United States Patent Office.

WILLIAM H. MAY, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 72,877, *dated December* 31, 1867.

IMPROVED METHOD OF PREPARING WOOD FOR MUSICAL INSTRUMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM H. MAY, of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new and improved Mode of Increasing the Sonorous Quality of Wood for the Sounding-Boards of Musical Instruments; 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 make and use the same.

This invention relates to an improved mode of preparing wood, to increase its sonorous quality, to be employed for sounding-boards and other parts of piano-fortes, violins, and other musical instruments. The constituent elements and peculiar structure of wood, which give it its sonorous quality, are only partially understood and so far explained as to govern in the selection of different kinds of wood for sounding-boards of piano-fortes, the shells of violins, and other parts of various musical instruments, whose tone depends on vibration, while those conditions in the composition and nature of wood, which impart the higher and nicer qualities of tone, have remained obscured in mystery and uncertainty.

Many efforts have been made to improve the tone of sounding-boards, and the common practice is to kiln-dry them. In some cases, hardening of the fibre of the wood, by subjecting it to long-continued extreme heat, has been resorted to, and this treatment renders the wood very powerful and delicate in vibration, and, consequently, highly sonorous for a short time, but it is found that this advantageous effect is only temporary, and that the hardened fibre soon relaxes, and loses its power of delicate vibration and its superior sonorous quality.

By my improved method of treatment of wood for sounding-boards and other parts of piano-fortes, and other instruments, the wood is raised to the highest pitch of sonorous quality, and possesses a power of vibration far superior to any wood previously known, and these results of my improved treatment are unchangeable and permanent.

The method of treament I pursue is, to take the sounding-boards, or other parts of piano-fortes, and other musical instruments, after they have been reduced nearly or quite to the required shape and thickness, and submerge them in a tank of chamber-lye or urine, in which they are allowed to remain undisturbed for a month or longer, until they are thoroughly soaked and impregnated with the salts in the urine, after which the boards are taken out and slowly dried in a kiln or otherwise, until every particle of moisture is dispelled. They are then ready for use, and may be dressed in the usual way, to be adapted to the instrument in which they are employed.

It is remarkable, in regard to the effect of this treatment of wood, that the fibre does not become hardened, as in the case of subjection to extreme heat, but receives a temper or elastic quality, which gives a wonderful degree of vibratory power, which is demonstrated by the sample of a piano-forte sounding-board so treated, compared with a similar board, of the same wood, subjected only to the ordinary kiln-drying process.

Instead of soaking the wood of sounding-boards, as described, in urine, in a tank, the wood may be charged, by static pressure or otherwise, with the urine of man or other animals, or it may be treated with a solution of chemical ingredients having an equivalent effect on the fibre.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The improved mode of treating wood, to increase its vibratory power and sonorous quality, for application to the sounding-boards and other parts of piano-fortes, and other musical instruments, or an equivalent process, substantially as herein described.

The above specification of my invention signed by me, this 7th day of June, 1867.

WM. H. MAY.

Witnesses:

WM. F. MCNAMARA,

ALEX. F. ROBERTS.