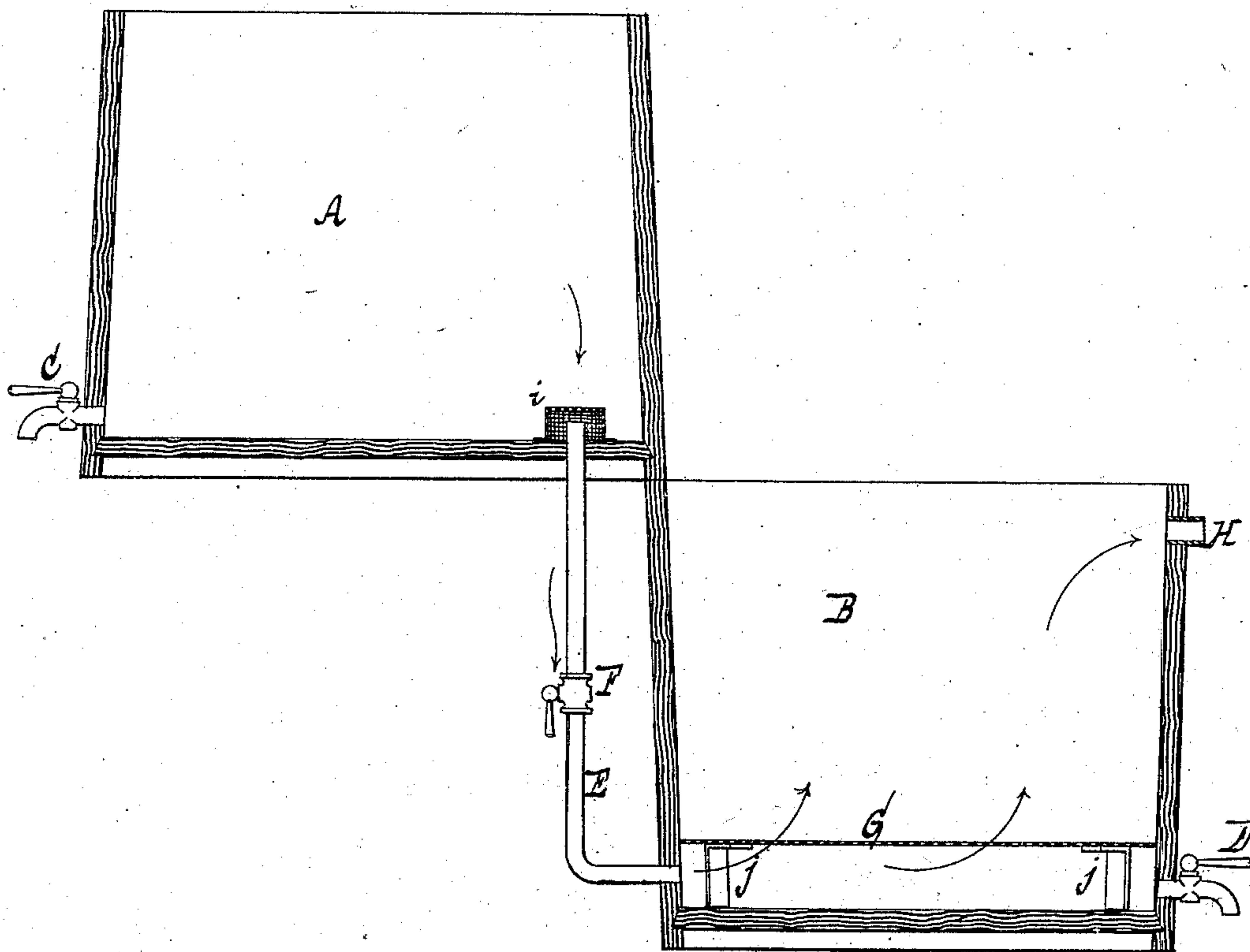


I. T. GREEN.
Filter.

No. 224,680.

Patented Feb. 17, 1880.



Witnesses
Otto Stufeland
William Miller

Inventor
Irvin T. Green
by
Van Santvoord & Hauff
his attorneys.

UNITED STATES PATENT OFFICE.

IRVIN T. GREEN, OF RICHMOND, KENTUCKY.

FILTER.

SPECIFICATION forming part of Letters Patent No. 224,680, dated February 17, 1880.

Application filed July 2, 1879.

To all whom it may concern:

Be it known that I, IRVIN T. GREEN, of Richmond, in the county of Madison and State of Kentucky, have invented a new and useful
5 Improvement in Filters, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, which represents a vertical central section of my apparatus.

10 My invention consists in a filter in which are combined a receiving-vessel and a filtering-vessel, arranged at different levels, and both provided with a faucet at or near the bottom, a connecting-pipe extending from the receiv-
15 ing-vessel to a point at or near the bottom of the filtering-vessel, a sieve over the mouth of this connecting-pipe, and a stop-cock therein, a foraminous false bottom to the filtering-ves-
20 sel, for supporting sand, gravel, or other filtering substance, and an outlet-pipe on the upper part of the filtering-vessel, in such a manner that the liquid in the receiving-vessel may be admitted to the filtering-vessel in
25 desired quantity, and is freed of suspended matter in passing therefrom, the same being filtered by ascension in the filtering-vessel, and being, moreover, uniformly distributed throughout the mass of filtering substance, while both the receiving-vessel and the filtering-
30 vessel may be readily flushed of any sediment collecting therein during the process of filtration.

In the drawing, the letter A designates the receiving-vessel, B the filtering-vessel, and
35 C D their faucets. E is the connecting-pipe between the two vessels, and F a stop-cock in such pipe. G is the foraminous false bottom to the filtering-vessel, and H its outlet-pipe.

40 The vessels A B are preferably made to taper, the first in an upper direction and the second in a lower direction, and the first, moreover, is placed at a higher level than the other.

The receiving-vessel A serves to hold the water or other liquid to be filtered, and may
45 be made with a capacity of about one hundred and fifty gallons.

The pipe E leads from the receiving-vessel A to a point near the bottom of the filtering-
50 vessel B, thereby conducting the liquid from the receiving-vessel to the lower part of the fil-

tering-vessel, in which latter it ascends to the outlet-pipe H. This pipe H is on the upper part of the filtering-vessel B, and may be arranged to conduct the liquid to a cistern or receptacle for storage. The flow of liquid
55 through the connecting-pipe E is controlled by means of the stop-cock F.

In order to prevent suspended matter from entering the connecting-pipe E, I usually cover
60 its mouth with a sieve, *i.*

The foraminous false bottom G is held in the filtering-vessel B by means of feet *j*, and upon the same is placed a layer of gravel, sand, or other filtering substances up to or
65 nearly up to the outlet-pipe H, so that as the water ascends in the vessel B it passes through such filtering substance. The liquid entering the filtering-vessel B fills the vacant space beneath the false bottom G, and being thus distributed ascends uniformly.
70

If it becomes desirable to cleanse or flush out either of the vessels A B, this may be readily accomplished by opening the faucets C or D. These faucets are of considerable im-
75 portance, since without their use it is necessary to go through the tedious and impracticable operation of inverting the vessels A B in order to remove therefrom the impurities that will obviously accumulate therein during the process of filtration.
80

I am aware that an apparatus for filtering oil has been heretofore in use in which a tank for holding the oil has been elevated above and connected by a pipe with a lower cham-
85 ber, said pipe entering this last-named chamber below a perforated false bottom, and between which perforated bottom and bottom of the vessel extends one or more pipes, for the purpose of heating the oil and aiding its passage through the perforated bottom to free it of its
90 impurities; but as such is not of the spirit of my invention, and does not show the prime features employed by me in the construction of my filter, (which, as before stated, consists in a certain peculiar combination and arrange-
95 ment of parts to form a filter, among which parts, essential to the effect sought, is covering the end of the water-conductor which extends up through the bottom of the vessel A with a strainer and providing each vessel
100

with a stop-cock, so that the contents of either may be drawn off,) the same is hereby disclaimed.

What I claim as new, and desire to secure
5 by Letters Patent, is—

The combination, in a water-filter, of the two vessels A B, each provided with a stop-cock and located at different levels, of the pipe E, communicating with the vessel A through its
10 bottom and with the vessel B through its side below a foraminous false bottom arranged

therein, said pipe being supplied with a suitable cock, and having its end which enters the vessel A protected by a screen, *i*, all substantially as herein shown and described.

In testimony that I claim the foregoing I
have hereunto set my hand and seal this 24th
day of June, 1879.

IRVIN T. GREEN. [L. S.] 15

Witnesses:

ROBERT C. BOGGS,
T. D. SMITH.