June 24, 1930. R. B. FERGUSON 1,768,471

MUSICAL STRINGED INSTRUMENT

Filed Nov. 7, 1927

Fig. 1.

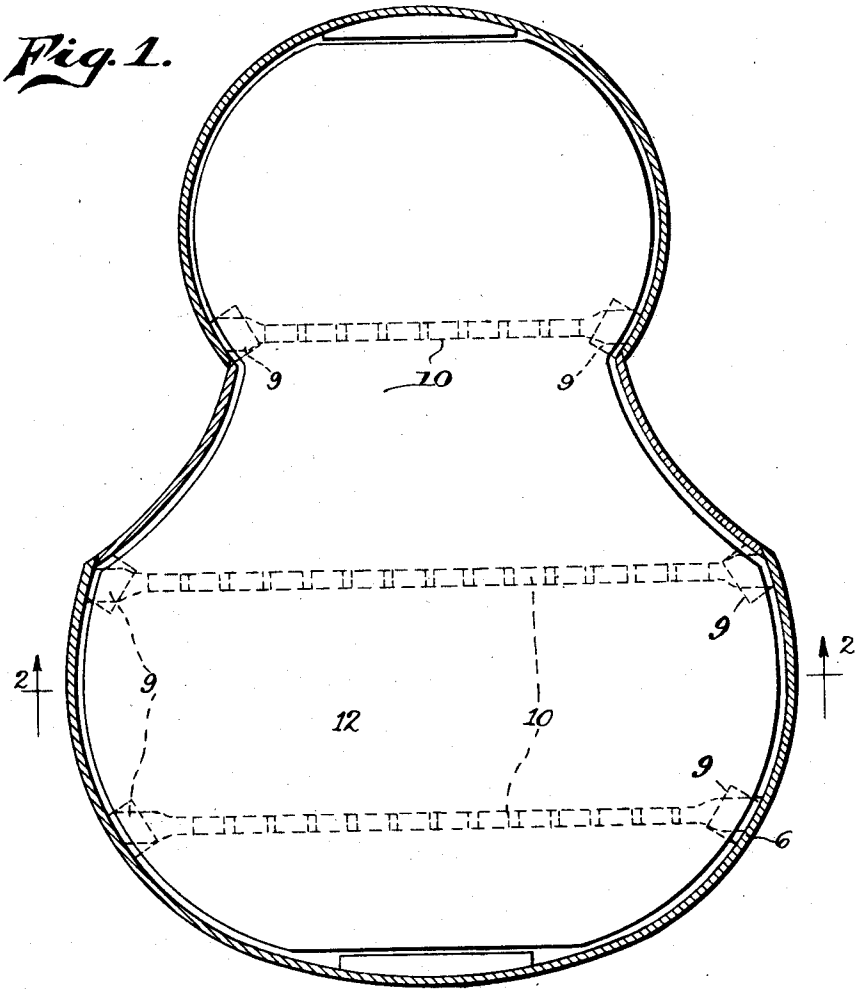
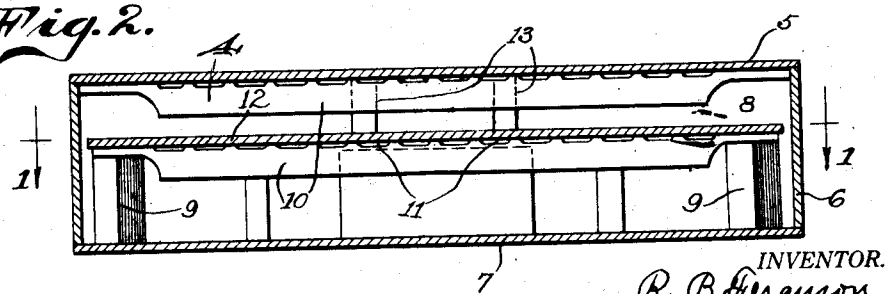


Fig. 2.



INVENTOR.
R. B. Ferguson
BY Cartham
ATTORNEY.

Patented June 24, 1930

1,768,471

UNITED STATES PATENT OFFICE

ROBERT B. FERGUSON, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO G. E. HARPHAM, OF SAN FRANCISCO, CALIFORNIA, AS TRUSTEE

MUSICAL STRINGED INSTRUMENT

Application filed November 7, 1927. Serial No. 231,518.

My invention relates to that class of musical instruments of which the guitar and violin are species and the object thereof is to produce a musical stringed instrument capable of producing greater volume with sweeter and clearer sound than can be produced by the musical instruments of that class now in use.

In the drawings forming a part of this application I have illustrated and will describe my invention as applied to a tenor guitar. My invention however is applicable to any of the stringed musical instruments of the class to which the guitar belongs. Fig. 1 is a longitudinal horizontal section of so much of the guitar as is necessary to illustrate my invention on the line 1—1 of Fig. 2 looking toward the bottom board. Fig. 2 is a vertical cross section of so much of the guitar body as is necessary to the illustration of my invention on the line 2—2 of Fig. 1.

Referring to the drawings 5 is the top or front sounding board to which is attached the usual finger board neck, not shown as no part of my invention. The usual rim 6 connects 5 to the bottom board 7. The usual sound chamber 8 of the commonly constructed instruments of this class is formed by 5—6 and 7 and in my improved instruments are of usual construction except that I use notched ribs 4 for strengthening 5. My improvement consists in gluing to the rim 6 at suitable points posts 9 of which there will be a suitable member depending on the size and character of the instrument. In the guitar shown in the drawings I provided six of these posts, the bottoms of which rested upon and were also glued to 7 and extended toward the top approximately three-fifths of the distance. As shown in the drawings there were three of these posts on each side of the rim, arranged in oppositely disposed pairs. Each pair of posts supported a cross rib 10, the ends of which were glued to 9. The tops of 10 were notched by broad notches 11. On 10 I glued a thin board 12 of spruce one-eighth of an inch thick which extended to within one-eighth of an inch of rim 6 I call 12 the intermediate sound board. Adjacent to the tone opening usually formed in guitars in 5 and preferably to the rear thereof, that is furthest from the finger board, I place vertical posts 13 which engage 5 and 12 as shown in Fig. 2. By this construction I have produced a tenor guitar, which by test with the tenor guitars of the best make gives an instrument with a clearer sweeter tone and of larger volume than the instrument with which it was tested. Ribs 4 are preferably placed above ribs 10 and are equal in number to ribs 10. They are glued to 5 and the ends are glued to 6.

I am aware that it is not broadly new to place an intermediate sound board between the top and bottom boards of a stringed musical instrument, such construction being shown notably in Patent No. 906,612 and in Patent No. 1,001,302. In 906,612 the intermediate sound board was attached at all its edges to a ledge formed on the bottom board near its circumference. In 1,001,302 the intermediate sound board was attached to members at the ends, which members were connected to the top and bottom boards. In these constructions the vibratory effect of the intermediate sound board is largely lost by reason of its contacts at the ends with the other parts of the instrument. In my improvement the intermediate sound board has its ends free to vibrate and is only connected to the other parts sufficiently to maintain it positioned in the instrument with preferably the larger part of the space between the top and bottom board between the intermediate sound board and the bottom board. While I have shown the posts which support the intermediate sound board as mounted on the bottom board, they could be secured to the top board but the result would not be quite as good. It will be seen that another important feature of my improvement consists in notching the ribs that strengthen the top and intermediate sound boards thereby permitting them to vibrate more freely.

Having described my invention I claim:

1. In a stringed musical instrument top and bottom boards connected by a rim member; posts mounted on the bottom board and

secured to the member uniting the top and bottom boards, brace members secured upon said posts; and a sound board intermediate the top board and the bottom board secured upon said brace members and dividing the space between the top and bottom boards into two parts; said intermediate board having all its edges free to vibrate except where secured to said brace members.

2. In a stringed musical instrument, top and bottom boards connected by a rim member; a sound board intermediate the top board and the bottom board and having its edges spaced from the member uniting the top and bottom boards; and means to hold said board between the top board and the bottom board with its edges free except at the holding means.

3. In a stringed musical instrument top and bottom boards connected by a rim member; a sound board intermediate the top board and the bottom board and having its edges spaced from the member uniting the top and bottom board; and means to hold said board between the top board and the bottom board with its edges free except at the holding means; and posts engaging the top board and the intermediate sound board.

4. In a stringed musical instrument top and bottom boards connected by a rim member; the combination of a sound board intermediate the top and bottom boards with notched ribs adapted to strengthen the sound board, and fastened thereto, said sound board being free at all its edges except at said ribs.

In witness that I claim the foregoing I have hereunto subscribed my name this 27th day of October, 1927.

ROBERT B. FERGUSON.