

C. O. L. CARDELL.
NON-METALLIC BEARING.
APPLICATION FILED MAY 6, 1909.

1,041,427.

Patented Oct. 15, 1912.

Fig. 1.

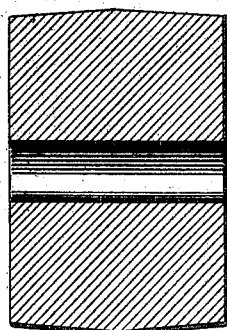


Fig. 2.

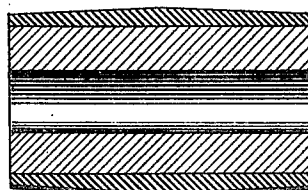
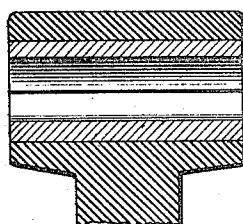


Fig. 3.



WITNESSES

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CHARLES O. L. CARDELL, OF PEARL RIVER, NEW YORK.

NON-METALLIC BEARING.

1,041,427.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed May 6, 1909. Serial No. 494,210.

To all whom it may concern:

Be it known that I, CHARLES O. L. CARDELL, a citizen of the United States, and a resident of Pearl River, in the county of Rockland and State of New York, have invented a new and Improved Non-Metallic Bearing, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved non-metallic bearing, pulley, bushing and like article, formed of wood and treated in such a manner that the fibers are hardened, the wood is permeated with a special lubricant and preserved, to render the article exceedingly serviceable for use in spinning and other machines especially as constant oiling can be dispensed with.

The invention consists in combining wood with copperas to harden the fibers, drying and non-drying oils and beeswax to lubricate the wood, and creosote to preserve it.

The invention further consists in a method whereby the wood is first subjected to a fiber hardening bath, then to a lubricating bath to permeate the wood with a lubricant, and finally preserving the wood by the addition of creosote to the second bath.

In the accompanying drawings, Figure 1 is a cross section of a pulley made of wood treated as above mentioned; Fig. 2 is a cross section of a metallic pulley having a non-metallic bushing; and Fig. 3 is a cross section of a shaft journal having a non-metallic bearing.

In detail, I proceed as follows: The wood used for the formation of the article is preferably maple, birch or other hard wood, and the wood is fashioned into the desired article, such as a pulley, for instance, as shown in Fig. 1, or a bushing or a bearing, as shown in Figs. 2 and 3. The fashioned wood is first subjected to a bath formed of copperas in the proportion of one pound to three gallons of water, and for about two hours, with the bath heated to about 50° centigrade. By subjecting the wood to this bath the fibers are set and hardened. The wood is then removed from this bath and is left to dry and then subjected to a second bath formed of one-half a gallon of rosin oil, one gallon of linseed oil, two gallons of cotton seed oil and one pound of beeswax, the bath being just hot enough to be under the boiling point, and the soaking of the wood is continued for about twenty hours, so as to cause the ingre-

dients of the bath to permeate the wood. It is understood that of the ingredients of the second bath, the rosin oil and the linseed oil are drying oils, while the cotton seed oil is a non-drying oil. After the expiration of twenty hours, one pint of pure creosote is added to the second bath, and the article is kept in this bath for four more hours, and is left therein until cool, the heat being removed from under the vat containing the bath. The article, after being removed from the second bath, is varnished, preferably with carriage varnish, to keep the ingredients with which the wood is saturated within the wood.

The article produced requires no oil when used, and it can be subjected to a high speed, without danger of overheating or burning.

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

1. As an article of manufacture, a non-metallic material for pulleys, bushings, bearings and the like, consisting of wood treated with copperas to harden the fibers permeated with drying oils, non-drying oils, and beeswax as a lubricant.

2. As an article of manufacture, a non-metallic material for pulleys, bushings, bearings, and the like, consisting of wood, treated with copperas to harden the fibers, with drying oils, non-drying oils, and beeswax to lubricate the material and with creosote.

3. As an article of manufacture, a non-metallic material for pulleys, bushings, bearings and the like, consisting of wood, treated with copperas to harden the fibers, with drying oils, non-drying oils, and beeswax as a lubricant, with creosote to preserve the wood and coated with varnish.

4. The herein described method for forming a non-metallic bearing, pulley, bushing and like article, consisting in subjecting fashioned wood to a bath of copperas, then subjecting it to a hot bath formed initially of drying oils, non-drying oils and beeswax, with a final addition of creosote.

5. The herein described method for forming a non-metallic bearing, pulley, bushing, and like article, consisting in subjecting fashioned wood to a bath of copperas, then subjecting it to a hot bath formed initially of drying oils, non-drying oils and beeswax, with a final addition of creosote, then coating the article with varnish.

6. The herein described method of forming non-metallic bearing parts, which consists in subjecting the parts to a heated bath, consisting of copperas in solution, drying
5 the wood, and boiling it in a bath of drying and non-drying oils and beeswax and cooling it in the bath after the addition of creosote.

In testimony whereof I have signed my name to this specification in the presence of 10 two subscribing witnesses.

CHARLES O. L. CARDELL.

Witnesses:

THEO. G. HOSTER,
PHILIP D. ROLLHAUS.