

S. S. Stewart on Banjo Physics

SAMUEL SWAIM STEWART OF PHILLADELPHIA WAS ONE OF AMERICAS FOREMOST DESIGNERS, MANUFACTURERS, AND PROMOTERS OF THE BANJO IN THE 19TH CENTURY. HERE IS SOMETHING HE WROTE IN 1888 ABOUT BANJO PHYSICS AND PHYSICISTS (P. 102 – 104, *The Banjo: A Dissertation*):

All manufacturers of Banjos and of most other musical instruments are constantly coming in contact with persons who think they are competent to make improvements in the construction of musical instruments...

Many persons experiment *blindly*, not possessing any theoretical knowledge of music or of the science of acoustics. Theoretical knowledge is a great help to any one who desires to experiment. Yet there are others, — persons of scientific attainments, who, through lack of talent, and being unable to enter fully in harmony with the subjects experimenting upon, utterly fail in accomplishing anything.

Fetis, in his valuable work, *Music Explained to the World*, says: “All the distinguished men, who have employed themselves in the construction of instruments, have sought to make improvements in them, by a more severe application of theoretical principles; but, in practice, the results have not been such as they expected, either from unknown causes, or from their not having taken the necessary precautions.

Theory is sometimes found in opposition to practice. For example, the principles of the sounding of vibrating surfaces, demonstrates that violins, violas, and basses are constructed on arbitrary, rather than scientific rules; but in the application of these principles, no one has yet been able to make instruments as good as those which were made by rules, the foundation of which is unknown. The same thing may be remarked of pianos. Time alone will shed light on these mysterious circumstances.”

These remarks fit the case of the Banjo. I was once asked the question why I did not secure the services of some distinguished expert — some professor of acoustics — some learned doctor of science, to assist me in improving the Banjo. Simply because I do not believe that such a person exists — I mean a learned professor, who, by applying his rules, could do anything for the Banjo. Such persons have done nothing for the violin, and it seems that I am not alone in my opinion upon this subject.