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PROCESS OF TREATING WOOD FOR THE MANUFACTURE OF MUSICAL INSTRUMENTS.

No Drawing.

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To all whom it may concern:

Be it known that I, LOUIS KOZELEK, a citizen of the United States of America, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Processes of Treating Wood for the Manufacture of Musical Instruments, of which the following is a specification.

10 This invention relates to certain new and useful improvements in the process of treating wood for the manufacture of musical instruments, and has for its primary object the special treatment of wood to produce improved tonal effects.

15 Another object of the invention embodies in the treatment of wood for the above purpose, the idea of submitting the wood to an extremely high degree of heat to remove all moisture and gases from the wood and substantially carbonize the same.

20 A further object of the invention includes the coating of the dried wood with a heavy coat of varnish and again heating the same to cause a thorough permeation of the wood by the varnish to develop the resonant qualities thereof, and finally rubbing the wood with oil or grease to produce a polished finish and to protect the wood from moisture or the like.

25 With the above general objects in view, and others that will appear as the nature of the invention is better understood, the process embodies the novel treatment of wood to especially adapt the same for the manufacture of musical instruments, more particularly of the violin or stringed type.

30 The invention actually reduced to practice, consists of subjecting the wood to a dry heat until the same attains a yellowish color. It is preferable to employ wood that has not been cut for more than one year, pine and spruce being found especially desirable for the purpose intended. The wood may be heated when in a rough state, or cut or carved into the proper shape or design prior to heating.

35 In heating the wood, in the initial treatment thereof, a furnace or other heating unit may be employed, the temperature thereof being regulated relative to the character of wood being treated. If a soft wood is used in the upper deck such as pine, spruce or red cedar the temperature ranges from 450° to 500° F., and is so maintained for at least twenty-four hours, and in the case of

a harder wood for the lower deck, such as hard maple, the temperature will be increased from 500° to 550° F. for the same period of time. The wood being so treated, has all moisture and volatile substances removed therefrom, rendering the wood highly brittle and changing the color thereof to a rich golden yellow. In this state, the wood is practically carbonized and is absolutely free of all moisture and glue that would otherwise cling between the fibres thereof.

When so treated, the wood is allowed to cool gradually to prevent cracking and warping, the entire mass of heat radiating therefrom. In the next step of the process, the wood is heavily coated with varnish and again subjected to heat (considerably less than at first treatment) to cause the varnish substantially to permeate the wood, and produce therein a highly resonant characteristic particularly desirable in the manufacture of stringed instruments. The degree of temperature attained is controlled by the weight of the wood, only sufficient heat being required to cause a thorough saturation or filling of the wood with the varnish.

40 In the final treatment of the wood, a felt or other soft cloth is used in applying grease to the surface thereof. The grease employed is derived from pigs' feet that have been baked or roasted and by actual test, this grease has been found preferable for this purpose, the grease being vigorously rubbed over the surface of the wood to produce a high polish or luster and partially penetrating the surface thereof to render the wood substantially waterproof and insure the tone producing resonant characteristics thereof. In lieu of grease it has also been found practicable to use the grease from hog fat, as the same possesses unusual penetrating qualities and produces a substantially waterproof product.

45 Wood treated in the above manner has been found especially desirable in the construction of musical instruments of the violin type, and more particularly violins, the tone sustaining quality and the resonant characteristic being materially enhanced.

50 The steps in the heat treatment of the wood as outlined herein, are what are believed to be preferable, as well as the range of temperature, but it is understood that the scope of the invention is only limited as recited in the process claimed.

What is claimed as new is:—

1. The process of treating wood for the manufacture of stringed musical instruments consisting in first subjecting the wood
5 to the action of dry heat to remove all moisture and volatile substances therefrom and substantially carbonize the wood, then allowing the heat in the wood to radiate and applying a heavy coat of varnish thereto,
10 again subjecting the varnished wood to the action of heat of a temperature less than the initial application thereof, and finally rubbing the wood with grease obtained from roasted pigs' feet.
- 15 2. The process of treating wood for the manufacture of stringed musical instruments consisting in first subjecting the wood to the action of dry heat at temperatures ranging from 450° F. to 550° F., for a
20 period of at least twenty-four (24) hours to remove all moisture and volatile substances therefrom and substantially carbonize the wood, allowing the heat to radiate therefrom

and applying a heavy coating of varnish thereto, again subjecting the varnished wood
25 to the action of heat of a temperature less than the initial application thereof, and finally rubbing the wood with grease obtained from roasted pigs' feet to produce a high lustre and render the wood substan-
30 tially waterproof.

3. The process of treating wood for the manufacture of stringed instruments consisting in first subjecting the wood to dry
heat for a period sufficiently long to sub-
35 stantially carbonize the same, applying a coating of varnish to the wood and again subjecting the same to the action of heat to effect a substantial permeation thereof by
the varnish and finally rubbing the wood
40 with an oil or grease to produce a high lustre and render the same practically waterproof.

In testimony whereof I affix my signature.

LOUIS KOZELEK.