

(No Model.)

D. GENESE.
MUTE FOR MUSICAL INSTRUMENTS.

No. 480,578.

Patented Aug. 9, 1892.

Fig. 1

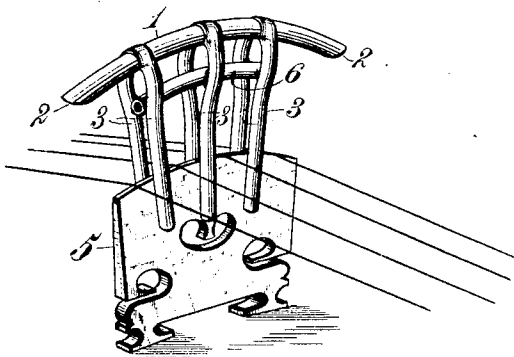


Fig. 2.

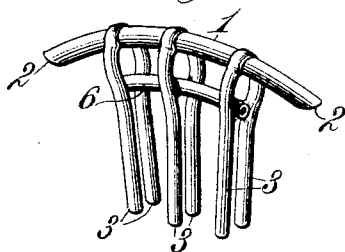


Fig. 3

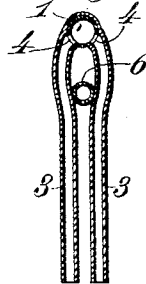


Fig. 4.

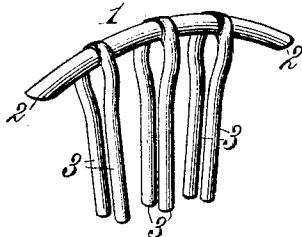


Fig. 5.

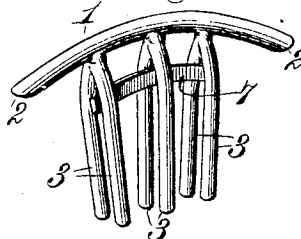
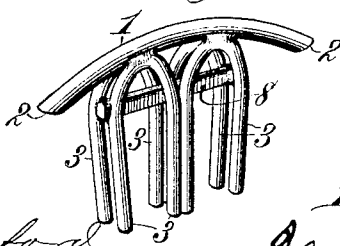


Fig. 6.



Witnesses.

Robert G. Pratt,

J. A. Rutherford,

Inventor.

David Genese.

By

James L. Norris,
Atty.

UNITED STATES PATENT OFFICE.

DAVID GENESE, OF BALTIMORE, MARYLAND.

MUTE FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 480,578, dated August 9, 1892.

Application filed April 30, 1892. Serial No. 431,260. (No model.)

To all whom it may concern:

Be it known that I, DAVID GENESE, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in Mutes for Musical Instruments, of which the following is a specification.

In performing on stringed musical instruments, particularly of the viol family, the sounds are frequently modified by applying to the bridge a mute composed of a solid piece of wood, ivory, or brass having pairs of flat fingers which grip the bridge between the strings, thereby deadening the resonance and imparting a peculiar muffled and tremulous quality. A mute of the ordinary construction is objectionable in that the extended bearings of the flat fingers cover some of the sound-openings in the bridge, making the latter practically rigid, thereby restraining the vibratory motions, giving a variation to each string other than a perfect tone, and producing a disagreeable wheezing sound in the performer's ear and at the same time rendering the tone imperfect and interfering with the best production of music of which the instrument is susceptible, while the bridge is liable to be injured, split, or broken unless care is exercised in applying and removing the mute.

The object of my invention is to avoid the objections stated and produce a new and improved mute for stringed musical instruments which renders it possible to produce perfect harmonic tones throughout the scale and thrilling tones of pathos in all intensity, but subdued to the lowest pitch, without losing an atom of the vibration of which the instrument is susceptible.

The invention also has for its object to provide a mute which will give a stringed instrument of the viol family an oboe-like voice and enable the sound-waves to travel a great distance, while condensing the sound in each string in exact proportion to the octave and avoiding undue strain on the bridge by offering very little contact therewith.

To accomplish these objects my invention consists in a mute having the characteristic features of construction hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a detail perspective view of a bridge and portions of the string of a violin, showing my improved mute applied thereto. Fig. 2 is a detail perspective view of the mute. Fig. 3 is a sectional view taken vertically through a pair of the sound-conducting tubes. Fig. 4 is a perspective view of a modified construction. Fig. 5 is a similar view of another modification, and Fig. 6 is a similar view of still another modification.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a transverse sound-distributing tube having its extremities beveled, as at 2, and provided intermediate its extremities with attached pairs of sound-conducting tubes 3, which communicate at their top portions with the interior of the sound-distributing tube through the medium of communicating orifices or passages 4. The lower ends of the sound-conducting tubes are open to the external atmosphere, and these tubes are so relatively arranged as to provide an intervening space to receive the bridge 5 of a stringed musical instrument of the viol family. A cross-piece 6, extending parallel with the sound-distributing tube 1, but of a less length than the same, is interposed between the sound-conducting tubes and has its ends open to the atmosphere. The sound-conducting tubes can be soldered, brazed, or otherwise attached to the sound-distributing tubes, and the tubular cross-piece may be similarly secured in position between the pairs of sound-conducting tubes.

In Fig. 4 the construction is substantially the same as described with reference to Figs. 1, 2, and 3, with the exception that the tubular cross-piece 6 is dispensed with.

In the modification Fig. 5 the sound-conducting tubes 3 connect with the sound-distributing tube 1, but have no communication with the interior thereof, and the cross-piece 7, instead of being tubular, is composed of a solid piece.

In the modification Fig. 6 the sound-conducting tubes are of U shape or form, and while they are secured to the sound-distributing tube they have no communication with

the interior thereof. In this form of mute the cross-piece 8 is composed of a solid strip.

The mute, constructed as above described, may be composed of silver, brass, or other metal, or of celluloid, paper, rubber, or other material suitable for the conditions required. The sound-conducting tubes at one side of the sound-distributing tube are susceptible of being pressed toward the sound-conducting tubes at the opposite side for the purpose of accurately adjusting the mute to the bridge, and to secure a symmetrical and proper structure the sound-distributing tube is arched or curved lengthwise, as is the cross-piece, whether tubular or solid.

The form or configuration of the mute and the shape of the tubular parts in cross-section can be variously modified to suit the conditions required without affecting the spirit of my invention, the construction illustrated being merely typical of various forms which can be employed.

The cross-sectional circular shape of the sound-conducting tubes is useful and advantageous, however, in that the surface contact with the bridge or sounding-board is reduced to the least possible extent, and consequently the vibratory motions thereof are not interfered with to such extent as to give a variation to the strings that would produce an imperfect tone. Where the sound-conducting tubes communicate with the sound-distributing-tube the musical sounds are distributed to a long distance, and an oboe-like voice in imitation of the human voice is obtained. If the sound-conducting tubes have no communication with the interior of the sound-distributing tube, the musical sounds are lowered in imitation of the Aeolian harp, as the sounds are checked from entering the sound-distributing tube; but the vibrations strike thereinto by reason of the sound-conducting tubes being attached to the sound-distributing tube. The hollow cross-piece increases the surface for sound-waves, and thereby carries the musical sounds a greater distance. The solid cross-piece lowers the tone and checks the rapid passage of the sound-waves, and the distributing-tube receives the vibrations and distributes the musical sounds so that the instrument can be heard at a long distance. The omission of the cross-piece entirely, as in Fig. 4, produces a mute wherein the tone is much higher than in the other

forms illustrated. The solid cross-piece, in connection with the U-shaped tubes, gives the lowest tone to the instrument.

The tubular form of the mute offers a large surface for condensing sound with but little absolute contact with the bridge, thereby avoiding undue strain on the latter.

Variations in the forms of the tubes will give different tones to the same instrument by reason of the sound-waves acting in various directions.

I have described my invention as particularly designed for application to the bridge of a stringed musical instrument of the viol family; but I wish it understood that the mute can be employed wherever susceptible of use—as, for instance, on the sounding-board or strings of any stringed instrument.

Having thus described my invention, what I claim is—

1. A tubular mute for stringed instruments, substantially as described.

2. A mute composed of connected tubes adapted to engage the bridge of a musical instrument, substantially as described.

3. A mute for a stringed musical instrument, composed of a sound-distributing tube and sound-conducting tubes connected therewith, substantially as described.

4. A mute for a stringed musical instrument, composed of a sound-distributing tube and pairs of sound-conducting tubes secured to opposite sides of the sound-distributing tube and adapted to be applied to a bridge, substantially as described.

5. A mute for a stringed musical instrument, composed of a sound-distributing tube, sound-conducting tubes, and a cross-piece interposed between the sound-conducting tubes, substantially as described.

6. A mute for a stringed musical instrument, composed of a sound-distributing tube, sound-conducting tubes connected therewith, and a tubular cross-piece interposed between the sound-conducting-tubes, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

DAVID GENESE. [L. s.]

Witnesses:

G. ERNST REARDON,

R. E. SCALLY.