

Dec. 13, 1927.

1,652,627

E. JEROME

MUSICAL INSTRUMENT

Filed Dec. 10, 1924

3 Sheets-Sheet 1

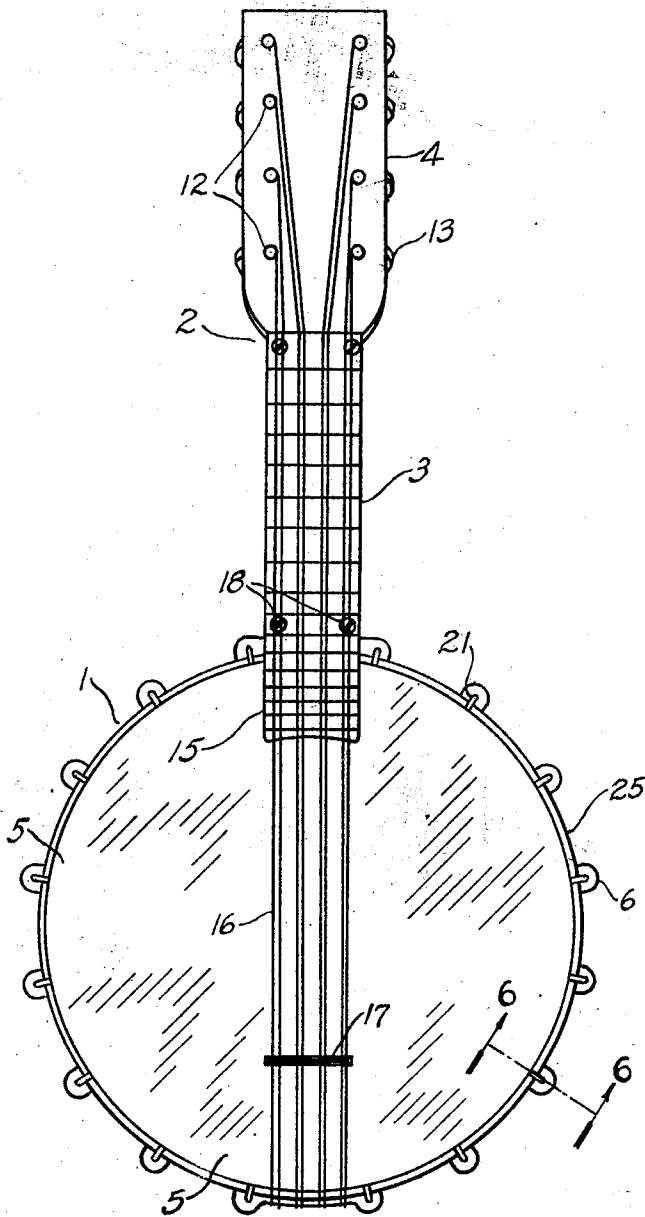


Fig. 1

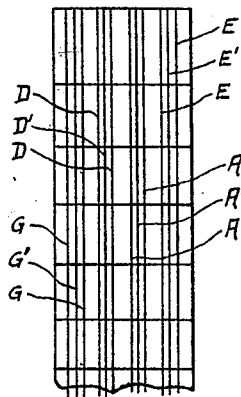


Fig. 8

INVENTOR.

Edward Jerome
BY *Wm. & Ziegler*
ATTORNEYS.

Dec. 13, 1927.

1,652,627

E. JEROME

MUSICAL INSTRUMENT

Filed Dec. 10, 1924

3 Sheets-Sheet 2

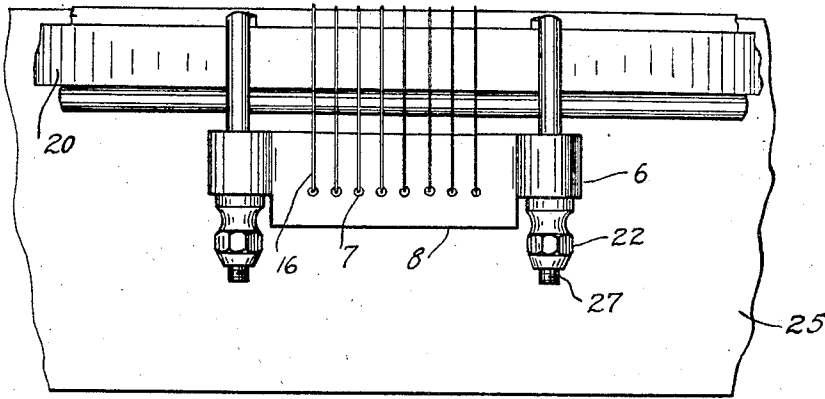


Fig. 9

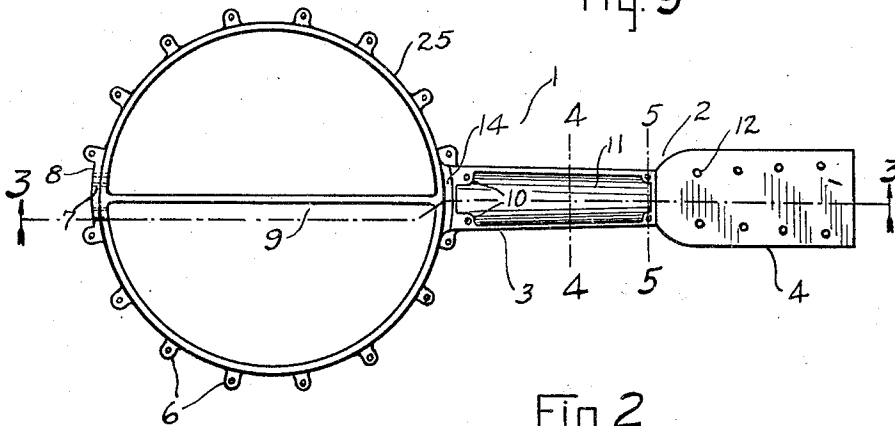


Fig. 2

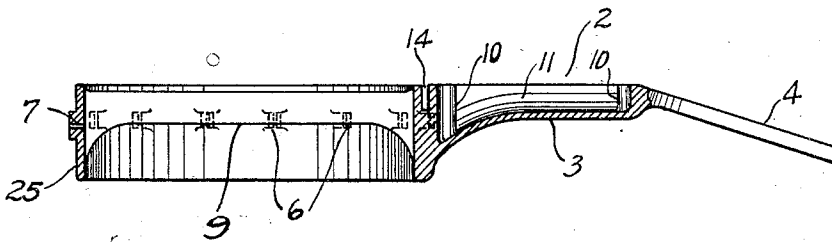


Fig. 3

INVENTOR.
Edward Jerome
BY *Wm. H. ...*
ATTORNEYS.

Dec. 13, 1927.

1,652,627

E. JEROME

MUSICAL INSTRUMENT

Filed Dec. 10, 1924

3 Sheets-Sheet 3

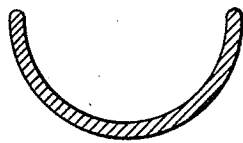


Fig. 4

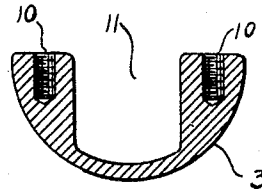


Fig. 5

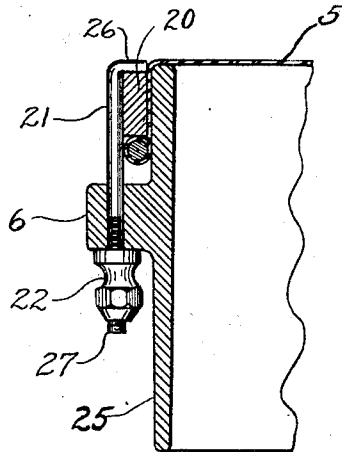


Fig. 6

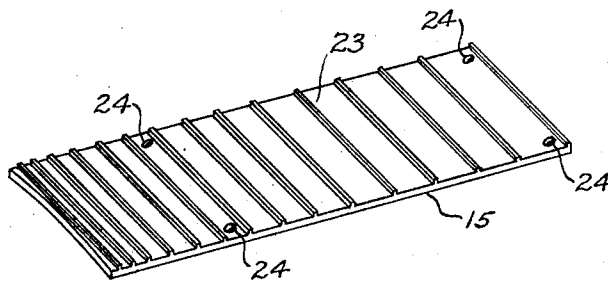


Fig. 7

INVENTOR.

BY *Edward Jerome*
Wm. S. Hult
ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDWARD JEROME, OF NEW YORK, N. Y.

MUSICAL INSTRUMENT.

Application filed December 10, 1924. Serial No. 754,908.

My invention relates to stringed musical instruments, more particularly to stringed instruments of the banjo type in which the frame is made of cast metal.

5 The object of this invention is to produce an instrument which is exceedingly strong and rigid, light in weight, and very cheap in cost.

Another object of this invention is to provide an instrument with twelve strings instead of the usual four or eight. With the use of twelve strings on an instrument, greater harmony may be obtained.

10 In the accompanying drawings which form a part of the specification,

15 Figure 1 is a plan view of an embodiment of my invention in the form of a banjo-mandolin;

20 Figure 2 is a plan view of a unitary cast metal frame used in the banjo shown in Figure 1;

Figure 3 is a sectional view of Figure 2 taken on the line 3—3, looking in the direction of the arrows;

25 Figure 4 is the cross section of the neck of the frame at the line 4—4 of Figure 2;

Figure 5 is the cross section of the neck of the frame at the line 5—5 of Figure 2;

30 Figure 6 is a sectional view of Figure 1 taken on the line 6—6 looking in the direction of the arrows, and illustrating the diaphragm head tightening means;

Figure 7 illustrates a finger-board of cast metal for the instrument;

35 Figure 8 is a plan view of a portion of a finger-board showing a modified form of stringing an instrument with twelve strings in position, and

40 Figure 9 shows a partial elevation of the tail-piece end of the banjo shown in Figure 1.

Similar characters of reference indicate similar parts in each of the accompanying views.

45 Referring more particularly to the drawings, the numeral 1 indicates the frame of the instrument. The entire frame is made in a unitary casting of metal, preferably of aluminum, possessing rigidity, strength, resonance, and lightness. This frame consists of an annular body portion 25 and a neck or handle portion 2. Upon this annular body portion is placed a diaphragm-head 5 of the usual construction. A slot 14

is provided in the casting between the said 55 body portion and the said neck portion for permitting the diaphragm-head to seat properly. The diaphragm-head is held in place by a plurality of L-shaped fastening or tightening fingers 21. One end 26 of each 60 of the said fastening fingers engages an annular strainer hook 20 of the diaphragm-head, and the other end 27 which is threaded passes through a lug 6 cast integral with the exterior of the said body portion 25. In 65 order to tighten the diaphragm-head in place, a nut 22 is provided for each fastening finger 21. This nut engages the said threads 27 so that the said nut may be drawn up and thereby tighten the diaphragm- 70 head to any desired degree.

The neck 2 projects from the body portion in a substantially radial manner. In order to give rigidity to this neck, it is channeled and has substantially a U- 75 shaped section as is shown in Figure 4. Due to the fact that this neck is subjected to bending stresses, it is made widest at its juncture with the body portion, and tapers to a small section at its end, as is best shown in Figure 80 3. In each of the corners of the said neck, screw-receiving means 10 are provided, the purpose of which will be explained later. A finger-board 15 made of cast metal fits on the neck and projects over the diaphragm- 85 head a short distance. In order to hold the finger-board in place, screws 18 are provided which pass through the finger-board and into the said screw receiving means 10.

The end of the neck is provided with a 90 flat portion 4 somewhat on an angle to the neck. This flat portion is provided with threaded holes 12 for receiving string keys 13. The said string keys hold the upper 95 ends of strings 16, while the lower ends of the said strings are fastened in a tail-piece 8 which is provided with a plurality of apertures 7. The tail piece projects from the body portion and is integral therewith. As may be seen from Figure 2, this tail piece 100 is diametrically opposed to the neck. The strings may be adjusted by means of said string keys 13, and when so adjusted the body portion is subjected to a collapsing stress. In order to assist the body portion 105 to resist this stress, an interior diametral reinforcing rib 9 is provided, directly in line with said tail piece and said neck. A

conventional bridge member 17 is supported on the drum head directly under the strings, for defining the lower musical length of the strings, the upper limit being defined by the string keys.

As noted above, the fastening fingers 21 may be used to adjust the diaphragm head, and string keys 13 for adjusting the tension in the strings. After these adjustments have been made, the instrument is ready to be played.

In order to use the modified form of stringing the instrument, three strings must be used in place of the usual one or two. By using three strings, full tones may be obtained. In Figure 8 a banjo-mandolin is shown in which G^1 is either an octave higher or lower than the G strings, whereas A^1 , D^1 , and E^1 are an octave lower than their respective strings. However, it is preferable to use a G^1 string an octave higher, because the G^1 string an octave lower is so thick that it does not fit conveniently between the other G strings. In this manner greater harmony may be obtained from the instrument.

It will be observed that by the use of my invention, an instrument may be made with a unitary cast metal frame which has great strength, rigidity, resonance, little weight, and a very low cost of production.

What I claim is:

1. In a banjo, a metallic frame comprising a cylindrical body part, a reinforcing rib part extending diametrically thereacross, a neck part projecting beyond the body part in line with the reinforcing rib, and perforated lug parts upon the periphery of the body portion about midway of the height thereof, all of said parts being integrally

connected, strings anchored in the body part at one end of the reinforcing rib part, means adjustably connecting the opposite ends of the strings to the distant end of the neck part, a diaphragm head on said body part of the frame, a ring surrounding the diaphragm head and said body part above the lug parts, hooks overlying the rings and provided with threaded shanks which pass through the lug parts, and finger nuts threaded on the hook shanks below the lugs for drawing the ring downward to tighten the diaphragm head, whereby the body portion of the frame and the tension of the diaphragm head are unaffected by the tensioning of the instrument strings.

2. In a metallic frame for a musical instrument having a diaphragm head, a cylindrical body part for supporting said diaphragm head, a reinforcing rib part extending diametrically across said body part, the upper edge of said rib part being sufficiently below the upper edge of said body part to permit of free vibration of the diaphragm head, a neck part projecting beyond the body part in line with said reinforcing rib, the said neck part being hollow and substantially U-shape in cross-section, said neck part being provided with inwardly extending threaded means, a head part at the outer end of said neck part, all of said parts of the frame being integrally connected, and said frame being provided with a slot between said body part and said neck part for receiving said diaphragm head.

In testimony whereof I have affixed my signature to this specification.

EDWARD JEROME.