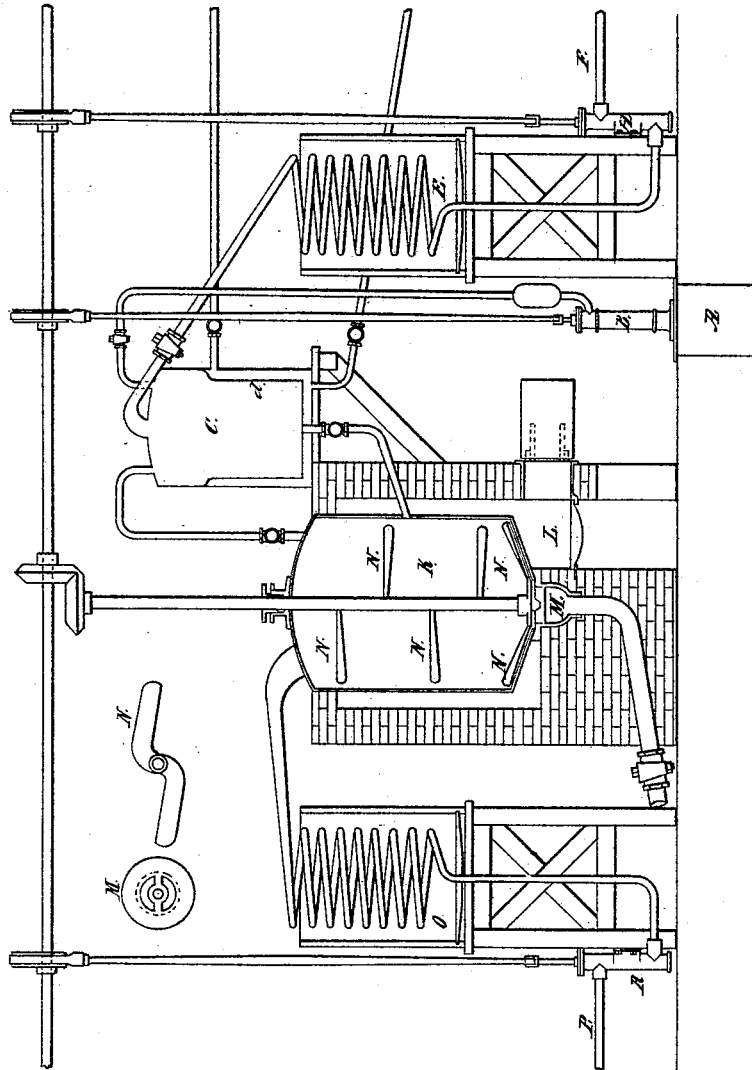


J. PERKINS & W. H. BURNET.
 APPARATUS FOR REFINING AND DISTILLING PETROLEUM.

No. 47,125.

Patented Apr. 4, 1865.



Witnesses:
 Daniel F. Tompkins
 Elias Taylor

Inventor:
 James Perkins
 William H. Burnet
 Comptroller

UNITED STATES PATENT OFFICE.

JAMES PERKINS AND WILLIAM H. BURNET, OF NEWARK, NEW JERSEY.

IMPROVED APPARATUS FOR REFINING AND DISTILLING PETROLEUM.

Specification forming part of Letters Patent No. 47,125, dated April 4, 1865.

To all whom it may concern:

Be it known that we, JAMES PERKINS and WILLIAM H. BURNET, of the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Refining or Distilling Petroleum and other Products; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of the specification.

The nature of our invention consists in the introduction and use in the apparatus, in connection with the main receiver, of one or more separate and independent receivers, into which the petroleum to be refined is first introduced, and from which, by means of steam or other sufficient heat, the lighter oils and gases—such as naphtha and benzine—are evolved or liberated, the whole apparatus taken together operating to permit of a constant and uninterrupted process of refining the petroleum or other products.

Our invention further consists in the introduction and use, in the main receiver, of an agitator and cleanser worked by power, for the purpose of both agitating the petroleum to facilitate evaporation, and also to clean the bottom and sides of the receiver in the manner shown.

Our invention further consists in the attachment and use, in connection with the said receiver, of an exhaust-pump or exhaust-pumps to accelerate the evaporation by the removal of pressure from the receivers.

In the drawings, A is the reservoir containing the crude petroleum or other products to be refined. B is the pump by which the petroleum is elevated into the receiver C. C is for the purpose of liberating and disposing of the lighter oils and gases, such as naphtha and benzine. This is done by the heat of steam introduced into the steam-jacket D around C. The naphtha and benzine pass from C in vapor through the condenser E, and being there condensed are at last discharged through the pipe F, the whole process being facilitated by the use of the exhaust-pump H. The petroleum in C (the naphtha and benzine being separated therefrom) is now discharged or permitted to flow into the main receiver K, where

it is subjected to the heat of the furnace L; or, if desired, steam may be employed in the same manner as at C. The receiver or pipe M underneath K, and forming a part thereof, is for the purpose of collecting and removing the residuum and sediment of the petroleum. The collection and deposit of the residuum and sediment are facilitated and forced by the action of the rotary or other agitator or stirrer, N, which may be made and applied in any desired form or way as experience may show to be best, and if found useful the same may be introduced into and used in the receiver C also. As shown in the drawings, the upper wings of N operate to agitate the petroleum, and so to facilitate evaporation and prevent foaming, whereas the lower wings of N operate more directly to cleanse the bottom of the receiver and to collect and force (being set and shaped for that purpose) the sediment and residuum into the lower pipe or receiver, M, from which it may at any time be discharged or withdrawn without putting out the fire or otherwise interrupting the process of refining the oil. As the process goes on, the petroleum, in the form a vapor, passes from the receiver K through the condenser O, and is discharged in a condensed form at p, the exhaust-pump R operating, as in the case of the receiver C, to facilitate the evaporation by removing the pressure from the receiver K.

What we claim as our invention, and desire to secure by Letters Patent of the United States, is—

1. The combination of the receivers C and K with the agitator N and sediment-receiver M, substantially in the manner and for the purposes described.
2. The combination of the parts C, E, K, N, and O, substantially in the manner and for the purposes described.
3. The use of the exhaust-pumps H and R, in combination with the distilling and condensing apparatus described, substantially in the manner and for the purposes set forth.

JAMES PERKINS.
WILLIAM H. BURNET.

Witnesses:

DANIEL F. TOMPKINS.
ELIAS TAYLOR.