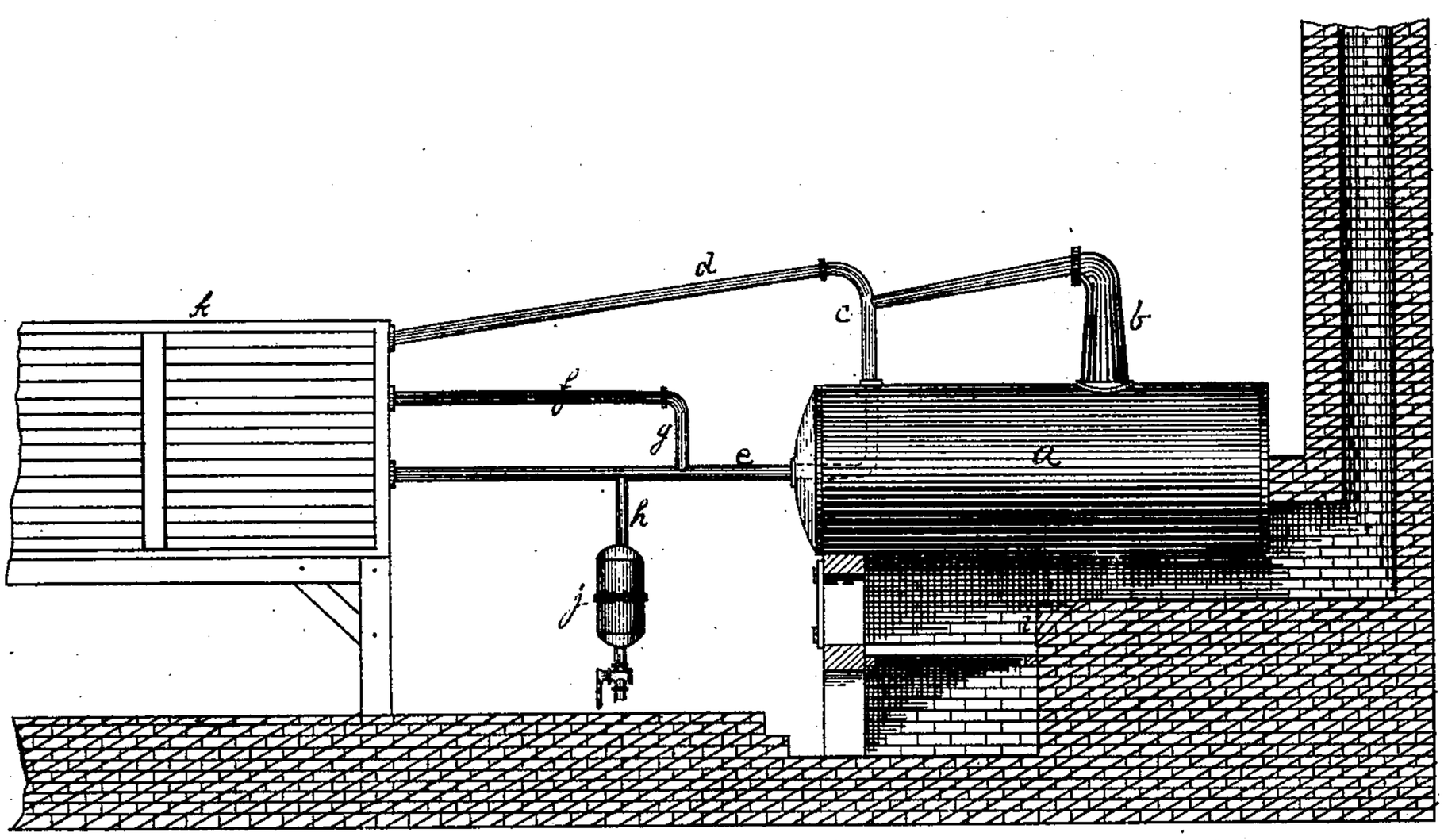
(No Model.)

C. T. PLACE.

Distillation of Petroleum and other Oils.

No. 243,080. **Patented June 21, 1881.**



Witnesses_
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CHARLES T. PLACE, OF ALLEGHENY CITY, PENNSYLVANIA.

DISTILLATION OF PETROLEUM AND OTHER OILS.

SPECIFICATION forming part of Letters Patent No. 243,080, dated June 21, 1881.

Application filed April 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. PLACE, of Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in the Distillation of Petroleum and other Oils; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a method and apparatus for obtaining products of different fire-tests in the refining of petroleum and similar substances; and it consists in dividing the goose-neck into two or more branches or pipes leading to the condenser at different heights, so that the higher-test products shall seek and pass through the higher pipes and the heavier ones through the lower pipes, and then passing the lower pipe or pipes through the still or other heating apparatus, whereby the vapors therein shall be raised in temperature and further vaporized, so as to effect a more perfect separation of the different tests and gravities constituting the same.

To enable others skilled in the art to make and use my invention, I will now describe it by reference to the accompanying drawing, which is a vertical sectional view of my improved apparatus.

I make use of a still, *a*, of ordinary construction, having a goose-neck, *b*, which at its outer end is connected to a vertical pipe, *c*, forming two branches. One end or branch of the pipe *c* extends above the neck *b*, and is there connected with a pipe, *d*, leading to the condenser *k*, and the other end passes down into the still *a*, and then out through the head of the same by an angling joint, so that the contents of said pipe *c* shall be reheated or raised in temperature to such a degree as to further vaporize them and effect a further separation of the vapors, according to their different fire-tests.

A horizontal pipe, *e*, is connected to the lower end of the pipe *c*, which pipe *e* leads to the condenser, and connected to it, beyond the head of the still, is a vertical pipe, *g*, provided with a branch pipe, *f*, which also leads to the condenser. The purpose of the pipe *g* is to permit the ascent and carrying off of the lighter products which have been separated by the reheating operation.

Attached to the lower side of the pipe *e* is a pipe, *h*, which leads down to a drum, *j*, for containing the gum or tar of the distillation.

Thus it will be seen that by the apparatus shown four products of different tests and gravities are separated from each other and taken off from the still.

Instead of passing the pipe *c* through the still for the purpose of reheating it, it may be led down and caused to pass through the bridge-wall of the furnace *i* under the still, or it may be caused to pass through any other heating-chamber suitable for the purpose.

The pipe *g* may, if desired, be led up from pipe *e* inside of the still, instead of beyond it, the purpose being to permit the ascent of the lighter products freed by the reheating operation.

If desired, steam-jets may be put in the various pipes, to aid in carrying over the products of distillation. I do not limit myself to any special arrangement of the division of pipes.

It is desirable that the length of the neck *b* should be such as to cause a partial condensation of its contents, so that the heavier product shall descend into and reach the reheating-tank.

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

1. The combination of a still and goose-neck, the latter of which is provided with ascending and descending pipes or branches, the descending pipe or pipes passing through the still or other heating-chamber, substantially as and for the purpose described.

2. A still and goose-neck, the latter of which has ascending and descending pipes or branches for the purpose of separating the lighter from the heavier products for distillation, the descending pipe passing through a heating-chamber to be reheated, in combination with an ascending branch pipe attached to the descending pipe at or beyond the reheating point, substantially as and for the purpose described.

3. The method of separating the products of distillation of different fire-tests by first separating them after their passage from the still; second, passing the heavier ones through a reheating-chamber; and, third, dividing the product of such second distillation, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand.

CHARLES T. PLACE.

Witnesses:

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