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PITCH, TAR AND TURPENTINE

Historical Sketch of Naval Store Industry in this State.

A Business of Considerable Importance Even in Colonial Times.

Tar Still Manufactured by About the Same Process as That Used by Ancient Greeks.

The following interesting historical sketch of the naval store industry in North Carolina, the Tar Heel state, is taken from the *N. C. Geological Survey Bulletin No. 5*.

As early as 1700 the production of naval stores was an industry of some importance in the Colony of Carolina. At the same time the industry was carried on in the adjacent parts of Virginia. In Virginia the products were largely derived from the loblolly pine, while in North Carolina they came chiefly from the long-leaf pine. The products exported from the colony at that date were tar and pitch and some crude turpentine; but the quantity of the latter shipped was small. Tar kilns were made then as now and the process of burning was the same. Indeed, the process is very much the same as that described by Theophrastus as being used by the ancient Greeks.

The tar manufactured in the Southern states was more commonly converted into pitch before being shipped, by the addition of some crude turpentine and the mixture then being boiled down to the right consistency. From north-eastern North Carolina it was shipped by way of Norfolk, Va., to England, the laws of England at that date forbidding colonial products from being shipped to other than English ports. Until about 1800 the making of tar was not as largely confined to North Carolina as it is at present, nor even to the Southern states. Besides being burnt in Virginia from the loblolly and short-leaf pines, some was made in New York and other Northern states from the pitch pine (*Pinus rigida*), but more for home use than for export. Georgia and South Carolina also produced considerable amounts in colonial days. The method of cutting the boxes for collecting the crude turpentine was then the same as now. The names of some of the parts connected with the process have slightly changed in the meantime. Cornering was then called notching and the virgin dip was called pure dippings. These names continued in general use until the early part of the present century.

Both the tar and the crude turpentine produced in the northeastern part of this state were marketed, in the early days,

usually in exchange for goods, at Nansmond or Norfolk, Va., and there found ready sale. Before the beginning of the present century both commodities had practically ceased to be produced around Albemarle sound. The seat of the industry slowly moved westward from thence up the Roanoke and Tar rivers and southward, as the settlements extended, to Washington and Newbern, both points shipping large quantities of naval stores to New York and Philadelphia, where it was reshipped to England, and there the crude turpentine was distilled. The largest special use for the crude turpentine in the United States

prices except when overproduction took place, and was preferred in France even to the Bordeaux turpentine, which was made in the department of the Landes in Gascony, being less odorous and more uniform in quality than that. The rosin manufactured was worth very little, getting down as low as 25 cents a barrel and then so low it would not pay to handle it. The tar and pitch manufactured at first gave general satisfaction and were made in large quantities. In 1770 there were nearly 100,000 barrels of tar and pitch shipped from the United States, about one-fifth of this amount being pitch shipped from North Carolina.

hand, only living wood of the fir, and usually from the lower part of the trunk and roots, were used and burning was carried on more slowly. In 1831 there were imported into England 10,900 lasts of tar, of 14 barrels each. Of these 8,700 came from Russian provinces on the gulf of Bothnia, 1,200 from Sweden and only 1,000 from the United States. The amount imported from the United States has remained at very near these figures ever since.

The total value of the resinous products shipped from the United States, however, increased from about \$200,000 in 1800 to \$567,000 in 1834, and to \$700,000 in 1838. Most of the products shipped up to this time were from North Carolina, as previous to 1838 trees were not tapped for turpentine south of the Cape Fear river, it being a generally held opinion that south of that river the pines would not yield. This error was soon discovered by experimenting with the trees in that section and orchards there soon became as valuable as those farther north.

In 1836 copper distilleries were introduced in this country and at the same time there was an increased demand for spirits turpentine as a solvent of India rubber, this being the cheapest solvent of that article obtainable, and was thus used in the manufacture of rubber goods. It was also used for illuminating purposes, though the different forms of petroleum oils and the general use in towns of illuminating gas, made from coal, soon supplanted it. Stimulated by this increased demand the production of turpentine extended rapidly southward beyond the Cape Fear river into South Carolina, and up the Cape Fear to Cumberland and Harnett counties. The British free-trade measure in 1846 gave free entrance into English ports to the products manufactured from turpentine and this stimulated the manufacture of these products in North Carolina. From this date forward the exports of crude turpentine decreased as the exports of spirits turpentine, rosin, tar, etc., increased.

It was found more economical to move the stills as close to the seat of production as possible, so that when rosin was low in value the spirits of turpentine only need be shipped. This allowed work to be done farther from the water-courses, near to which the industry had been previously confined. By 1855 about one-half of the spirits of turpentine shipped from Wilmington was distilled inland. The shipments from Washington and Newbern had already begun to decline, the building of the Wilmington and Weldon railroad having largely turned their trade toward Petersburg and Wilmington.

By 1860 the orchards from which Washington drew its supply approached exhaustion and production soon ceased. Newbern being farther south, the industry continued there for several years longer, but after 1870 the decline in production became rapid and practically



THE WRITING ROOM, HOLLY INN.

then was for mixing with fats, etc., in making yellow soap.

Before 1800 Wilmington became one of the largest shipping points for both crude turpentine and tar. In 1804 the exportation of crude turpentine from Wilmington amounted to 77,000 barrels, and the total amount of naval stores shipped exceeded that from all other ports of the United States. The crude turpentine was brought down the rivers on rafts and small boats from as high as Edgecombe county to Washington, from Wayne county to Newbern, and from all the northern tributaries of the Cape Fear river to Wilmington, and was distilled in crude iron stills partly at the shipping points, partly in Philadelphia and New York, and much also went to England to be there distilled. The spirits of turpentine usually found quick sales and good

In 1799 the tar used in England came in equal proportions from Russia, Sweden and the United States. Later the Carolina tar and pitch were less esteemed in England, where they were said to burn the cordage more than the products made in the Baltic provinces. This was said to be due to dead wood being used in North Carolina for making tar and the burning being carried on so rapidly and at so high a temperature that wood acids were formed in large quantities along with the tar. American products were also objected to because they were earthy, the receptacle being carelessly made, and were packed in insecure, leaky barrels. These last objections are sometimes made against them now, though the use of cases for shipping has tended to remedy the evil.

In Bothnia and Sweden, on the other