

Enhancing the Volume Threshold of a Concert Snare Drum

by Samuel P. Markus

In my presentation, I will be talking about the development of a “sectionalized musical drum” that I built. The sectionalized musical drum is the invention of Fred and William Hinger, and consists of two axially separable cylindrical sections that are open and each have one playing head (US Patent 04300437.) My research into this topic was intended to enhance the volume threshold and tone of a concert snare drum. Standard concert snare drums have a single vent hole to allow air to escape from the chamber, and out the side of the cylindrical body. The amount of air that is allowed to pass out of the drum freely affects the amount of volume the performer can pull from the drum without tone suffering. The idea with a sectionalized drum that more air will be allowed to pass through easily, thereby increasing the volume threshold. My goal was to create the ideal concert snare drum, with open, pleasant tones and consistent timbre at all dynamic or volume levels. My research consisted of — extensive research of the aforementioned patent, gaining a basic understanding of the physics of sound in relation to snare drums, and learning and practicing the wood working skills required to actually make a snare drum. After researching and making the snare drum, I found that the ability to sectionalize a drum into two halves dramatically increases the volume and makes the tone of the drum far more consistent across the volume range. There is however a limit to how far the halves of the drum may be separated before the sound quality and articulation of the drum begins to suffer at the expense of volume. In the future, I am going to continue to work on my woodworking skills and continue my research on this topic further. I will continue to strive toward making an even better concert snare drum.