

UNITED STATES PATENT OFFICE.

HENRY NAPIER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN THE MANUFACTURE OF ROSIN.

Specification forming part of Letters Patent No. 27,646, dated March 27, 1860.

To all whom it may concern:

Be it known that I, HENRY NAPIER, of Brooklyn, in the county of Kings and State of New York, (but at present temporarily residing in the city of Manchester, England,) have invented a new and Improved Mode of Producing White Rosin from Crude Turpentine at one Continuous Operation, of which the following is a specification.

To enable others skilled in the art to make and use my invention, I will proceed to describe the method I employ to carry it into practical operation.

I use a still such as is used by rosin-oil distillers and of any desirable form. The body of this still may be of iron; but it is essential, if fine rosin is to be produced, that the heads should be of copper or of a metal not easily acted upon by the vapor of turpentine. The still is arranged with two heads, so planned that either of them may be removed and the orifice closed when the other is in use. One of these heads is connected with a condensing-worm or any efficacious form of condenser, the other with a receiver by a plain pipe.

The still is heated by fire, or in any way by which a heat of about 600° Fahrenheit can be obtained—that is, about the boiling-point of oil.

Passing into the still and forming a coil at its bottom is a steam-pipe connected with a boiler and pierced, so far as regards its coil, with small holes for the passage of the steam. As the apparatus above described is all substantially similar to that heretofore employed in the production of oil of turpentine and other distilling processes, I have not thought it necessary to accompany the specification with drawings.

When the process is to be commenced the head of the still connected with the receiver is to be removed and the orifice closed. The crude turpentine is then to be strained into the still. The heat is then applied until the mass attains a temperature rather exceeding that of steam when at a pressure of ten pounds—say about 245° Fahrenheit. So soon as this result is obtained, steam at or about the above pressure is passed through the steam-pipe and permeates the mass without condensation, carrying with it the oil of turpentine, which, passing along with the steam into the condensing-worm, is condensed and

separated from the accompanying water in the usual way. I do not recommend the addition of water to the crude turpentine in this method of distillation, as the steam employed performs its office, and, further, because if water contains any large amount of any salt of lime it acts injuriously on the rosin produced. The whole of the oil of turpentine having “come over,” which effect is well-known by all skilled in the process of turpentine distillation, the head which has up to this period been in use is disconnected, the aperture closed, and the other head is connected with receiver. The fire is then gradually urged and the heat increased by degrees till it reaches 550° to 600° Fahrenheit. During the whole of this period the steam is kept blowing through the mass at about the pressure before indicated. The residual portion of the crude turpentine then gradually rises in vapor and passes along with the steam into the receiver, which is kept as cool as possible by water or any desirable medium. It is there condensed and will be found to consist of rosin of the best and purest quality obtainable, slightly opaque from the presence of a little moisture, which may be easily removed by remelting the mass and exposing it to a heat of 213° Fahrenheit.

In this process the acids composing the solid portion of the turpentine are not decomposed or changed into one of a different character, which gives the characteristic brown color to rosin. No bleaching or purifying is therefore requisite, and the product is at once suitable for all the finest purposes to which the best white rosin has hitherto been applied.

I do not intend to claim the use of steam in the distillation of crude turpentine, as that has been repeatedly used before, nor the clarifying, bleaching, or purifying of common rosin, as that also has been an ordinary process; but

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

The within-described method of producing white rosin at one continuous operation, substantially as set forth.

HENRY NAPIER.

Witnesses:

HY. WILLIAM WALLACE,
WILLIAM ELBERT DANDO.