

UNITED STATES PATENT OFFICE.

ADOLPH MILLOCHAU, OF NEW YORK, N. Y.

IMPROVEMENT IN OBTAINING USEFUL PRODUCTS FROM THE TARRY RESIDUUM OF PETROLEUM.

Specification forming part of Letters Patent No. 41,085, dated January 5, 1864.

To all whom it may concern:

Be it known that I, ADOLPH MILLOCHAU, of the State, county, and city of New York, have invented means of producing in a practical and convenient manner certain new and useful products from what is known as the tarry residuum of the distillation of petroleum or rock-oil; and I hereby declare that the following is a full, clear, and exact description of the same.

When crude petroleum or rock-oil is distilled several different products are obtained. The first of these which appears is a very volatile liquid known in commerce as "benzine," "naphtha," "carbon spirits," or "light oil." The second product is called "burning-oil," or "kerosene," and, as is well known, is largely used for illuminating purposes. The least volatile product of the distillation is commonly termed "heavy oil." After all these products have been taken off there remains in the still a thick, black, tarry mass, known under the name of "residuum of distillation," and which has generally been regarded as of little value, having been heretofore used chiefly for fuel, or as a material for making illuminating-gas.

The object of my invention is to so treat this residuum as to obtain from it highly valuable articles of commerce. To this end I take the residuum at a temperature of from 150° to 175° Fahrenheit. The still will furnish it already heated to this point; or it may be taken in a cold state, and just before or during the treatment may be raised to said temperature. I first put it into such tanks as are used in treating oils with acid, and add to it ten per cent. of benzine, of a specific gravity of from 58° to 75° Baumé, stirring it a few minutes to effect a thorough mixture. I then add to the mass ten per cent. thereof of sulphuric acid of commerce, and stir and agitate the compound for about an hour; when a thick coke-like mass will collect and be precipitated to the bottom in mixture with the acid. I leave it undisturbed for about the same period of an hour, at the end of which time the acid and impurities will be found at the bottom of the tank entirely separated from the oily portion of the compound. This oil, which at first was black, has now become green. I then draw off the oily part and put it into another tank and treat it, without re-

drawing, first with about five per cent. and then with about three per cent. more of a wash of soda or potash, of a specific gravity of from 25° to 30° Baumé, agitate the mass for about one hour, and then allow it to stand about an hour, when the wash may be separated from the oil in the manner well known to refiners of petroleum. The oil has now turned from green to yellowish red. The product thus obtained is the chief object of my invention. It constitutes an oil which is quite pure, and which in cold weather becomes of about the consistency of lard or moderately-salt butter, and is one of the best lubricants known. For this purpose it may be used either alone or in combination with the ordinary lubricating oils and fats. For wagon-grease or for heavy machinery, and where considerable heat is liable to be generated, it forms, without the addition of any other substance, one of the most superior lubricators yet produced. It is very difficult to inflame, is not liable to become gummy, and does not, so far as I am aware, corrode any of the metals, but forms one of the best protections against the corrosive action of air and moisture upon the ordinary metals used in machinery. When desirable—as, for instance, when the oil is to be employed for lubricating the lighter classes of machinery—it may be properly thinned by mixing with it the ordinary heavy oil distilled from petroleum, or any of the fat oils commonly used for lubricating.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Producing an oil or grease from petroleum or coal-oil tarry residuum by the process herein set forth, said process consisting in treating said residuum first with benzine or light oil, and then with an acid, and in removing the acid by means of an alkali and water, the whole substantially as described.
2. Producing from said residuum an oil suitable for burning in lamps by the within-described combination of processes—that is to say, by first preparing the oil or grease in the manner herein set forth and then distilling the same, substantially as specified.

A. MILLOCHAU.

Witnesses:

S. D. COZZENS,
ANDREW S. TODD.