

UNITED STATES PATENT OFFICE.

CHARLES C. MENGEL, OF BROOKLYN, NEW YORK, AND ALOIS PÖHR VON PÖHRNHOF, OF ST. CATHARINE'S, CANADA.

IMPROVEMENT IN CONVERTING THE RESIDUUM OF PETROLEUM INTO OIL.

Specification forming part of Letters Patent No. 116,852, dated July 11, 1871.

To all whom it may concern:

Be it known that we, CHARLES C. MENGEL, of the city of Brooklyn, in the county of Kings and State of New York, and ALOIS PÖHR VON PÖHRNHOF, a citizen of the United States, now residing at St. Catharine's, in the Dominion of Canada, have invented a new Process of Converting the Tar or Residuum of Petroleum Distillation into Illuminating Oils.

In the ordinary process of distilling petroleum to obtain illuminating oil there is always a tarry residuum, from which no more oil suitable for illumination can be obtained. Attempts have been made to effect the distillation or conversion of illuminating oils from such residuum by the introduction of steam into the still, but without success. We have found that by the introduction of water in a liquid state into the still, and in contact with such residuum, while the latter is heated to the high temperature of from 600° to 800° Fahrenheit, a very large proportion, viz., from eighty-five (85) to ninety (90) per cent. of the tar or oil may be converted into illuminating oil; and our invention consists in effecting such conversion by such introduction of water or liquid containing water.

In carrying out our invention we furnish the still, in its head or upper part, with a cock, above which is a funnel, with a siphon-trap between it and the cock, and keep the funnel supplied with water. When the tar or residuum in the still has been heated to above 600° we open the cock and allow the water to drop into the still and fall upon the surface of the tar or residuum, thereby causing its evaporation and a partial decomposi-

tion of the water to take place. The vapors thus eliminated pass over from the still, and are condensed in the usual way and collected in the form of illuminating oil, which, though sometimes of dark color, is of a light specific gravity.

In our experiments we have obtained petroleum residuum of a gravity of 25° Baumé—about eighty-seven per cent. by measure—of dark oil, every particle of which was consumed in a lamp, and which burned freely to the last drop.

The quantity of water dropped into the still is regulated by opening the cock more or less, and will depend upon the quality of the residuum to be converted and to the temperature of the still. We have generally used during the process a quantity of water about equal to from one to three per cent. of the tar or oil.

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

The conversion of the tarry residuum of petroleum distillation into illuminating oils by dropping into it water in a liquid state, or liquids containing water, while it is subjected to a high degree of heat in a still, substantially as herein described.

CHAS. C. MENGEL,

ALOIS PÖHR V. PÖHRNHOF.

Witnesses to the signature of CHARLES C. MENGEL:

HENRY T. BROWN,

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Witnesses to the signature of ALOIS PÖHR VON PÖHRNHOF:

G. BORLS,

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