source of supply for the whole house, and attached in any suitable way. The valves R R and P′ are closed and the valve P is open. The water is discharged through the supply-pipe at an angle into the filter. The sediment in the water will pass downward, as indicated by the arrows, against the flange J, and thus be deposited in the pipe K. The object of the flange is to give it this direction. The water filters up through the filter into the faucet. When it is desired to draw off the waste, the rod N can be moved, so as to open the valve P′, and thus discharge the waste. The pipe K opens into the pipe L above the trap M, so that one trap answers for both. When the filter is to be cleaned, the valve P′ is opened, as also valves R R, and valve P is closed. The water then passes through the secondary filter and flows re-

versely through the main filter. The secondary filter is to prevent sediment and impurities from having access to the top of the filter. The angles at which the pipes S S^4 enter the filter are such as to direct the flow of the water against the center of the end of the filtering material. The links O O will be seen to be only simple links, one from the rod and one from the valve, the two links being pivoted together, and as the rod reciprocates it operates them, and it is limited in its motion by the stops Y Y and the step Z.

I claim—

1. The combination of an upright filter, a centrally-discharging lower waste-pipe, a lower settling-chamber having a flange about the waste-pipe, as shown, an upper and lower supply-pipe, the latter entering at an angle, so as to discharge centrally against the end of the filter, a secondary filter in the upper supply-pipe, and a valve-rod and links, whereby the lower supply and filter waste-pipes are simultaneously controlled, the one being opened when the other is closed.

2. The combination of an upright filter, a centrally-discharging lower waste-pipe, a lower settling-chamber having a flange about the waste-pipe, as shown, an upper and lower supply-pipe, the latter entering at an angle, so as to discharge centrally against the end of the filter, a valve-rod and links, whereby the lower supply-pipe and waste-pipe are simultaneously controlled, the one being opened as the other is closed.

3. The combination of an upright filter, a centrally-discharging lower waste-pipe, a lower settling-chamber having a flange about the waste-pipe, as shown, a lower supply-pipe entering at an angle, so as to discharge centrally against the end of the filter, and a valve-rod and links, whereby the lower supply-pipe and waste-pipe are simultaneously controlled, the one being opened as the other is closed.

4. The combination of an upright filter, a lower centrally-discharging waste-pipe, a lower settling-chamber having a flange about the waste-pipe, as shown, an upper and lower supply-pipe, the latter entering at an angle, so as to discharge centrally against the end of the filter, and a secondary filter in the upper supply-pipe.

5. An upright filter having a lower spheroidal settling-chamber, in combination with a supply-pipe which enters at an angle and discharges toward the center of the filtering-body, and a waste-pipe which issues from the bottom of the chamber, and a flange which extends across the chamber and about the discharge-opening, whereby the sediment falling back from the filtering-body is carried against the flange and thence against the opening of the waste-pipe.

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