

J. BALL.
Rubber Articles.

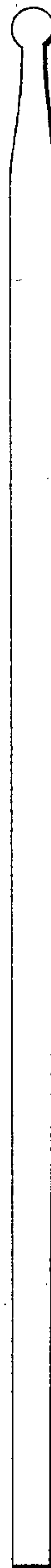
No. 29,851.

Patented Sept. 4. 1860.

A



B



Witnesses:

S. B. Darton
C. C. Carpenter.

Inventor:

Jonathan Ball.

UNITED STATES PATENT OFFICE.

JONATHAN BALL, OF ELMIRA, NEW YORK.

MODE OF PREPARING WOOD FOR UMBRELLA-STICKS.

Specification of Letters Patent No. 29,851, dated September 4, 1860.

To all whom it may concern:

Be it known that I, JONATHAN BALL, of Elmira, in the county of Chemung and State of New York, have invented a new and improved process of curing wood to make it serve as a substitute for whalebone, for the ribs of umbrellas and parasols; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

A, represents a longitudinal section of the rib of an umbrella. B, represents an end view of the same.

Many unsuccessful attempts have been made to obtain a perfect substitute for whalebone for the manufacture of the ribs of umbrellas and parasols. I have found that by selecting the butt end of white oak timber of what is termed second growth and of straight rift and free from knots or curls, and in no case using more than six feet from the ground or stump, and subjecting it to a certain process of curing it is made to serve not merely as a substitute for whalebone but is converted into an altogether superior article, inasmuch as it is not only tougher and possesses greater tenacity than whalebone, but the ribs made from it always resume their straight condition after exposure to the weather.

My process of curing consists as follows: The timber is first cut into sticks of the size required for the ribs with a veneer or other saw. These sticks are then placed in a frame to insure their drying perfectly straight and thoroughly seasoned in a drying room, when they are smoothed by sand paper or upon a sand or emery wheel, or belt, and their ends cut into a suitable form. They are then placed in a vat of water heated to nearly a boiling temperature, where they remain for about twenty-four hours or until the natural sap of the wood is removed when they are taken out, inserted in a frame to keep them perfectly straight, and so placed in the drying room till all dampness is removed, and afterward placed in a vat of lin-

seed oil heated to nearly its boiling point where they remain for about twenty-four hours, and are thence again removed to the drying room heated to a temperature of from one hundred and fifty (150) to one hundred and sixty-five (165) degrees Fahrenheit great care being taken not to exceed the latter point. This latter drying process requires several days, the time being governed by the temperature of the room. When thus dried, the sticks are smoothed with sand paper and a slight covering of shellac or other varnish makes them ready for use.

To give the sticks a brilliant and deeply set black color I use generally for the purpose of containing the water for the extraction of the sap, a vessel of iron, and throw into the water a small quantity of the inner bark of the oak, and oxid of iron uniting with the tannic acid of the bark produces the desired effect or if the vessel be of other metal, iron placed in the water will produce the same result; a hand-full of bark will be sufficient for one hundred gallons of water in an iron vessel, as the wood itself contains a considerable quantity of tannic acid.

Having thus described my invention I will proceed to state what I claim and desire to secure by Letters Patent—

1. Though I do not claim subjecting wood to any of the separate operations which I have described, I claim the process of curing consisting of the operations of drying, digesting in hot water, drying again, soaking in hot oil, and drying in hot air, performed in the order herein specified.

2. Though I do not claim the dyeing of woods of a black color by the combined action of iron and tannic acid I claim in combination with the within described process of curing, the dyeing of the wood simultaneously with or by the same operation as the removal of the sap substantially as herein described.

JONATHAN BALL.

Witnesses:

S. B. DENTON,
C. CARPENTER.