

J. HUNTINGTON.

Oil Still.

No. 62,750.

Patented March 12, 1867.

Fig. 1

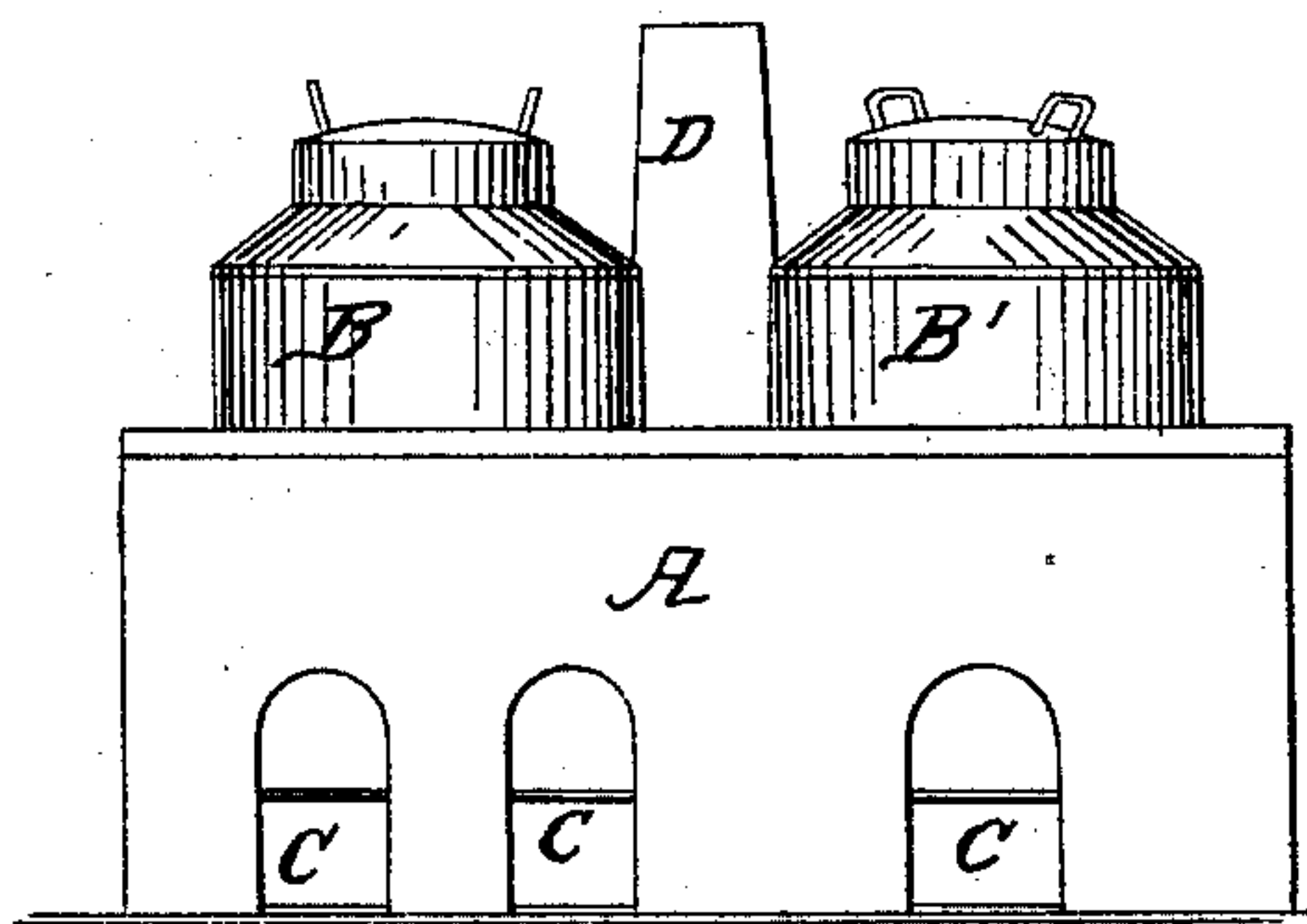


Fig. 2

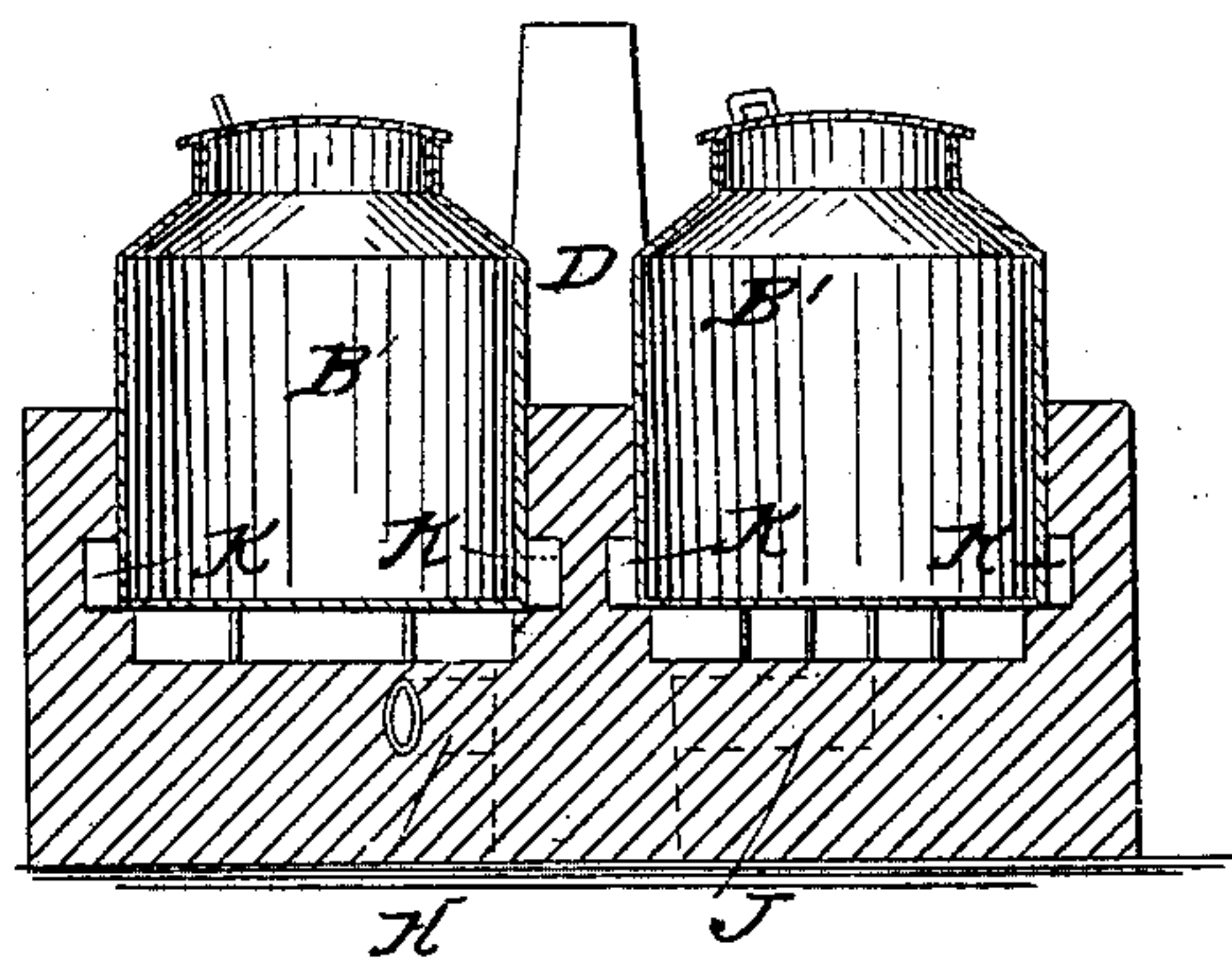


Fig. 3

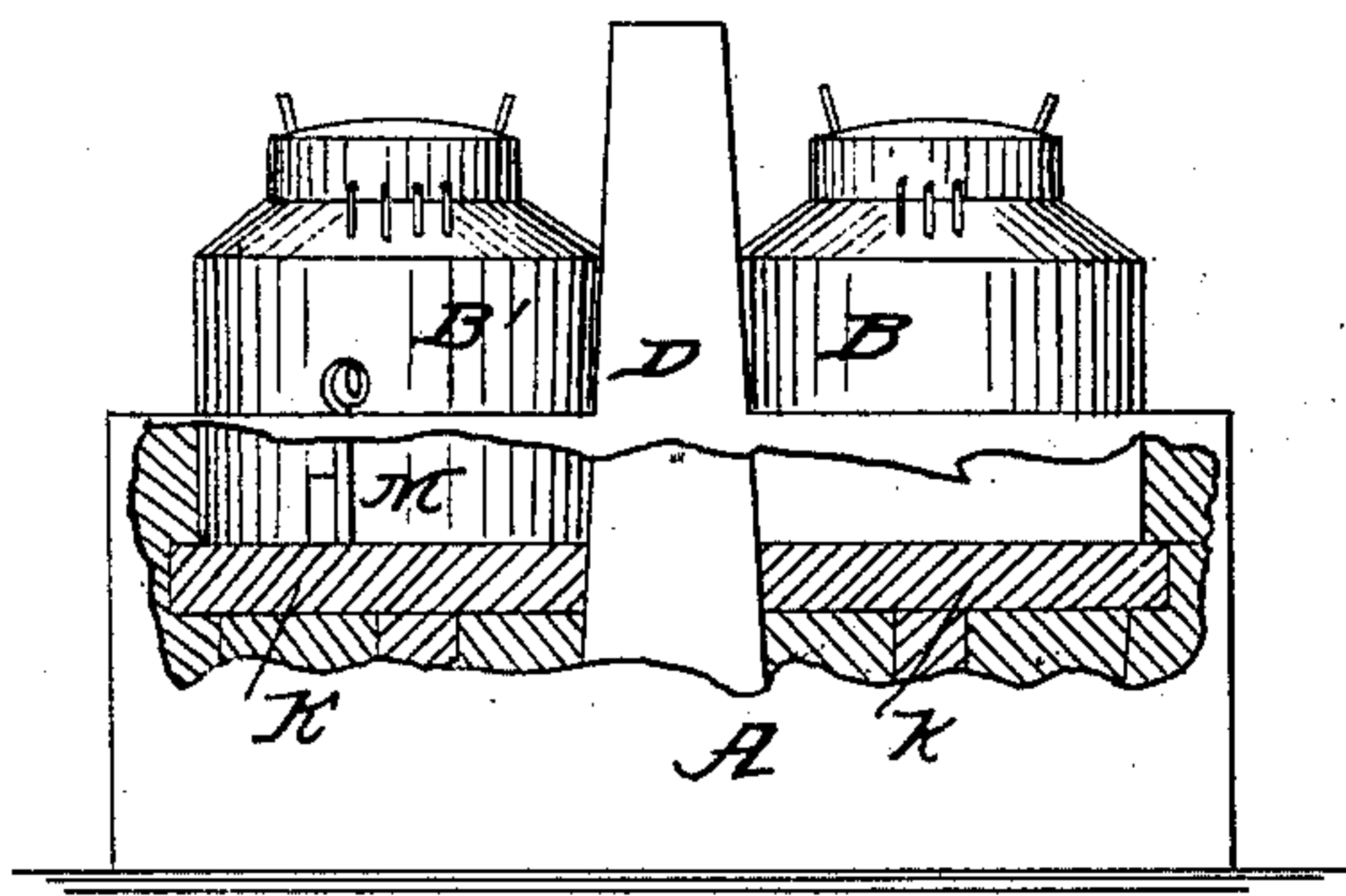
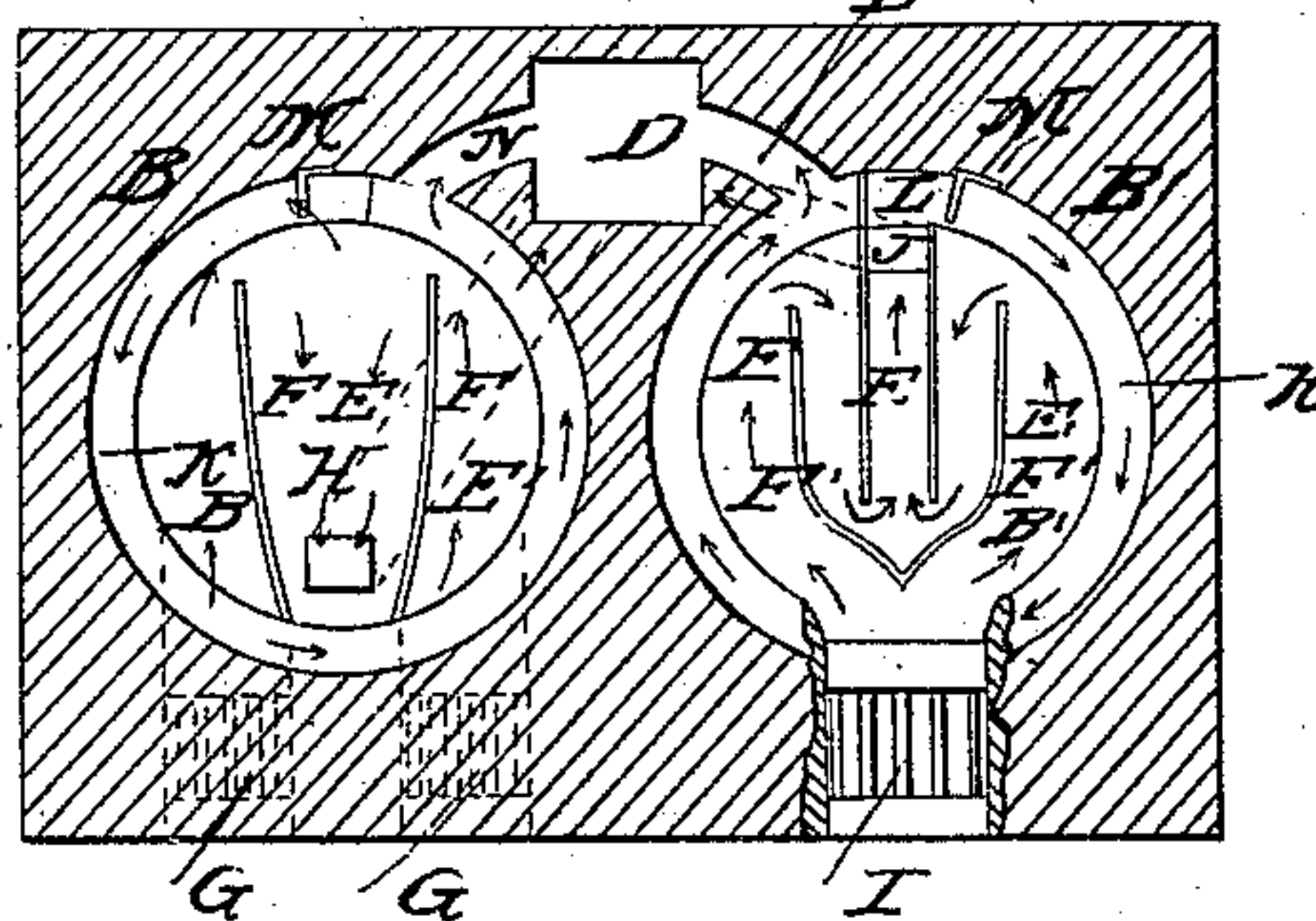


Fig. 4



Witnesses  
J. H. Burridge  
W. H. Burridge

Inventor  
John Huntington



# United States Patent Office.

JOHN HUNTINGTON, OF CLEVELAND, OHIO.

Letters Patent No. 62,750, dated March 12, 1887.

## IMPROVEMENT IN THE CONSTRUCTION OF STILLs FOR OIL.

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 HUNTINGTON, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Distilling Oils; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front view of the furnace.

Figure 2 is a vertical longitudinal section.

Figure 3 is a back view.

Figure 4 is a horizontal longitudinal section.

Like letters of reference refer to like parts in the several views.

A, fig. 1, represents the brick-work of the furnace, in which are placed the stills B B'. C are the furnace doors, and D the stack. The furnace under B is double-flued, whereas the furnace under B' is single, either of which may be used separately or together, as may be required. The constructive difference of the two furnaces is shown in fig. 4, in which B is the double and B' the singled flued. These flues E, fig. 4, are made by running partition walls, F, across the furnace immediately under the stills and upon which the bottom of the stills rests, forming thereby the top of the flues. On referring to fig. 4 it will be seen that the flue E runs directly from the fire-place G across one side of the bottom of the still, as indicated by the arrows, passing thence around the further end of the partition back to the front, thence downward into the ground flue H, and through which into the stack D; also the flue E' runs in the same direction on the opposite side of the still from the fire-place G to the ground flue and stack as does the flue E. The flues in the single furnace are constructed by partition walls in the same way. In this furnace they are made to branch off to the right and left immediately at the throat of the fire-place I by the partition walls F'; thence running across the bottom of the still, as indicated by the arrows; thence down into the ground flue J, through which into the stack. By this arrangement of the flues it will be evident that the heat of the furnace is equally diffused over the entire surface of the bottom of the stills, and thereby is obtained a more uniform heating of the contents; hence the danger of burning the oil, so frequent an occurrence in the ordinary furnace, is thus obviated. In connection with the flues above described, there is also arranged an annular flue, which surrounds the bottom of the stills, as shown at K, figs. 1 and 4. The sides of the still form the inner side of the flue; hence the still is in immediate contact with the heat as it passes from the fire-box around to the stack, first entering this flue at L after passing across the centre of the still B', thence around its entire circumference, as indicated by the arrows, to the flue L', through which it passes into the stack. Thus the lower end of the still is surrounded by a current of heated air, which may be regulated or entirely cut off by the damper M, shown also in fig. 3. The double furnace is also provided with an annular flue, which is arranged substantially in the same way as that surrounding the still of the single furnace above described. In this the flue is shown as being closed on the inner side by the still. The heat enters at the further side and passes round in the same manner into the stack through the flue N, as in the above instance, which is provided with a damper, M'. As above remarked, this arrangement of the flue diffuses the heat equally over the entire surface of the bottom of the still, thus equalizing the heat and preventing the oil from being burned, and thus preserving the color of the oil intact, which cannot be done in the ordinary furnace. The bottom of the still being made to rest upon the partition walls, it is by this prevented from bending or buckling down upon the fire and burned. By deflecting the heat below the flue and making it pass the third time across the bottom of the stills, all the heat is thereby retained within the compass of the stills and walls of the same; hence a large amount of heat is thereby saved, with a corresponding saving in the consumption of fuel. The annular flue, by allowing the heat to pass entirely around the stills, after passing through the bottom flues increasing the heating surface of the stills, whereby they can be run with less fire and with equally favorable results; also, the stills can be heated up more rapidly by this arrangement of the flues than in the ordinary furnace, and can be much more rapidly cooled off by throwing open the furnace doors and allowing the cool air to pass through and around the several flues; hence the still can be run much oftener than if heated in the ordinary way.

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

The flues E J and damper M, or their equivalents, arranged in relation to an annular flue K, surrounding the base of the still, and operating conjointly in such a manner as to be combined with a single or double furnace to diffuse a uniform heat without injury to the oil or burning of the still; and also to induce a current of cold air to reduce the heated oil and still, as specified.

JOHN HUNTINGTON.

Witnesses:

J. H. BURRIDGE,

W. H. BURRIDGE.