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Accelerated Aging for Acoustic Stringed Instruments and Wood Paneling

Researchers at the University of South Florida have developed a method of artificially aging a wooden musical instrument or wood paneling for concert halls, thus replicating the enhanced musical quality of well-played wood.

The sound of wooden stringed instruments is enhanced with age when the instrument has been played repeatedly. Similarly, concert halls constructed from wooden materials resonate music more pleasingly after they have housed many musical performances. It is believed that the vibration associated with use of the instrument or concert hall causes subtle changes in the structure and pliability of the wood and its resins. These changes take years to occur, but they ultimately result in a more pleasing sound, and a more valuable instrument. Attempts have been made to replicate and automate the aging process, however current approaches are still very slow.

USF inventors have developed a faster method of artificially aging wooden instruments and wooden panels. The method involves subjecting the instrument or wood panel to controlled sound energy from a speaker. The wooden object is placed into an enclosure with a speaker, and sound energy is applied in specific amounts directly to the wood. The energy is delivered in such a way that it modifies the properties of the wood to make it more responsive and better at resonating sound, replicating the aging process. This noticeably enhances the quality of sound produced by the instrument or wood panel. This invention will be useful for manufacturers of wooden musical products to quickly enhance the sound quality of their products in a manner that was previously only possible through years of prolonged use.

ADVANTAGES:

- **Faster aging process**
- **Improves sound quality as noted by musicians**
- **Ages instrument without playing it**

Method to Quickly Obtain an "Aged" Sound from a New Instrument

Wooded Stringed Instruments in the Sound Treatment Apparatus

Tech ID # 06A005

Patent #s: 7,932,457 / 7,977,555 / 8,662,245

University of South Florida | Technology Transfer Office
813.974.0994 (office) | 813.974.8490 (fax)
patents@research.usf.edu
http://www.usf.edu/research-innovation/pl/