

Fig. 1.

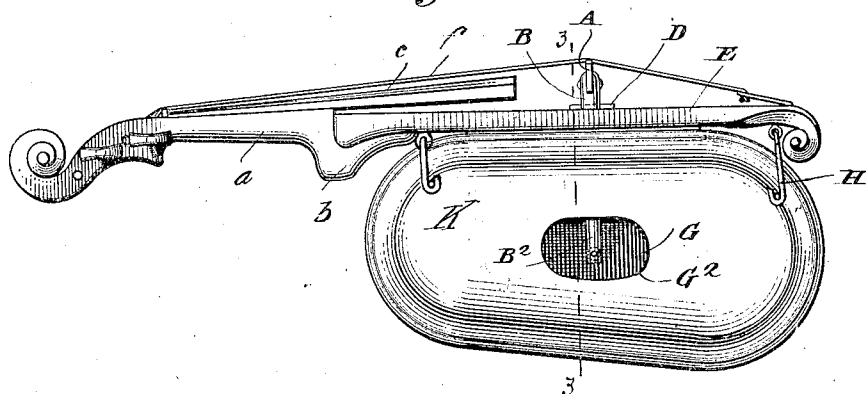


Fig. 2.

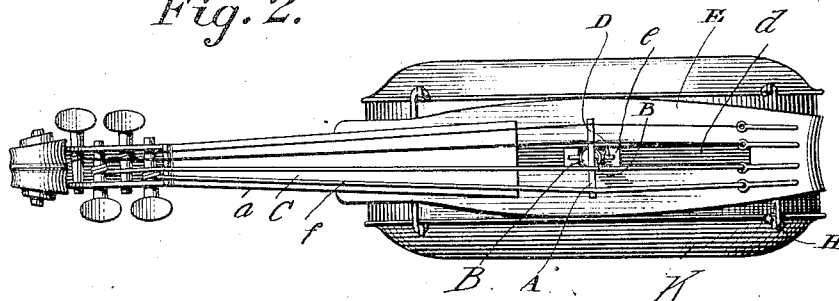
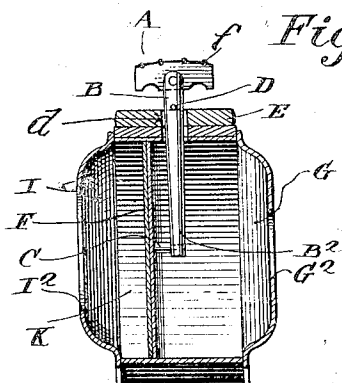


Fig. 3.



Witnesses:

L. M. Stanley

A. D. Richardson

Inventor:

John Eugene Winecoff

UNITED STATES PATENT OFFICE.

JOHN EUGENE LEE WINECOFF, OF WHITEVILLE, NORTH CAROLINA.

VIOLIN.

936,505.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed January 14, 1907. Serial No. 352,469.

To all whom it may concern:

Be it known that I, JOHN EUGENE LEE WINECOFF, a citizen of the United States, and residing at Whiteville, in the county of Columbus and State of North Carolina, have invented a new and useful Violin, of which the following is a specification.

This invention has relation to musical instruments, and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a musical instrument which involves a vibrating sounding member, or a series of such members and a sounding board, and means for transmitting vibrations from the vibratory members to the sounding board without subjecting the sounding board to the pressure of the vibratory members. The parts are so arranged that the vibrations of the sounding members are magnified as they are transmitted to the sounding board.

The means for transmitting the vibrations from the sounding members to the sounding board consists of a lever which is pivotally mounted on the body of the instrument, and which, at one end, has communication with the sounding members, and at its other end has communication with the sounding board. That end of the lever which communicates with the sounding board is longer than that end of the lever which communicates with the sounding members. The lever is counterbalanced upon its pivot or fulcrum by means of the sounding members.

The instrument is provided with a body which is located below the sounding members and which is divided by a sounding board into resonators of different sizes and which have portholes of different sizes. The object of so dividing the interior of the body and using the sounding board as a partition, is to provide resonators adapted to respond to and magnify the tones of high and low pitch, respectively. That is to say, the larger resonator affects the low tones and the smaller resonator affects the high tones, so that the volumes of both the high and low tones are augmented by their respective resonators of the set of resonators.

In the form of the application of the invention, as shown in the drawings, a violin is more closely followed in outline than any other instrument. However, the principle involved in the present invention may be ad-

vantageously applied to all kinds of stringed instruments, which employ a sounding member subjected to tension, and which produces sound by vibration. It, therefore, follows that the shape of the parts of the body of the instruments, or their resemblance to parts of other instruments, is immaterial in carrying into effect the principles involved in the invention.

In the accompanying drawings:—Figure 1 is a side elevation of the instrument: Fig. 2 is a top plan view of the same: Fig. 3 is a transverse sectional view through the body of the instrument, cut on the line 3—3 of Fig. 1.

As illustrated in the drawings, the neck *a* is provided with a shoulder *b*, which merges or joins with the frame-piece *E*. The finger-board *c* is attached to the neck *a* and overlaps that portion of the frame-piece *E* which joins with said neck. The frame-piece *E* is provided with an opening *d* in which are located parallel lugs *e*. The bar *B* is pivotally mounted at *D* between the lugs *e* and the bridge *A* is mounted on the upper end of the said bar *B*. The strings *f* pass over the upper edge of the bridge *A* and are connected at one end with one end of the frame-piece *E* and at their other ends with the neck *a* in the usual manner. The body *K* is connected with the frame-piece *E* by means of the hooks *H*. The said body *K* is hollow and its interior is divided into resonators *G* and *I* by the sounding board *F*, which is vertically disposed within the said body and extends throughout the length thereof. The lower end *B*² of the bar *B* is provided with a post *C* which bears against the side of the said sounding board *F*. The board *F* is not located in the middle of the body *K* but is located at one side of a median line passing through the said body. The resonator *G* is of greater volume than the resonator *I*, and the body *K* is provided with an outlet opening *G*², which communicates with the resonator *G* and an outlet opening *I*², which communicates with the interior of the resonator *I*. The resonator outlet *G*² is smaller than the outlet *I*². The sounding-board *F* is preferably made of strips of wood secured together with the grain extending in different directions. In other words, the said board is of a laminated character.

From the above description, it is obvious

that the neck *a* and the frame-piece *E* are subjected to the tension of the strings *f*, while the sounding board *F* within the body *K* is subjected to the vibration of said strings, but is not subjected to the stress thereof. Thus, the vibratory qualities of the board and body are not impaired. By reference to Fig. 2 of the drawings, it will be seen that that portion of the bar *B* which is located above the pivotal point of the bar, is shorter than that portion *B*² of the bar which projects down into the body *K*. Thus, the bridge *A* and the bar *B* form a lever, and as the string vibrations are received at the shorter end of the lever, and delivered from the longer end to the sounding board, said vibrations are magnified or increased when they are delivered to the said board. Thus the tone is increased.

When the board *F* vibrates, sound-waves are produced in the resonators *G* and *I* and the lower tones are affected or amplified by the waves emanating from the resonator *G*, while the higher tones are amplified by the waves emanating from the resonator *I*. Thus the sounds are increased in volume.

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

1. An instrument comprising tensioned strings, a hollow body, a sounding board located therein, a lever fulcrumed exteriorly of the body and passing through an opening

in the same, and adapted to transmit string vibrations to the board.

2. An instrument comprising a hollow body, a sounding board located therein, a lever pivotally mounted upon the body and passing through an opening in the same and having contact with the sounding board, and tensioned sound-producers having contact with the lever and counterbalancing the same upon its pivot.

3. An instrument comprising a hollow body, a sounding board located therein, a lever pivotally mounted upon the body and having contact with the board, and a sound-producer having contact with the lever.

4. An instrument comprising a hollow body, a sounding board located therein, a lever pivotally mounted upon the body and having a longer end in contact with the sounding board, and a sound-producer having contact with the shorter end of the lever.

5. An instrument comprising a hollow body, a sounding board located therein, a lever pivotally mounted upon the body, the lower longer end of said lever having contact with the sounding board, and a sound-producer having contact with the upper and shorter end of the lever.

JOHN EUGENE LEE WINECOFF.

Witnesses:

R. E. L. BROWN,
H. C. MORFITT.