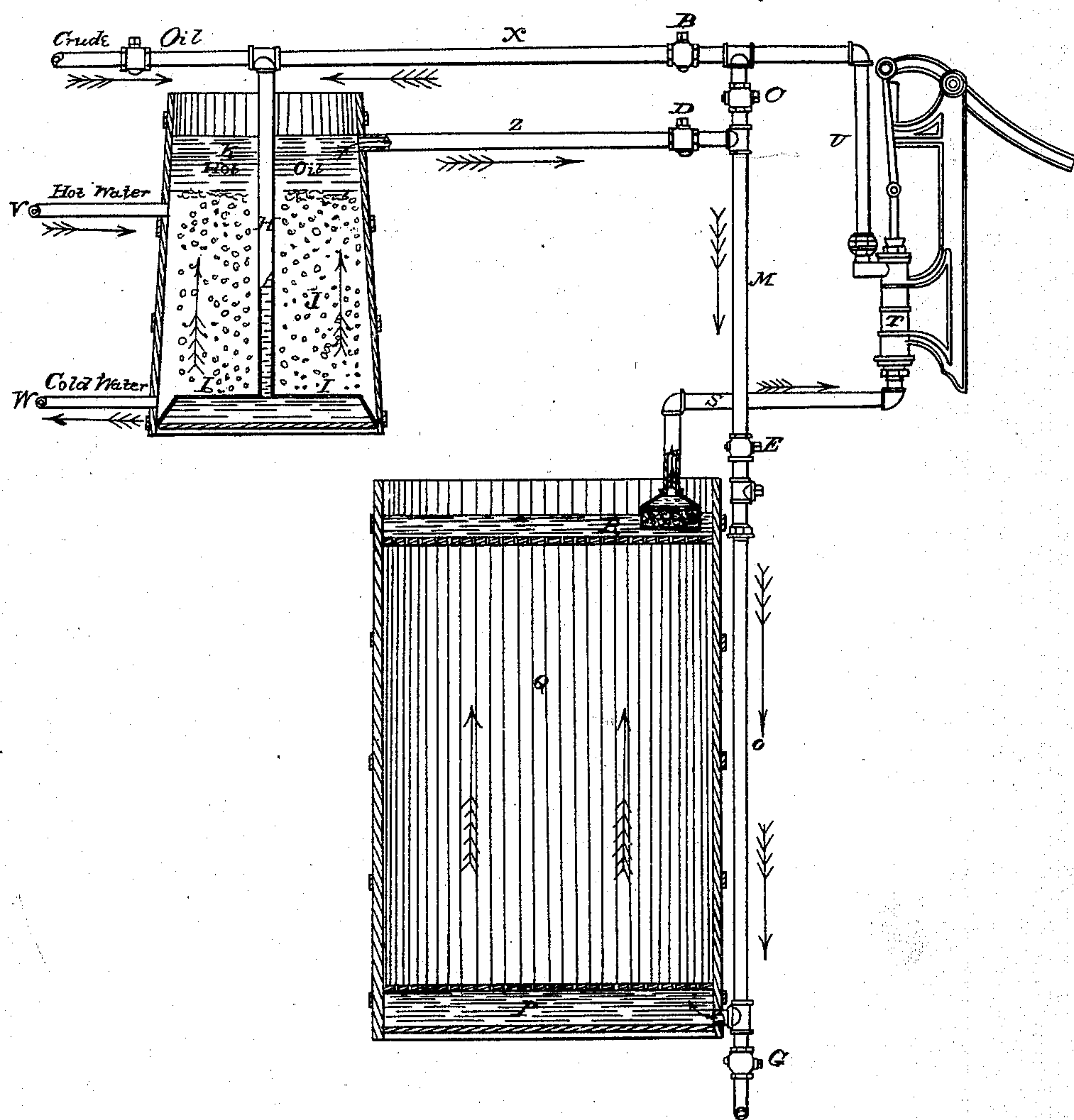


F. SYLVESTER.

Refining Oils.

No. 68,669.

Patented Sept. 10, 1867



Witnesses:

*G. W. Sylvester*  
*J. H. Simpson*

Inventor:

*Fred. A. Sylvester*



# United States Patent Office.

FORDYCE SYLVESTER, OF NEW YORK, N. Y.

*Letters Patent No. 68,669, dated September 10, 1867.*

## IMPROVEMENT IN REFINING PETROLEUM.

*The Schedule referred to in these Letters Patent and making part of the same.*

Be it known that I, FORDYCE SYLVESTER, of the city, county, and State of New York, have invented an improved Method of Macerating Petroleum; and I do declare the following a correct description thereof, reference being had to the accompanying drawing.

The principle of my invention consists in pumping or passing the petroleum repeatedly and alternately through hot water and through the macerating material. In passing the oil through the hot-water bath the coarse impurities are retained in the water, and the finer coloring matter is absorbed by the macerating material. As the oil contains earthy matter of almost equal gravity with the oil, the action of the hot water is to expand the oil, making it of lighter gravity, while the same result is not felt by the earthy matter, and of a consequence it falls through the oil and through the water to the bottom of the bath. This process also enhances the value of the macerating material, inasmuch as it protects its capillaries, which absorb the coloring matter of the oil, from being closed up by the finer earthy matter found in the oil. The passage of the oil through the hot water is of course upward, as the oil is lighter than water, but through the macerating material it may be up or downward, which is not essential.

In the drawing, A represents the stop-cock and the tube through which the crude oil enters coming from its reservoir. The stop-cock B is at first kept closed. The oil passes down through H, and escapes in I I through a false bottom full of holes, and ascends through the hot water J J, which is supplied by the pipes V and W. The hot oil will then float on the water in K, leaving its impurities behind. Thence it will overflow by L, and by the tube M O reach the bottom P of the macerating-tank, and through the macerating material, collecting in R, from whence it is taken up by the tube S and the pump T, and forced through the tube V upward.

As soon as the pump is set in motion the stop-cock B is opened and A is closed, therefore the oil will return through H to the bottom of the hot-water tank and repeat its circulation.

To recapitulate the operation, I will state the course of the oil through the apparatus when the pumps are in motion. The pumps force the oil through T U B X H I I J J K L D M E O P Q R S T.

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

1. Refining and purifying petroleum oil by passing it through hot water, substantially as described.
2. Refining and purifying petroleum by washing it in hot water, and macerating with bone-black or its equivalent, substantially as described.
3. The devices herein shown whereby the water is heated and circulated, and the oil forced through the hot water, substantially as described.

FORDYCE SYLVESTER.

Witnesses:

GEO. W. SYLVESTER,

J. H. SIMPSON.