

J. D. Kirkpatrick.

Filtering Burning-Fluids.

N^o 74698

Patented Feb. 18, 1868.

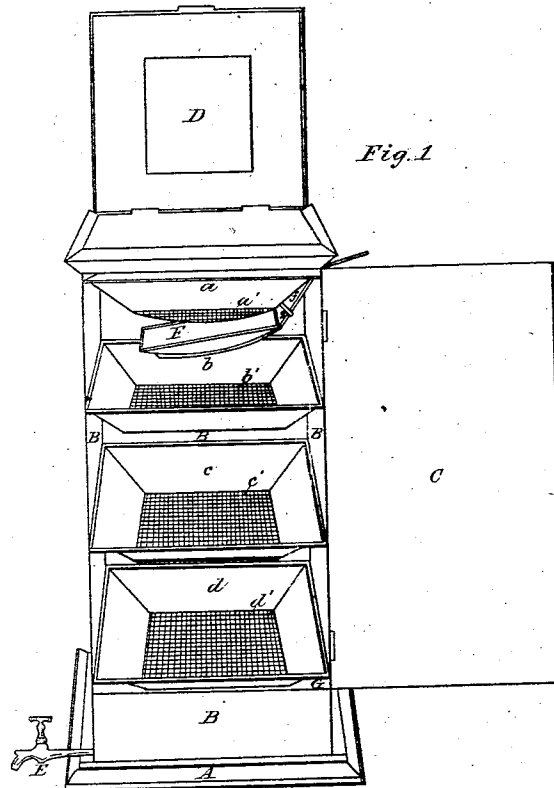


Fig. 1

Fig. 2.

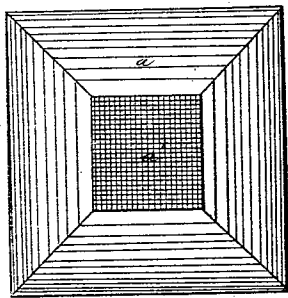


Fig. 3

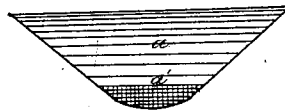
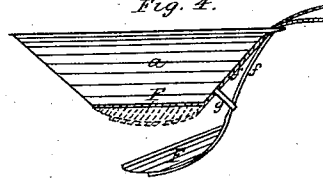


Fig. 4.



Witnesses

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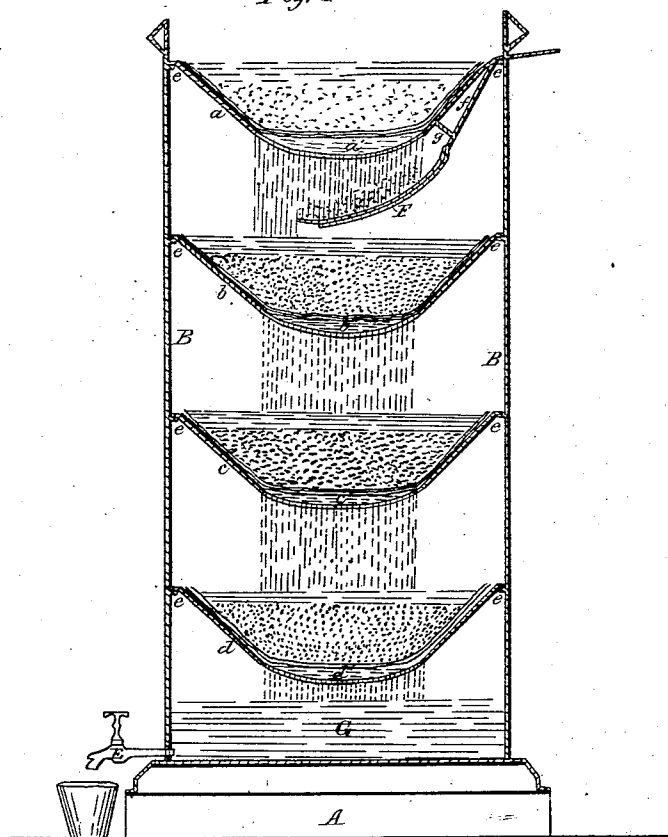
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Fig. 5.



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JOHN D. KIRKPATRICK, OF URBANA, OHIO.

Assignor to Self and B. A. Rose of the same place.

Letters Patent No. 74,698, dated February 18, 1868.

IMPROVEMENT IN FILTERING BURNING-FLUID.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN D. KIRKPATRICK, of Urbana, in the county of Champaign, and State of Ohio, have invented a new and useful Improvement in Filtering Burning-Fluids; and I do hereby declare the following to be a full and correct description of the same, sufficient to enable others skilled in the art to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawings, which make part of this invention, and in which—

Figure 1 is a front perspective view of the apparatus for filtering.

Figures 2, 3, and 4 are detached views of the same; and

Figure 5, sheet 2, is a vertical cross-section of the apparatus, showing the process of filtration.

Like letters indicate like parts in the several figures.

My invention consists in the consecutive filtration of burning-fluids through different ingredients in a peculiar apparatus, by means of which said fluids lose their offensive odor and explosive qualities.

My process differs materially from the many ways that have been tried to accomplish this object in passing the fluids through the filtering-agents, instead of mixing the latter with the fluids, the advantages of which will be hereinafter fully set forth.

In the drawings, A may represent a base, from which rise the four walls of a compartment, B, which is provided with a door, C, forming a part of the front side, B'. The top of the apparatus is closed by a lid, D. Four sets of flanges, *e*, on opposite inner sides of the apparatus, support tubs or vessels *a b c d*, provided with perforated bottoms *a' b' c' d'*. These vessels may, when the door C is opened, either slip out of or into the apparatus on the flanges *e*. The bottom of the apparatus forms a reservoir, G, to receive the deodorized and clarified fluid, from which it can be drawn for sale or use in any desired quantities through the cock E.

Fig. 2 is a top view, and fig. 3 a side elevation of my improved filtering-vessel.

F is a false bottom, which, if desired, may be applied to every one of the vessels *a b c d*. It fits closely over the perforated bottoms of the same, and its handle, *f*, is pivoted to the rim of the vessel, and protrudes through the side of the apparatus, so as to be operated from the outside of the latter. A loop or band, *g*, holds it in an open position. By this false bottom F the flow of the fluid may be shut off from any one or more of the vessels. In fig. 4 this bottom, F, is shown open in black lines, and closed in red-ones.

Fig. 5 illustrates my process. The lid D, being opened, the fluid is poured into the vessel *a*. This vessel is covered on its inside with a piece of flannel, upon which the first ingredients, pulverized lime and wood-ashes, are strewed in such quantities as may be necessary. The fluid sickers through the bottom, *a'*, of the vessel into the vessel *b*, which is covered with flannel, like the vessel *a*, but contains elm-bark, partly pulverized and partly in short pieces. In filtering through the same, the fluid falls into vessel *c*, covered likewise with flannel, and filled with finely-pulverized charcoal. Passing through this, the fluid finally reaches vessel *d*, which, on a flannel covering, (similar to the other vessels,) contains fine sand. From this vessel the fluid drips into the reservoir G, purified and deodorized, and can be drawn from the same for use or sale. The lime and wood-ashes deodorize the fluid by absorbing the strong and offensive odor common to all unclarified burning-fluid. Thus deodorized, the fluid passes through the layer of elm-bark. At this stage of the process the fluid absorbs a great many of the mucilaginous particles of the elm-bark, which not only imparts a body to the fluid, but also imparts to it the sweet odor of the bark. Its evaporation is stopped, and it is thus rendered, in connection with the other filtering-ingredients, non-explosive. The charcoal and sand in the other vessels, *c d*, have a purifying effect upon the fluid, and finish the process.

The great advantage I gain by filtering the fluids through the ingredients separately, instead of mixing the ingredients with the fluid in the barrel, is this, that I can allow the fluid to remain in any one of the ingredients for any length of time, by closing the false bottom F, if it should be desirable, and that by my process I obtain an absolutely purified, clarified, and non-explosive article, all impurities not only being destroyed, but absorbed by the ingredients, as the fluid passes through the same during the filtering process.

I do not confine myself to the precise shape of the apparatus, vessels, and reservoir, as they may be made round or polygonal, and of different capacities. The apparatus may be constructed in such shape or size that

each grocer may purify his own fluids in the store, and sell the latter from the reservoir. The order of the ingredients, however, is essential.

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

1. Filtering burning-fluids consecutively through separate layers of lime and wood-ashes, elm-bark, charcoal, and sand, each-ingredient being placed on flannel, in the bottom of the filtering-vessels, substantially as and for the purposes set forth.

2. The filtering-apparatus, consisting of the bottom, A, frame B, vessels *a b c d*, with perforated bottoms *a' b' c' d'*, and false bottom F, and reservoir G, provided with stop-cock E, substantially as and for the purposes described.

JOHN D. KIRKPATRICK.

Witnesses:

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ALEXR. A. C. KLAUCKE.