July 1, 1930. J. PACZKOWSKI 1,769,304

VIOLIN

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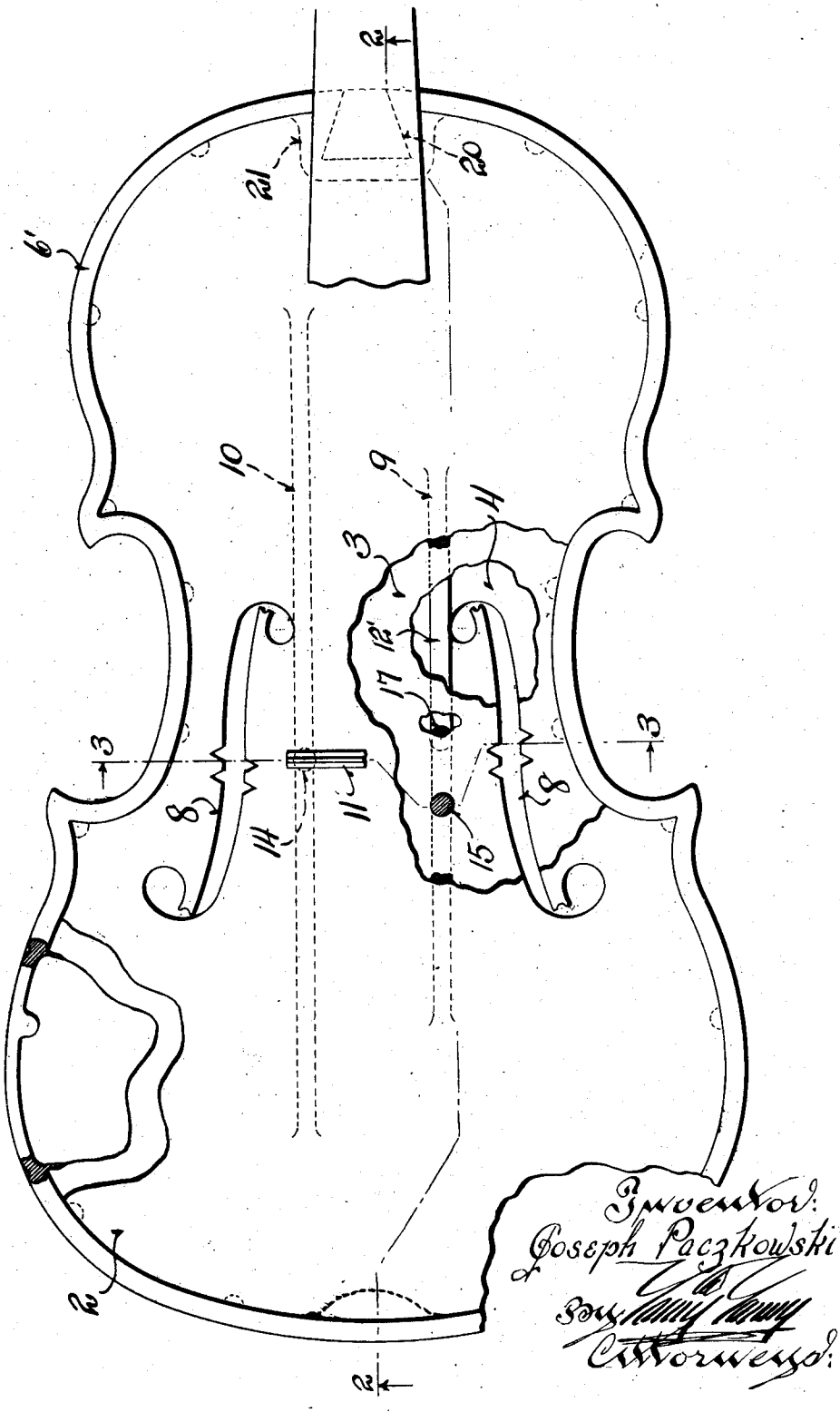


Fig. 1

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Fig. 2

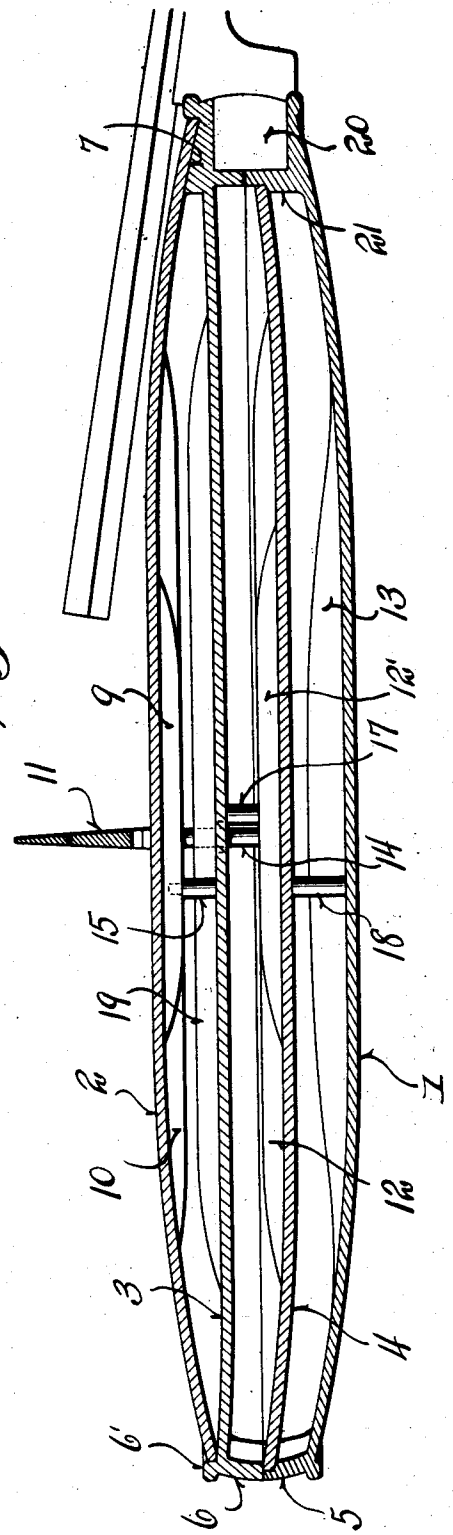
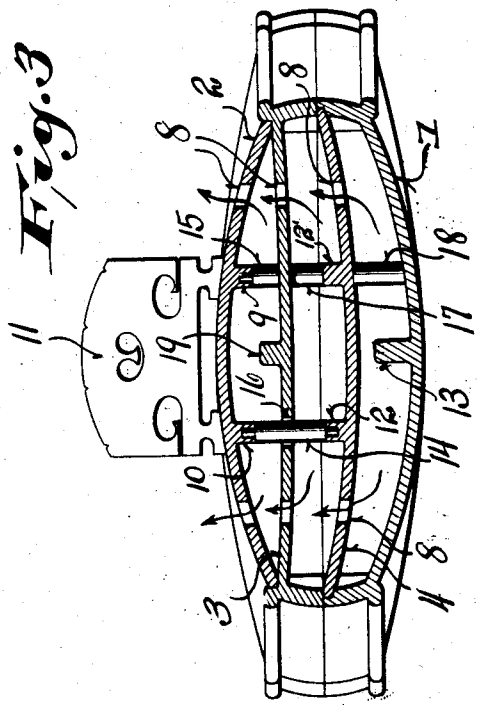


Fig. 3



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Patented July 1, 1930

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UNITED STATES PATENT OFFICE

JOSEPH PACZKOWSKI, OF MILWAUKEE, WISCONSIN

VIOLIN

Application filed March 5, 1928. Serial No. 261,646.

This invention relates to musical instruments provided with strings.

Objects of this invention are to provide a string instrument of novel construction in which the tone is magnified and clarified to give a pure, penetrating quality of tone, and in which the amplitude of vibration of the various parts of the instrument are magnified.

Further objects are to provide an instrument which is so constructed that it is very resonant and mellow and produces a tone of high carrying quality and of high penetration, and also produces somewhat the effect of a plurality of instruments simultaneously in operation.

Further objects are to provide an instrument which in actual construction is a plurality of string instruments, one located within the other, and which, although having the unusual characteristics enumerated above, nevertheless has a very small number of glued joints.

An embodiment of the invention is shown in the accompanying drawings in which:

Figure 1 is a face view of the violin with the strings and tail piece omitted and with parts broken away and in section;

Figure 2 is a longitudinal sectional view through the violin, such view being taken on the line 2—2 of Figure 1;

Figure 3 is a transverse sectional view corresponding to a section on the line 3—3 of Figure 1.

Referring to the drawings, it will be seen that the violin is provided with the usual neck or finger board which joins the body portion. The body portion is of substantially the same thickness, width, and length as the usual violins, and corresponds in contour and appearance thereto.

The violin body portion is made of a main back 1 and a main front 2. It also is provided with an upper intermediate partition 3 and a lower intermediate partition 4. The partitions 3 and 4 constitute in effect false bottoms or false backs to the violins.

It is to be noted particularly that the back 1 is provided with an integral marginal flange or upstanding portion 5, and that the partition 3 is similarly provided with an integral downwardly extending flange 6. One of the flanges, for instance the flange 5, is provided with a shoulder for the reception of the sub-bottom or intermediate partition 4, as shown in Figures 2 and 3. The flanges 5 and 6 are tightly glued together. Further, it is to be noted that the flange 6 has an upstanding portion 6′ which is internally shouldered to receive the front 2. The top of the violin is glued tightly to this portion. Further, at the forward end of the body portion, the top contacts with a surface of material extent, as indicated at 7, and is also glued to this portion.

It is to be noted that each of the members 2, 3, and 4, is provided with a pair of spaced scrolls or cutouts 8 through which the sound may pass. Further, it is to be noted that the front 2 is provided with a pair of downwardly extending ribs integral therewith and indicated by the reference characters 9 and 10. These ribs pass beneath the bridge 11 of the violin, and it is to be noted that the longer rib 10 extends below the foot of the bridge adjacent the heaviest string and the shorter rib extends below the foot of the bridge adjacent the lightest string.

Further, it is to be noted that the members 3, 4, and 1 are provided with integral upwardly extending ribs 12, 12′, 13 and 19 as disclosed most clearly in Figure 3. Preferably, these ribs are of gradually increasing extent or height for the rails named in the order above, the lowest rib 13 being the highest, the middle ribs 12 and 12′ of intermediate height, and the upper rib 19 of the least height.

It is to be noted also that the ribs 9 and 10, as shown particularly in Figures 1 and 3, are provided with small apertures which receive the reduced ends of shouldered posts 14 and 15. The post 14 extends through an aperture 16 and passes downwardly out of contact with the upper intermediate partition 3. The bottom of the post rests upon the rib 12 of the lower intermediate partition 4, as shown in Figure 3. The post 15 is relatively short and is similarly formed to the post 14. It contacts at its upper end with the rib

9 and at its lower end rests upon the upper intermediate partition 3. The post 14 is located, as shown in Figure 1, directly beneath the foot of the bridge adjacent the bass string or heaviest string. The post 15 is spaced rearwardly a slight distance from the bridge.

Further, it is to be noted that a third post 17 is positioned in longitudinal alignment with the post 15 but is displaced or moved forwardly therefrom, as shown in Figures 1 and 2. The port 17 rests upon the rib 12'. Further, a fourth post 18 is positioned in longitudinal alignment with the posts 15 and 17 but is spaced rearwardly of the post 17, as shown in Figure 2, and is preferably in vertical alignment with the post 15. It is to be noted particularly that the posts communicate the strain from the strings to the several partitions and to the bottom and also that these strains are distributed. In addition to this, the vibration at the bridge is transmitted and distributed to the two intermediate partitions and to the back or bottom. Thus, when the violin is played, the partitions, the back, and the front are all set into vibration and the sound from the several members passes outwardly and through the scroll openings 8, as indicated in Figure 3.

Further, it is to be noted that the partitions 3 and 4 are caused to actually transmit the vibrations through a portion of their extent to the post 17 and the post 18 in order to transmit such vibrations to the back of the violin. Thus, the several members can take up their appropriate modes of vibration and will produce, as has been found from actual trials with this instrument, an unusually clear, powerful, penetrating sound which is very resonant and pleasing.

It is to be noted also that the violin, considering the number of layers or members of which it is composed, is remarkably free from glued joints and, in reality, has fewer glued joints than the conventional type of violin. These glued joints, as is well known, give trouble in violin work and interfere with the purity of the sound. Applicant, on the other hand, reduces the number of glued joints and thus materially improves not only the strength of the instrument and its durability, but also materially improves the tone.

It is to be noted that the neck of the violin is dovetailed into the body portion, as shown particularly in Figures 1 and 2. From these figures, it will be seen that the neck portion is provided with a dovetailed tenon 20, and that the body portion is provided with an inwardly projecting lug 21 which, as may be seen from Figure 1, receives the tenon 20. This lug is formed in each of the half members of the violin and thus provides a very rigid support for the neck. If desired, the marginal ribs or flanges 5 and 6 may be provided with regularly spaced inwardly directed lugs to increase their strength and the contacting glued surfaces.

The drawing and description have been directed primarily to a violin, but it is to be distinctly understood that any musical instrument employing strings is within the scope of this invention.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

1. A musical string instrument body comprising a front and a back and intermediate partitions, said back and one of said intermediate partitions having integral marginal flanges contacting and forming the sides of the instrument and an internally shouldered upstanding portion on one of said flanges to be engaged by the edges of said front.

2. A musical string instrument body comprising a front and a back and intermediate partitions, said back and one of said intermediate partitions having integral marginal flanges contacting and forming the sides of the instrument, and an internally shouldered upstanding portion on one of said flanges to be engaged by the edges of said front, and said front, back and intermediate partitions having integral ribs.

3. A musical string instrument comprising, a front, a back, and intermediate partitions, a bridge resting upon said front and supporting the strings, said front having a pair of integral ribs formed on its inner side and of different lengths, the longer of said ribs being located below the foot of the bridge adjacent the bass string and the shorter of said ribs being located below the foot of the bridge adjacent the highest pitched string, and an internally shouldered upstanding portion on one of said flanges to be engaged by the edges of said front, said intermediate partitions and said back having integrally formed ribs.

4. A musical string instrument body comprising a front, a back, and intermediate partitions arranged in superposed relation between the back and front, said back and one of said intermediate partitions having integral marginal flanges contacting and forming the sides of the instrument.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

JOSEPH PACZKOWSKI.