

# UNITED STATES PATENT OFFICE.

ALFRED MARTIN, OF WILMINGTON, NORTH CAROLINA.

## IMPROVEMENT IN THE MANUFACTURE OF BREWER'S PITCH.

Specification forming part of Letters Patent No. **194,701**, dated August 28, 1877; application filed July 10, 1877.

*To all whom it may concern:*

Be it known that I, ALFRED MARTIN, of Wilmington, in the county of New Hanover and State of North Carolina, have invented certain new and useful Improvements in the Manufacture of Brewer's Pitch; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the process of manufacturing an improved article of brewer's pitch for the coating of the interior of kegs and barrels.

The pitch manufactured by my process adheres to the wood with more tenacity than that in common use, enabling the brewer to use the same vessel almost indefinitely without a second application, while it effectually prevents any contact between the liquor and the wood whereby the flavor of the liquor would be impaired. The material of which the pitch is composed being completely deodorized by this process of manufacturing, it is divested of all taste and odor, and, therefore, will not of itself impart either taste or smell to the beer or liquor.

I manufacture my pitch directly from crude turpentine, and substitute oil of rosin, obtained from the distillation of rosin, for the tallow or lard-oil commonly used. By the use of a condensing apparatus I obtain during the process such a quantity of spirits, acids, &c., as reduces the cost of production of the pitch to less than half of that produced by the ordinary processes.

To enable others skilled in the art to manufacture pitch by my process, I will first describe the ordinary method, showing the quantities of materials used and labor employed, and then specify my process.

To do this clearly I will take the production (thirty barrels of pitch) of one day in my own factory and compare it with the time, labor, and material required to produce the same quantity by the ordinary method.

By the ordinary process a sufficient quantity of rosin for the day's work—say nine hundred and fifteen pounds—is melted in a large iron or copper kettle. In a smaller kettle about two hundred and forty-two pounds

of crude turpentine is melted, and transferred through a fine-wire sieve to another receptacle, for use at the proper time. About forty-one pounds of tallow is then melted in the smaller kettle. When the rosin is melted, five empty barrels, the top heads having been removed, are placed on end near the large kettle, and the melted ingredients dipped from their several receptacles into the barrels in the following proportions, to wit: One hundred and seventy-five pounds of rosin, forty-six pounds of crude turpentine, seven pounds of tallow, and two pounds of ocher to each barrel. To secure thorough mixing the compound must be stirred vigorously during the time of filling the barrels until it becomes too hard to stir. It is then left to cool and harden, which it does during the night, and the process is complete when the heads are replaced in the barrels. There is a waste of eleven pounds of material to each barrel filled. Five barrels make the product of one day's labor of two hands.

By my process I produce thirty barrels of pitch in one day with the labor of two hands.

I require eight thousand eight hundred and seventy pounds of crude turpentine, three hundred and ninety-two pounds of refined oil of rosin, forty pounds of Rochelle ocher, labor of two hands one day, one and a half cord of wood, and thirty pitch barrels.

By a partial evaporation and condensing of the crude turpentine I get one thousand five hundred and twenty-six pounds of spirits, acids, &c., and from the residuum I obtain six thousand nine hundred pounds, net weight, of brewer's pitch, eight hundred and seventy-six pounds being lost by straining, waste, and evaporation.

Process of manufacturing: I place the above-stated quantity of crude turpentine in a large copper kettle, having a waste-gate on one side, in a line with the bottom, set over a brick furnace, with a condenser attachment. When the whole mass has been softened by the heat I draw off through the waste-gate about one thousand five hundred and eighty pounds of the contents of the kettle into a reservoir. The condenser is then attached to the top of the kettle, closing it up; and, after the application of additional heat, one thous-

and five hundred and twenty-six pounds of the material is run off through the condenser. The condenser is then detached, and three hundred and ninety-two pounds of the oil of rosin and forty pounds of ocher added to the mass remaining in the kettle. This mixture is then discharged through the waste-gate into a large copper-wire strainer, ten feet long by three feet wide and one foot in depth, placed over a large wooden reservoir under the waste-gate. At the same time the one thousand five hundred and eighty pounds of crude turpentine first drawn off is also passed into the strainer. When the whole compound is drawn into the reservoir the strainer is removed and the barrels filled through the bung-holes without removing the heads. When the bungs are inserted the operation is complete. The process of drawing off, running through the strainer and into the barrels, mixes the compound more thoroughly than can possibly be done by stirring.

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

1. The process of manufacturing brewer's pitch directly from crude turpentine, using oil of rosin instead of tallow or other oils, by first melting the turpentine and drawing off a portion, and then reducing the remainder by extracting spirits and acids before adding the oil of rosin and ocher, and, when drawing off the mass into a reservoir through a strainer, adding thereto the portion of turpentine first drawn off, substantially as specified.

2. The composition of crude turpentine, oil of rosin, and Rochelle ocher, in about the proportions specified, for the manufacture of brewer's pitch, substantially as set forth.

3. In the manufacture of brewer's pitch, the use of oil of rosin instead of tallow or other grease, substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALFRED MARTIN.

Witnesses:

WM. A. MARTIN,

WILLIAM M. HOWEY.