

W. J. ALLEN.

SIRUP AND SUGAR FILTERS AND PROCESS OF CLEANING
THE SAME.

No. 189,594.

Patented April 17, 1877.

Fig. 1.

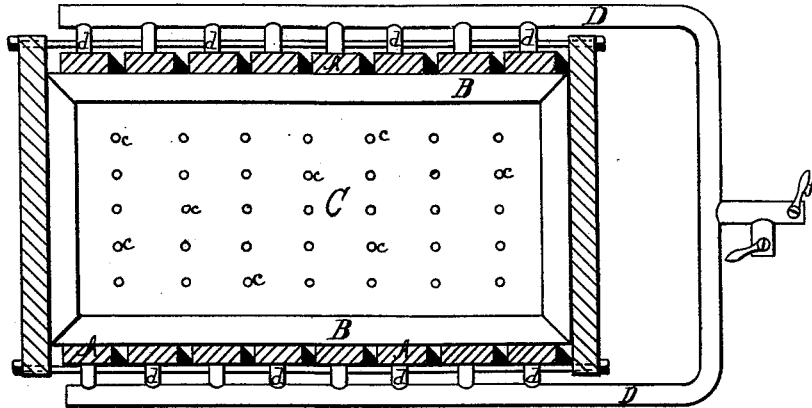


Fig. 3.

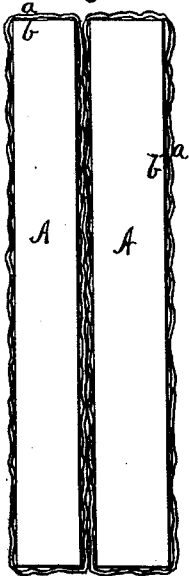
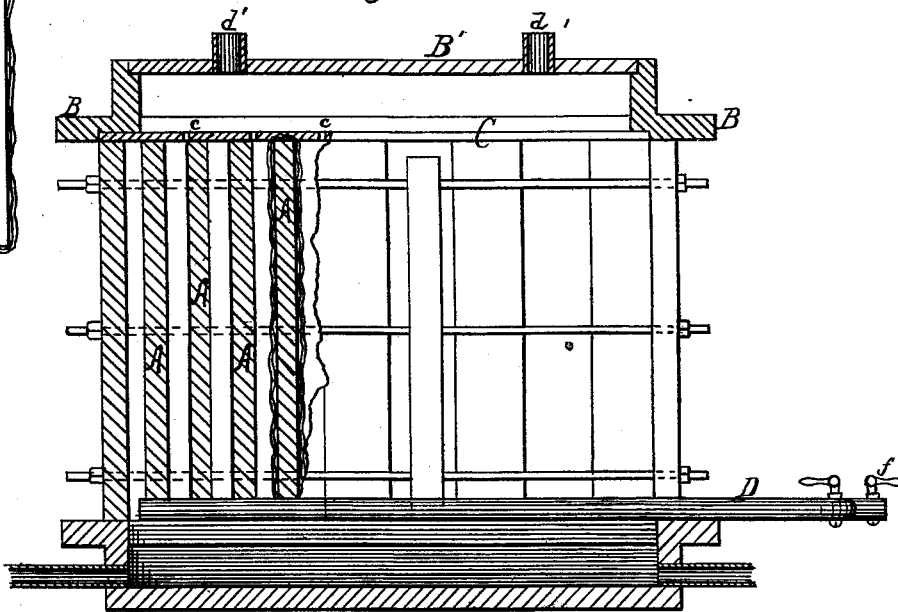


Fig. 2.



Witnesses:

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IMPROVEMENT IN SIRUP AND SUGAR FILTERS AND PROCESSES OF CLEANING THE SAME.

Specification forming part of Letters Patent No. **189,594**, dated April 17, 1877; application filed January 24, 1877.

To all whom it may concern:

Be it known that I, WILLIAM JOHN ALLEN, of Buffalo, in the county of Erie and State of New York, have made certain Improvements in Sirup and Sugar Filters and Process of Cleaning the Same, of which the following is a specification:

This invention relates to filters for grape-sugar houses, &c., and is an improvement on Patent No. 176,571, April 25, 1876.

In the drawings, Figure 1 is a plan view, with the top removed; Fig. 2, side elevation, partly in section; Fig. 3, detail of a section of the filter-plates, showing the cloth and pasteboard.

A A represent the usual vertical filter-plates or partitions. In addition to the filter-cloth a surrounding each plate, I infold each with one or more thicknesses of pasteboard, cardboard, or its equivalent, *b*, at the joints, or at the points of contact with the plates. This is to prevent the frequent burning of the cloth from the heat of the plates, and is very important, as it saves the cloth and the consequent renewal necessary when scorched or burned. It is interposed between the cloth and plate.

B represents the cover of the filter, and, in addition to this, I provide this cover with a removable top plate, *B'*, so that when necessary to get at the inside of the filter only this plate need be removed, instead of having to unbolt or unscrew all the side stay-rods, which is a long and difficult job.

The bottom of this cover is provided with a filter-plate, *C*, (shown in Figs. 1 and 2,) which is filled with openings or perforations *c c c c*. (See Fig. 1.) This effectually does away with the pipes now used, which constantly get clogged, besides doing the work better. It does all the work of any number of pipes, allowing the steam to be injected or conducted into the filter in a very thorough manner.

Two pipes or joints, *d' d'*, are arranged in connection with the removable top plate *B'*, to which suitable hose will be attached, and steam from a boiler injected into the filter. This process of cleaning is entirely new, viz.,

to inject steam into a filter for the purpose of cleaning.

It will be readily seen how much more efficacious it will be in cleaning the filter-plates and cloth from the dirt and saccharine impurities by cutting them, melting, &c., than by hot water, (now used,) or any other method that may be in vogue.

The discharge from the filter is effected by a single pipe, *D*, running both sides and in front of the filter, and small discharge-pipes *d d*, running from it to each of the filter-plates or partitions *A*. (See Fig. 2.) These are all controlled by a single faucet, *f*. This is a great advantage, as the single discharge-pipe, *D*, connecting all the smaller ones *d d*, saves greatly in the labor of cleaning the filter, as the one cock *f* will shut off or open connection with all the plates *A A*, instead of a cock to each pipe *d*; also saves in labor, &c., when water is left in the filter to moisten the slime and prevent fermentation, and to inject the steam for cleaning one cock or faucet *f*, doing the work instantly.

These improvements are intended and do greatly facilitate cleaning the filtering-surfaces, do away with taking the filter apart, and clean it expeditiously, so that the filter need not stand idle but a very short time.

I claim—

1. The combination of the filter proper containing a series of filter-plates, *A*, covered with a layer of pasteboard, and a layer of cloth, the perforated cover *C*, and removable cover *B*, substantially as herein specified.

2. The combination of the filter proper and its series of filter-plates, the perforated and removable covers and the pipes *D* and *d*, the whole arranged to operate substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WM. JOHN ALLEN.

Witnesses:

J. R. DRAKE,
T. H. PARSONS.

*J. J. O.
words.*