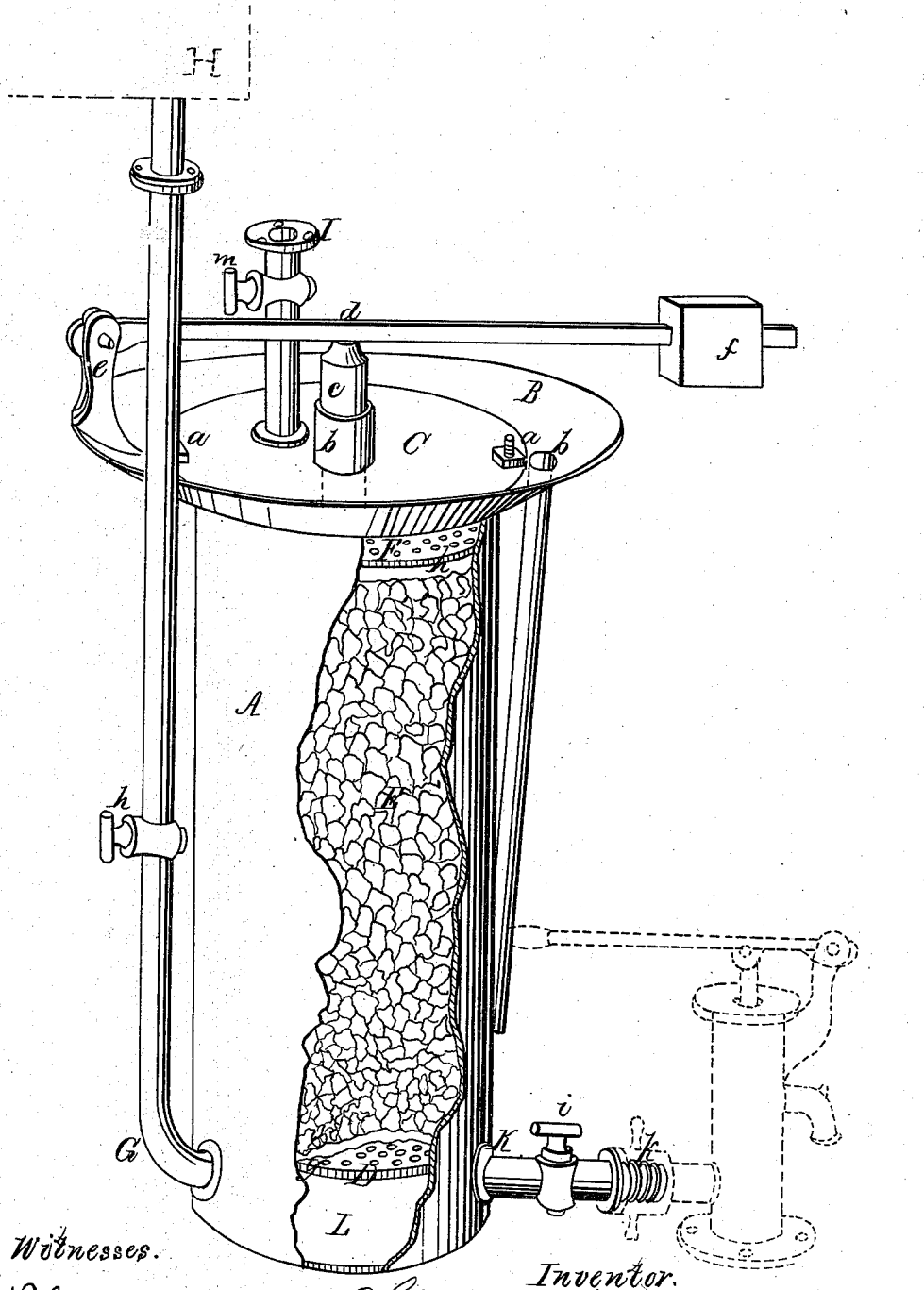
C. L. FLEISCHMANN.

APPARATUS FOR RECTIFYING ALCOHOLIC LIQUORS.

No. 103,320. Patented May 24, 1870



Witnesses.

A. B. Stoughton.

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United States Patent Office.

CHARLES LOUIS FLEISCHMANN, OF CINCINNATI, OHIO.

Letters Patent No. 103,320, *dated May* 24, 1870.

IMPROVEMENT IN APPARATUS FOR RECTIFYING ALCOHOLIC LIQUORS.

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, CHARLES LOUIS FLEISCHMANN, of Cincinnati, in the State of Ohio, have invented a new and improved Apparatus for Rectifying Alcoholic Liquors; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in an apparatus for passing alcoholic liquors through compressed charcoal, and keeping the coal in a compact state by means of self-regulating pressure, and to force air or suitable gases through the coal, when saturated with volatile substances, in order to revive its rectifying powers.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my rectifying apparatus of wood or metal, cylindrical or square.

In the drawing—

The letter A represents a cylindrical vessel, which is open on the top and closed at the bottom.

The cylinder A is provided on the top with a broad flange, B, which is bent somewhat upward.

The cylinder is closed by means of a cover, C. This cover is kept in its place by screws *a a*. It has in its center a stuffing-box, *b*, into which fits the piston *c*.

On the piston rests the lever *d*, which is secured in the arms *e*, fastened to the flange B.

The lever *d* is provided with a weight, *f*.

Inside of the cylinder, and below, is a false bottom, D, which is placed four or more inches above the bottom of the cylinder A. The false bottom D has a number of holes, to let the liquor pass up through the coal.

On this false bottom is placed a woolen blanket, *g*, or some other stuff. Upon that is placed the charcoal or other suitable material for rectifying purposes.

The coal E is packed into the cylinder with great care, and made very compact.

When the coal reaches the top of the cylinder another piece of blanket, *h*, is spread over the coal, and upon that the filter-plate F, which is provided with holes to allow the liquor to escape up through the pipe I, which empties into a proper receiver.

When the cover C is secured the piston *c* is placed upon the filter-plate F and the weight *f* adjusted. The coal is thus compressed and held tight in its place, preventing it from being disturbed by the upward pressure of the liquor, which may be supplied from a very high point.

The supply-pipe G enters the cylinder near the bottom. It is provided with a stop-cock, *h*. It communicates with the reservoir H, containing the liquor to be rectified.

The short pipe K communicates with the space L between the bottom of the cylinder A and false bottom D. It is provided with a stop-cock, *i*. It has on its end a screw-thread, *k*, to receive a coupling-nut to connect a pump, as shown in the drawing by dotted lines.

The flange B has a small opening, *l*, to allow the liquor which may accumulate to pass in a proper receiver.

Operation.

The liquor to be rectified is put into the reservoir H, and, when the stop-cock *h* is opened, it enters the cylinder below, and passes up through the compressed coal and out through pipe I into a receiver.

When the coal gets saturated with essential oils, ethers, acids, &c., and when it loses its rectifying powers, the communication with the reservoir is stopped by closing the stop-cock *h*, and a pump is attached to the pipe K, and the liquor which has been absorbed by the coal is pumped from it.

The coal may be washed by means of cold or warm water, or cleansed by common or surcharged steam, in order to drive out all the volatile substances. When the coal is purified in that manner, the pump must be set in motion for a considerable space of time, to expel from the pores of the coal all vapors or moisture, and to impregnate the coal with dry fresh air. The coal regains in that way again its rectifying powers, and may be renewed every time the coal gets clogged with the essential oils, &c.

Should the operation of rectifying be stopped for any length of time, the stop-cocks *h i m* are closed, whereby the evaporation and loss of alcohol is prevented.

The advantages of the new mode of rectifying over that one now in use are:

First, it requires a small quantity of coal.

Second, the filling, emptying, cleansing, causes little trouble, and, as the apparatus is portable, it can be carried on in any part of the building.

Third, the apparatus being air tight, there is very little loss by evaporation, even if interrupted for any length of time.

Fourth, on account of the small quantity of coal employed, the alcohol is easily abstracted from it again.

Fifth, the coal can be revivified in the apparatus without removing it, which affords great economy in coal and labor.

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

The self-regulating pressure upon the rectifying medium by means of the lever *d*, weight *f*, piston *c*, and stuffing-box *b*, substantially as described.

Also, the pipe I in the cover, in combination with the induction-pipe G and exhaust-pipe K, placed in the lower part of the chamber L of the vessel A, substantially as and for the purpose described.

CH. L. FLEISCHMANN.

Witnesses:

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EDMUND MASSON.