

June 23, 1936.

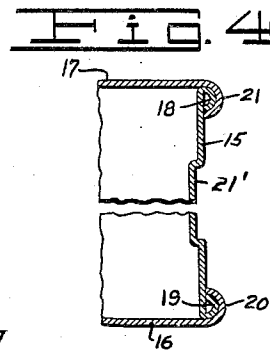
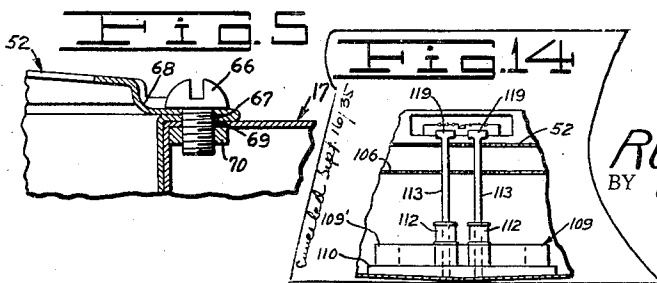
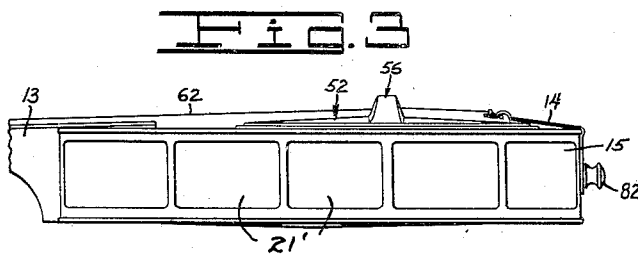
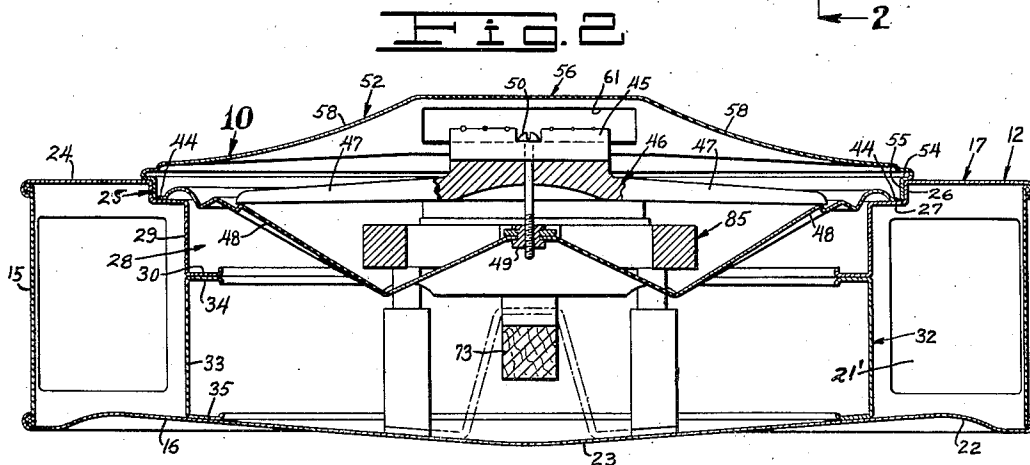
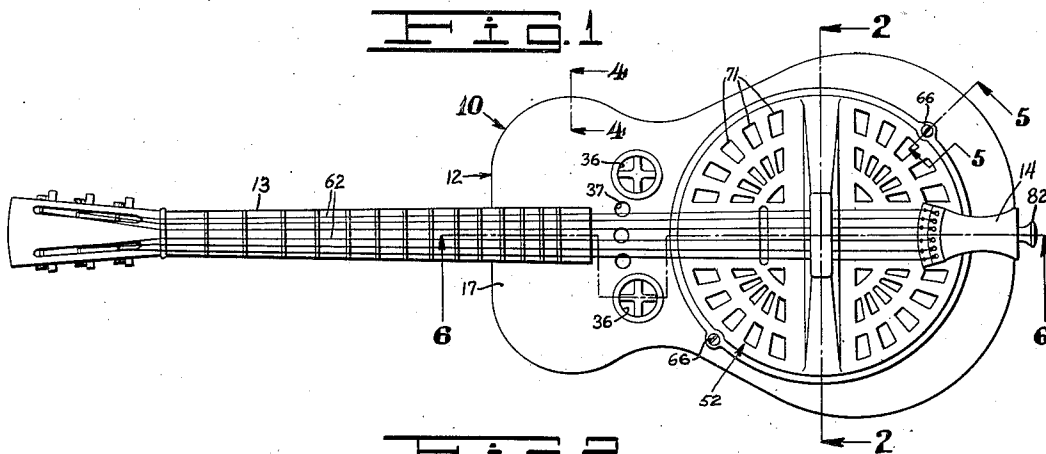
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2,045,265

STRINGED MUSICAL INSTRUMENT

Filed April 16, 1934

2 Sheets-Sheet 1



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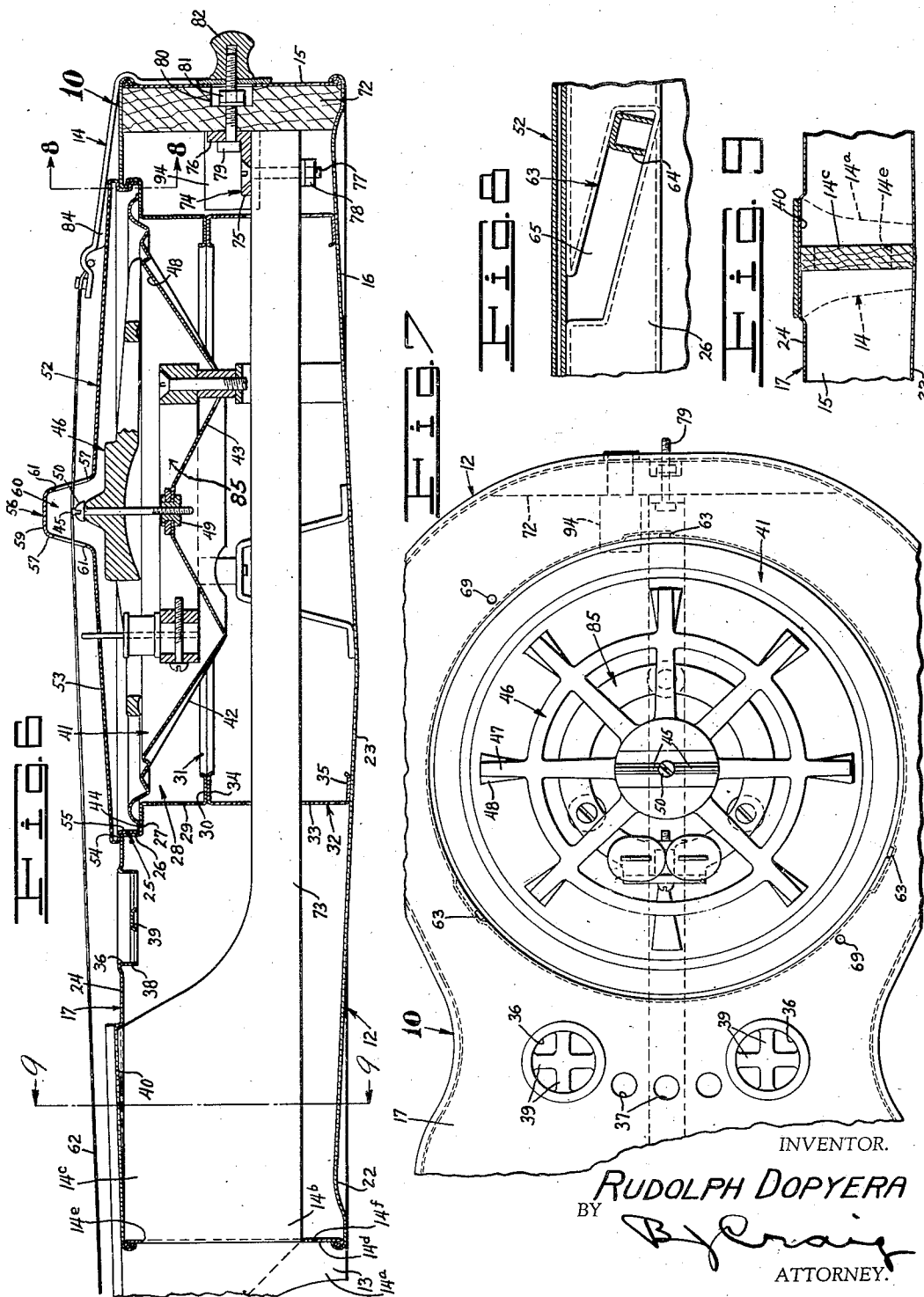
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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,045,265

STRINGED MUSICAL INSTRUMENT

Rudolph Dopyera, Los Angeles, Calif.

Application April 16, 1934, Serial No. 720,753

11 Claims. (Cl. 84—292)

This invention relates to improvements in stringed instruments.

The general object of the invention is to provide an improved body for a stringed instrument.

5 An additional object of the invention is to provide an improved closure for the opening in the body of a steel guitar.

10 Other objects and the advantages of this invention will be apparent from the following description taken in connection with the accompanying drawings wherein:

Fig. 1 is a top plan view of a guitar embodying the features of my invention;

15 Fig. 2 is an enlarged section taken on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary side view of the guitar shown in Fig. 1;

Fig. 4 is an enlarged fragmentary section taken on line 4—4 of Fig. 1;

20 Fig. 5 is an enlarged fragmentary section taken on line 5—5 of Fig. 1;

Fig. 6 is an enlarged section taken on line 6—6 of Fig. 1;

25 Fig. 7 is an enlarged fragmentary top plan view of the device with the cover and tail removed;

Fig. 8 is an enlarged fragmentary section taken on line 8—8 of Fig. 6; and

30 Fig. 9 is a fragmentary section taken on line 9—9 of Fig. 6 on a reduced scale.

Referring to the drawings by reference characters I have indicated my improved guitar generally at 10. As shown the guitar 10 comprises a metal body 12 of the usual shape, a neck 13 and a tail piece 14. The neck includes a thickened portion 14^a which is reduced as at 14^b to provide an extension 14^c and a shoulder 14^d. The extension 14^c passes through a slot 14^e in the side wall and the shoulder 14^d engages the front portion of the side wall as at 14^f. In this manner the forward end of the neck piece is firmly secured in place.

40 The body 12 comprises a peripheral wall 15, a bottom member 16 and a top member 17 all preferably made of metal. As clearly shown in Fig. 4 the top and bottom portions of the peripheral wall 15 are rolled outward to form protruding beads 18 and 19, respectively.

45 The edge portion of the bottom member 16 is rolled upward and over the bead 19 and firmly pressed thereagainst as indicated at 20 and the edge of the top member 17 is rolled downward and over the bead 18 and firmly pressed thereagainst as indicated at 21. The peripheral side wall 15 is provided with a plurality of panels 21' which are

shown as inwardly directed. These panels serve to stiffen the entire side wall and to prevent strain or distortion of this side wall due to formation of seams between the portions 18 and 19 and 21, and the panels also prevent collapse of the side wall and prevent vibration of the side wall so that the playing qualities of the instrument are improved. Adjacent its outer edge the bottom member is preferably concave as indicated at 22 and then merges into a convex portion indicated by 23. The bottom member is thus shaped in both transverse and longitudinal section as may be seen by referring to Figs. 2 and 6.

The top member 17 includes an upper portion 24 which has a recess 25 therein, the side wall 26 and bottom wall 27 of which are preferably formed integral with the upper portion 24. In the bottom of the recess 25 a reduced recess 28 is provided which includes a side wall 29 which is integral with the bottom 27 of the recess 25. The lower edges of the wall 29 are turned inward to form flanges 30 which in turn form a central aperture 31.

25 If desired a well member 32 which is made of sheet metal may be positioned between the bottom 16 and the flange 30. As shown the well member 32 includes a side wall 33 having at its upper portion an intumed flange 34 and at its lower portion a similar intumed flange 35. The well flange 34 is soldered or otherwise secured to the flange 30 and the well flange 35 is soldered or otherwise firmly secured to the bottom 16.

30 In the upper portion 24 of the top member 17 intermediate the recess 25 and the neck 13 I have shown a plurality of apertures 36 and a plurality of reduced apertures 37. As shown in Fig. 6 the apertures 36 are formed by drawing inward the metal of the top portion to form downwardly extending collars 38 from which extend a plurality of ribs 39 which are integral with the side walls 38. The reduced apertures 37 are similarly formed by drawing the material of the top portion inward.

45 At the neck end of the top member 17 I provide an inclined key board portion 40. As shown the key board portion 40 is formed by pressing the material of the upper portion 24 upward a predetermined distance from the neck end and inclining it inward towards the edge of the body.

50 Positioned in the recesses 25 and 28 I provide a metal resonator 41 which includes a concave portion 42 and a convex central portion 43. The outer edge of the resonator includes a foot flange 44 which rests on the flange 27. For supporting a bridge member 45 I provide a spider member 55

46 which includes a plurality of radial legs 47 which rest on the upper ends of a plurality of inwardly pressed portions 43 provided on the resonator 41. At the apex of the convex central portion 43 of the resonator a nut 49 is secured thereto which is engaged by a bolt 53 positioned in an aperture of the spider member.

Positioned over the spider member 46 I provide a cover member 52. As shown the cover member 52 is made of sheet metal and includes a top portion 53 which in general is upwardly inclined from its outer edge towards the center (see Fig. 6). The diameter of the top portion 53 is greater than the diameter of the recess 25 in the body. At the periphery of the cover member the material of the top portion 53 is bent inward to form a seat portion 54 and then downward to form a flange 55. The seat portion 54 of the cover is adapted to engage the outer face of the upper portion 24 of the top member 17 and the flange 55 is adapted to frictionally engage the inner face of the side wall 26 of the recess 25.

Adjacent the center of the cover 52 I provide a raised bridge portion 56 which is integral with the top portion 53 and includes side walls 57, end walls 58 and a top portion 59. The side walls 57, end walls 58 and the top 59 form a chamber 60 in which the bridge 45 is positioned. The side walls 57 are steeply inclined to meet the top portion 53 (see Fig. 6) while the end walls 58 are gradually sloped to meet the top portion adjacent the periphery of the cover (see Fig. 2). Each of the side walls 57 has an aperture 61 therein through which the playing strings 62 pass.

For retaining the cover 52 in position on the body I provide a plurality of bayonet joints indicated at 63. As shown in Figs. 6 and 8 the bayonet joints 63 are formed by providing an outstruck lip 64 on the flange 55 of the cover which fits into a recess 65 formed in the side wall 26 of the recess 25.

For securing the cover 52 in position I provide a plurality of bolts 66 each of which is positioned in an aperture provided in a depressed portion 68 of the cover (see Fig. 5). Each of the bolts 66 are positioned in an aperture 69 in the top member 17 and engage a nut 70 which is secured to the top member as by soldering it thereto. The cover 52 further includes a plurality of apertures 71 which may be shaped and spaced to form a pleasing design (see Fig. 1).

Within the body 12 at the end opposite the neck 13 I provide a wood block 72 which is preferably shaped to snugly fit the contours of the body. A portion 73 of the neck 13 extends into the body 12 and abuts against the block 72. For securing the neck portion 73 to the block 72 I provide a metal angle member 74 one flange 75 of which engages the upper face of the neck portion 73 and the other flange 76 of which engages the inner face of the block 72. The flange 75 is suitably apertured to receive the counter-sunk head of a bolt 77 which is positioned in a suitable aperture provided in the neck portion 73 and is engaged by a nut 78 which clamps against the under face of the neck portion 73. The flange 76 is suitably apertured to receive a bolt 79 which extends through a suitable aperture provided in the block to a distance beyond the outer face of the body 12. In the wall 15 and the block 73 I provide a recess 80 in which a nut 81 is positioned and engaged by the bolt 79 to firmly clamp the angle member 76 to the block 72.

The tail piece 14 is suitably apertured to allow

the bolt 79 to pass therethrough and beyond the tail piece 14 I provide a nut 82 which firmly clamps the tail piece to the body 12. Furthermore, the tail piece 14 preferably includes a downwardly extending boss 84 which engages the cover 52 (see Fig. 6) thus relieving the bridge 45 of the entire pressure of the springs 62.

Positioned in the resonator 41 I provide an electrical pick-up device which is indicated generally at 85. This pick-up unit 85 may be similar to the pick-up described and shown in my co-pending application, Serial No. 28,034, filed June 24, 1935.

From the foregoing description it will be apparent that I have invented a novel form of stringed musical instrument and electric pick-up which can be economically manufactured and which is highly efficient in use.

Having thus described my invention, I claim:

1. In a stringed musical instrument, a body portion, said body being formed of sheet metal and comprising a continuous side wall, a bottom member and a top member, means to secure said bottom member and said top member to said side wall, said top member including an integral outwardly pressed projecting finger board engaging portion.

2. In a stringed musical instrument, a body portion, said body being formed of metal and comprising a continuous side wall, said side wall having inwardly depressed panels therein, a bottom member and a top member, the lower portion of said side wall being rolled outward to form a bead and the upper portion of said wall being rolled to form a bead, the peripheral portion of said bottom being rolled upward over the lower bead and the peripheral portion of the upper portion being rolled downward over the upper bead.

3. In a stringed musical instrument, a body portion said body portion being formed of sheet metal and including a side wall, a bottom member and a top member, a neck projecting beyond one side of said body, said side wall having a slot, said neck including a portion fitting said slot, said neck having a shoulder engaging the wall, said neck including a portion extending into said body, and means to secure the end of said neck to that part of said wall which is opposite to said slot.

4. In a stringed musical instrument, a body portion, said body portion being formed of sheet metal and including a side wall, a bottom member and a top member, a neck, said neck projecting beyond one side of said wall and including a portion extending into said body, a block secured to that side of said wall which is opposite to said neck, means to secure said extended portion of said neck to said block, said means comprising an angle member and means to secure the angle member to the block and to the extended portion of the neck.

5. In a stringed musical instrument, a body portion said body portion being formed of sheet metal and including a side wall, a bottom member and a top member, a neck projecting beyond one side of said body, said side wall having a slot, said neck including a portion fitting said slot and extending into said body and said neck having a shoulder engaging said wall below the slot, a block secured to that side of said wall which is opposite to said slot, means to secure said extended portion of said neck to said block, said means comprising an angle member, means to secure the

angle member to the block and to the extended portion of the neck.

6. In a stringed musical instrument, a body portion, said body being made of metal and including an endless side wall, a bottom member and a top member, a recess in said top, said recess being formed by bending the material of said top downward to form the side walls of said recess, a cover member for said recess, said cover being made of metal and including a downwardly extending flange on said cover top portion, said flange fitting in said recess, a plurality of bayonet joint lugs extending outward from said cover flange and a plurality of coacting bayonet joint recesses formed in the side walls of said recess.

7. In a stringed musical instrument, a body portion, said body being made of metal and including an endless side wall, a bottom and a top, a recess in said top, said recess being formed by bending the material of said top downward to form the side walls of said recess, a bridge member for the strings of said instrument and means in said recess to support said bridge member.

8. In a stringed musical instrument, a body portion, said body being formed of metal and comprising a continuous side wall, a bottom member and a top member, said side wall having upper and lower beads, the peripheral portion of said bottom engaging said lower bead and the peripheral portion of said upper portion engaging said upper bead, said body having a recess, said recess being formed by bending the material of said top member downward to form the side walls of said recess, said material then being bent inward to form a shoulder and then downward to form the side walls of a reduced recess and then inward to form a second shoulder.

9. In a stringed musical instrument, a body portion, said body being made of metal and including an endless side wall, a bottom member and a top member, a recess in said top, said recess being formed by bending the material of said top downward to form the side walls of said recess, a cover member for said recess, said cover being made of metal and including a top portion of greater diameter than the diameter of said recess, a downwardly extending flange on said cover top portion, said flange fitting in said recess in frictional engagement with the side walls thereof, said cover including an upwardly extending hollow central portion forming a chamber, there being apertures in said central portion, a

tail piece on said body, said tail piece including a downwardly extending boss, said boss engaging said cover adjacent the periphery thereof.

10. In a stringed musical instrument, a body portion, said body being made of metal and including an endless side wall, a bottom member and a top member, a recess in said top, said recess being formed by bending the material of said top downward to form the side walls of said recess, a shoulder in said recess, a bridge for the strings of said instrument, means engaging said shoulder and said bridge to support said bridge, said bridge extending above the upper surface of said top member, a cover member for said recess, said cover being made of metal and including a top portion of greater diameter than the diameter of said recess, a downwardly extending flange on said cover top portion, said flange fitting in said recess in frictional engagement with the side walls thereof, said cover including an upwardly extending hollow central portion, said central portion forming a chamber in which said bridge is positioned and apertures in said central portion in which said strings are positioned, a tail piece on said body, said tail piece including a downwardly extending boss, said boss engaging said cover adjacent the periphery thereof.

11. In a stringed musical instrument, a body portion, said body being made of metal and including a continuous side wall, a bottom member and a top member, said top member having a recess, said recess being formed by bending the material of said top downward to form the side walls of said recess, a bridge for the strings of said instrument, means in said recess to support said bridge, said bridge extending above the upper surface of said top member, a cover member for said recess, said cover being made of metal and including a top portion of greater diameter than the diameter of said recess, a downwardly extending flange on said cover top portion, said flange fitting in said recess in frictional engagement with the side walls thereof, a plurality of bayonet joint lugs extending outward from said cover flange and a plurality of coacting bayonet joint recesses formed in the side walls of said top recess, said cover including an upwardly extending hollow central portion, said central portion forming a chamber in which said bridge is positioned and apertures in said central portion through which said strings extend.

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