

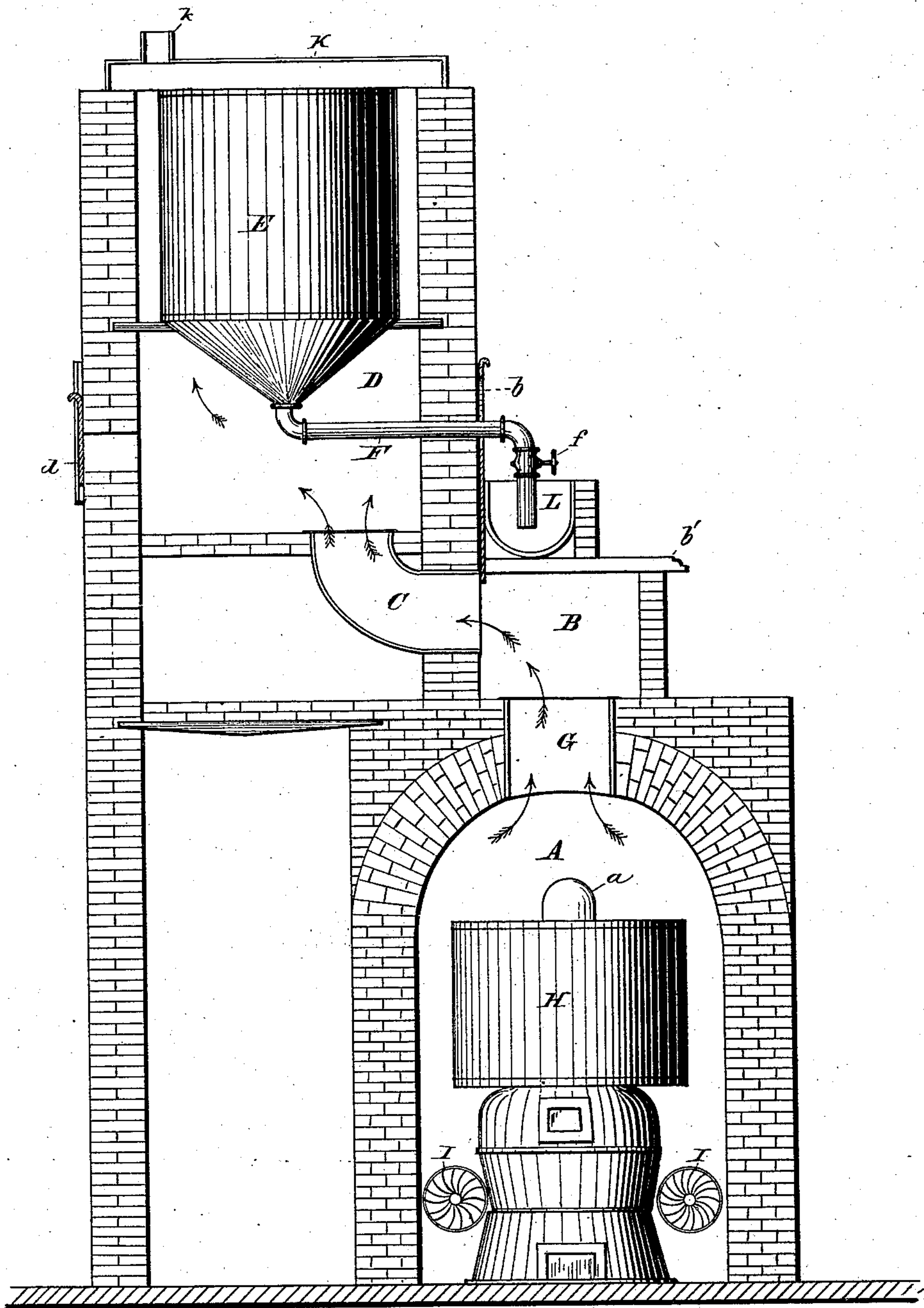
(No Model.)

R. C. CLARK & W. F. BEECHER.

OIL FILTER.

No. 287,627.

Patented Oct. 30, 1883.



WITNESSES

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ROLLIN C. CLARK, OF CORRY, PENNSYLVANIA, AND WILLIAM F. BEECHER,
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OIL-FILTER.

SPECIFICATION forming part of Letters Patent No. 287,627, dated October 30, 1883.

Application filed May 3, 1883. (No model.)

To all whom it may concern:

Be it known that we, ROLLIN C. CLARK, of Corry, Erie county, Pennsylvania, and WILLIAM F. BEECHER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Oil-Filters; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

Our invention relates to improvements in heating oil-filters by hot air; and it consists of a process and apparatus that are hereinafter described, and pointed out in the claims.

In the drawing, the figure is an elevation view, partly in section, of an oil-filter and the apparatus for heating it by hot air, embodying our invention.

A represents a hot-air furnace, of any desired construction, and set, preferably, in brick-work, and provided with the heating-drum H, the smoke-pipe *a*, and dampers I, in the usual manner.

E is an oil-filter supported by the adjacent brick walls, and is provided with the discharging-pipe F, that leads to a receiving-trough, an end view of which is shown at L.

The pipe F may be provided with a gate, valve *f*, or any suitable device for controlling the discharge of oil from the filter.

The filter is surrounded by casings, preferably of brick, and is provided with the cone K, that is made in any suitable manner to give the necessary access to the filter. A damper may be provided at *k*, and also at *d* and *b*.

The operation of the device is as follows, to wit: Air admitted through the dampers I is heated by the furnace and rises through the orifice G to the chamber B, and from thence through the conduct C to the chamber D, surrounding the filter. The heated air about the filter may be controlled at the pleasure of the operator by means of the system of dampers, already mentioned.

The chamber B, of which an end view is shown, may be continued in length indefinitely, and supply heat to other filters, each provided with chambers and ducts and dampers like

those just described. In like manner the trough L may extend far enough to receive the discharge of all the filters in the plant. In this manner the plant may contain as many filters as the furnace can supply with hot air. It would be advisable to have extra filters always ready for use in case others needed repairs or refilling.

In case it is desired to keep the oil warm after it is drawn into the trough L, it will be seen that the trough is located directly over the chamber B, and separated from it only by the cover *b'*, in which position the trough will receive more or less heat from the said chamber, and the amount may be easily increased by perforating the cover *b'*.

It is well known by those skilled in the art that oils, especially the heavier kind, require to be heated more or less to be properly filtered. Heretofore steam has been used for this purpose; but the apparatus is expensive, and is liable to burst from overpressure of steam, or to collapse when, by reason of the condensation of steam, a vacuum is formed in the steam-chambers; also, it required considerable time to get up steam and apply the heat in that manner to the filter, while with our device the passage of heat to the filter will commence soon after a fire is made in the furnace.

In the foregoing we have described a convenient and preferable manner of construction of an apparatus suitable for applying our invention; but we do not intend to limit ourselves in any manner to this peculiar construction.

What we claim is—

1. The process of heating oil-filters by hot air herein described, consisting of the following steps: first, heating air in a furnace surrounded by proper casings, and, second, conducting the air after it is heated, by means of proper passage-ways provided with suitable dampers, to a chamber in which the filter is located, and in which chamber the hot air is caused to come in contact with the filter, and preferably to surround it in such a manner as to heat the filter as desired, substantially as shown and described.

2. In an apparatus for heating oil-filters by hot air, the trough L, adapted to receive oil

from any desired number of filters, and adapted, also, to receive heat by means of its contact with the adjacent hot-air chambers, substantially as and for the purpose set forth.

5 3. In an apparatus for heating oil-filters by hot air, the chamber B, adapted to receive hot air from the furnace and conduct it to any desired number of oil-filters, and adapted, also, to support and heat the trough L, substantially as described, and for the purpose set
10 forth.

4. In an apparatus for heating oil-filters by

hot air, the combination of the hot-air chamber B and the receiving-trough L, substantially as shown and described.

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In testimony whereof we sign this specification, in the presence of two witnesses, this 10th day of April, 1883.

ROLLIN C. CLARK.

WILLIAM F. BEECHER.

Witnesses:

ALBERT E. LYNCH,

C. H. DORER.