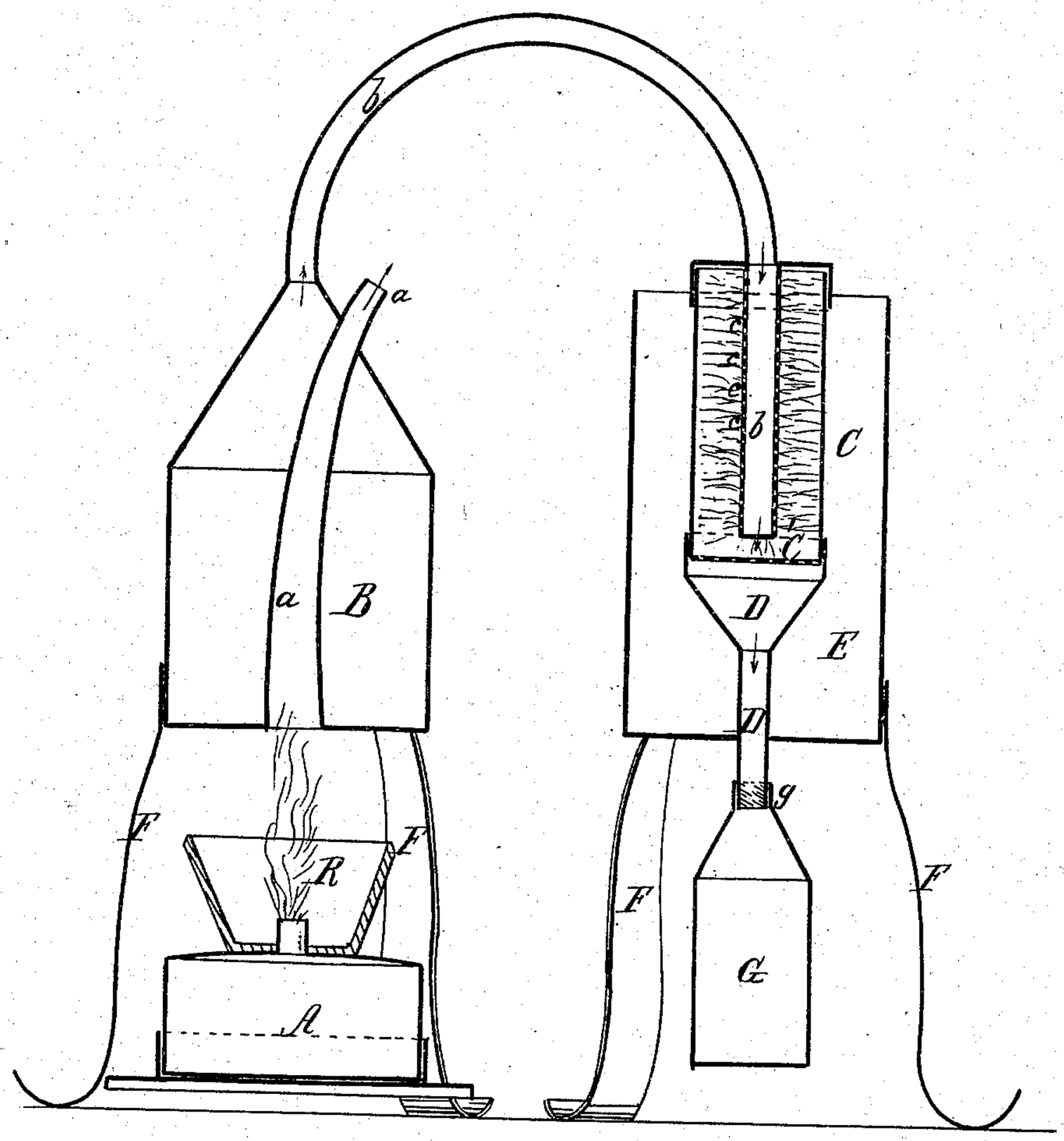
J. C. WALKER.

MODE OF EXTRACTING ESSENCES.

No. 67,824. Patented Aug. 13, 1867.



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Letters Patent No. 67,824, *dated August* 13, 1867.

IMPROVED MODE OF EXTRACTING ESSENCES.

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, JAMES C. WALKER, of Waco Village, in the county of McLennan, and State of Texas, have invented a new and useful Improved Apparatus for Extracting Essences; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, and in which—

The drawing shows a vertical elevation of my improved apparatus, some of the interior portions being shown as if the wall near the spectator were removed for the purpose.

In this invention the extract is made under pressure and bottled up, the whole process taking place in an air-tight apparatus, by which all the aroma is saved. This apparatus may be used for making any extract, for whatever purpose used. It will be found especially valuable, however, for extracting the volatile essences, in which it is very important that no part of the essential oils or juices should be lost, whether vaporized by the heat of the process or not. In no invention previous to mine has this been attained, but they have all failed to save a large part of the strength of the extract by permitting the escape of the volatile parts of the product of the process.

In order that others skilled in the art to which my invention appertains may be enabled to make and use the same, I will proceed to describe it in detail.

In the drawings, A represents the furnace, which, in apparatus for extracting delicate and highly volatile essences, may be, as shown in the drawings, a simple lamp of any form. B is the boiler, placed over the lamp or furnace, and provided with a tube, *a*, which passes through it from bottom to top, as a conductor of the heated gases and smoke of the fire beneath it, and another tube *b*, connecting its interior with the chamber C, in which is placed the material from which the essence is to be extracted. The tube *b* runs nearly to the bottom of the chamber C, within which it is perforated with a large number of minute holes, *c c c*. The bottom C′ of the chamber is also perforated. Beneath the chamber is a pipe, D, made at its upper end funnel shaped, so as to fit closely to the bottom C′, and at its lower end extending a short distance below the bottom of a cylinder or water-tank, E, which surrounds and encloses the chamber C and upper part of the pipe D. A stop-cock may be inserted in the pipe below the tank E, if desired. F F are legs which support the various parts of the apparatus. R is a reflector, placed around or beneath the lamp to throw all its heat towards the boiler.

The operation of the above-described apparatus is as follows: I place the substance from which the extract is to be made in the chamber C, and connect it, as shown in the drawing, with the boiler B, which is nearly full of boiling-water. The steam passing over from the boiler B enters the chamber C through the apertures *c c c*, and is forced into the midst of the mass in the chamber C, thoroughly permeating every part of it, and extracting the essences from it, which percolate through the perforated bottom C′ and drop to the bottom of the tube D. At the lower extremity *g* of the tube D, I attach a bottle, G, to receive the extract thus made. The bottle may be firmly fixed by a screw-thread or otherwise to the bottom of pipe D, and the point of junction must be made air-tight. By this means the steam will be confined within a steam-tight apparatus, consisting of bottle G, pipe D, chamber C, pipe *b*, and boiler B, and the substance from which the essence is to be extracted will be acted on under any degree of pressure that the operator may require, a common safety-valve being provided at any part of the apparatus to regulate the pressure of the steam and prevent explosion. The tank E is to be filled to any required degree with cold water, the action of which will be to condense whatever steam may pass through into the pipe D. The substance having once been put through this process, and its essential elements having been extracted and conveyed to the bottle G, in company with the water of condensation in the pipe D and chamber C, the water may be emptied from the boiler B, and the contents of the bottle or receiver G may be substituted in its place, and distilled to any required degree of purity and strength. The process may be continued till the extract is ultimately reduced to a solid, if desired. No aperture is shown in the drawings for the admission of the water, &c., into the boiler B, but an aperture of any form may be made in its top for the purpose, and covered with a lid or valve of the proper shape, with any kind of fastening to hold it in place during the process; or the pipe *b* may be screwed into the top of the boiler B, so as to be detachable, and may be taken off and the water, &c., poured through the aperture thus left

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The apparatus above described, consisting of the furnace A, boiler B, having tube *a*, tube *b*, with perforated extremity, chamber C, with perforated bottom, pipe D, and surrounding tank E, all combined and arranged substantially as and for the purpose specified.

2. The detachable receiver G, fastened by the air-tight joint *g* to the tube D, and acting in combination with the parts above described, substantially as and for the purpose specified.

To the above specification of my improvement I have signed my hand this 29th day of June, 1867.

JAS. C. WALKER.

Witnesses:

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