Jan. 25, 1944. V. ZIMMERMAN 2,339,971

XYLOPHONE

Filed Jan. 1, 1942

FIG. 1

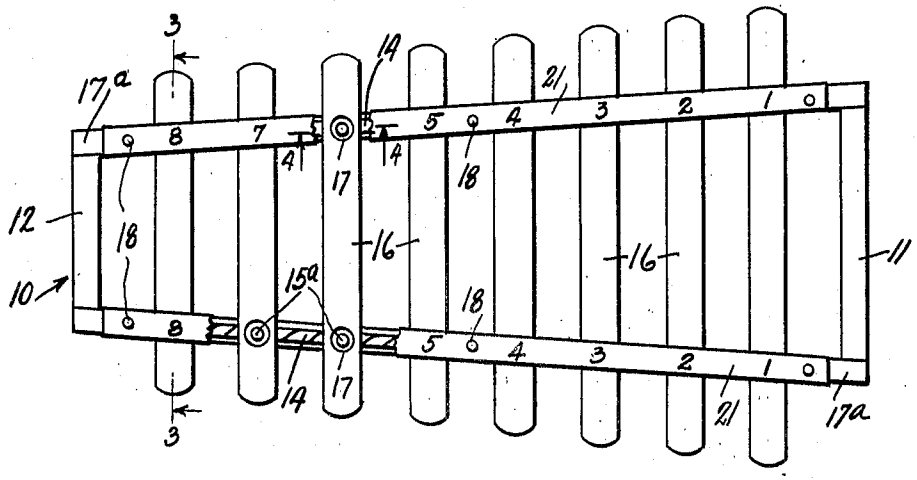


FIG. 2

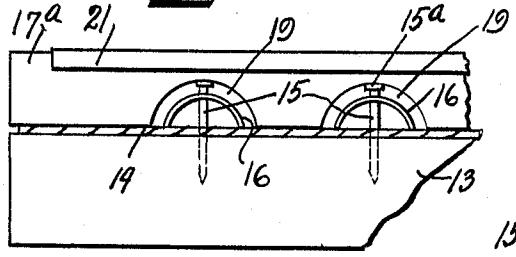


FIG. 5

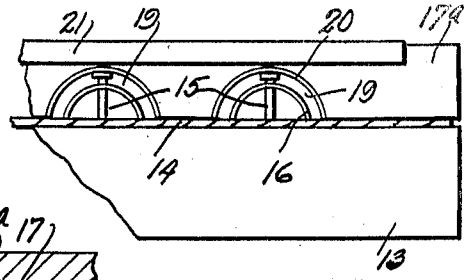


FIG. 4

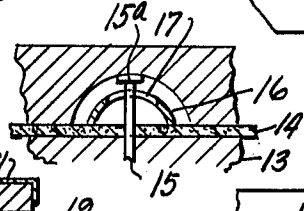


FIG. 3

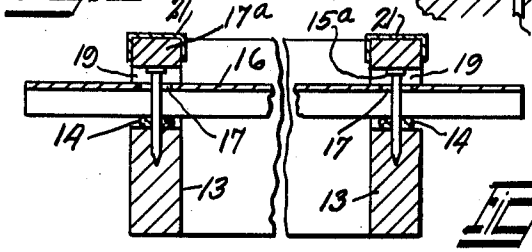


FIG. 6

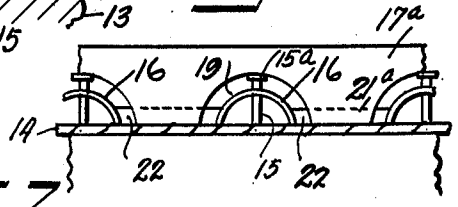
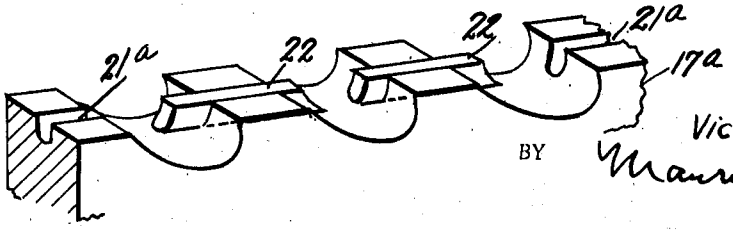


FIG. 7



INVENTOR.
Victor Zimmerman
BY
Maurice Block
ATTORNEY

Patented Jan. 25, 1944 2,339,971

UNITED STATES PATENT OFFICE

2,339,971

XYLOPHONE

Victor Zimmerman, Elmhurst, N. Y., assignor to Harry Zimmerman, New York, N. Y.

Application January 1, 1942, Serial No. 425,262

8 Claims. (Cl. 84—403)

This invention relates to xylophones and more particularly to the manner of mounting the sounding members thereof.

One object of the invention is the provision of a musical instrument of the nature referred to in which the sounding members or resonant bars are so mounted as to prevent the disengagement of said sounding members from their locating or positioning pins due to any cause whatsoever, thus insuring at all times the normal playing position of said bars.

Another object of the invention is the provision of means for minimizing the possibilities of the musical or resonant bars of coming into contact with any sound deadening or sound distorting elements while the instrument is being played.

A further object of the instrument is the provision of non-resonant means for maintaining the sounding bars in normal playing position and out of contact with their locating pins.

Another object is to produce a device of the character described in which the maximum simplicity of construction and operation is secured.

Other objects and advantages will appear as the nature of the improvements is better understood, the invention consisting substantially in the novel arrangement and co-relation of parts herein fully described and illustrated in the accompanying drawing, wherein similar reference characters are used to describe corresponding parts throughout the several views, and then finally pointed out and specifically defined and indicated in the appended claims.

The disclosure made the basis of exemplifying the present inventive concept suggests a practical embodiment thereof, but the invention is not to be resticted to the exact details of this disclosure, and the latter, therefore, is to be understood from an illustrative, rather than a restrictive standpoint.

In the accompanying drawing,

Figure 1 is a top plan view of a xylophone made in accordance with my invention;

Figure 2 is a fragmental side view thereof;

Figure 3 is a cross sectional view taken on line 3—3 of Fig. 1;

Figure 4 is a fragmental sectional view taken on line 4—4 Figure 1;

Figure 5 is a view similar to Figure 2 of a modified form of the invention;

Figure 6 is a similar view of a still further modified form of the invention and

Figure 7 is a fragmental perspective view in inverted position of one of the musical bar retaining rails used in the modification shown in Figure 6.

Referring now to the drawing in detail 10 indicates the frame of my xylophone, said frame comprising an end wall 11*a* somewhat narrower end wall 12 and a pair of lower side walls 13 suitably secured to the end walls 11 and 12. Stretched across the upper surface of each of the said side walls 13 is a padding or insulating strip 14 made of any suitable material as for instance felt, cord or the like. Nails or pins 15 are driven into the side walls 13 at regular intervals, said nails preferably passing through the insulating strips 14 and forming locating or mounting means for sounding members or resonant bars 16. The bars 16 are provided with holes or openings 17 which are larger in diameter than the diameter of the pin 15 or its head 15*a*, so that the bars 16 may be readily put in place after the pins are driven home.

Overlying the sound members 16 which are preferably semi-circular in cross section, and secured to the walls 13 by nails or brads 18 are a pair of upper rails 17ª each of which is provided with semi-circular apertures or cut-outs 19 of larger diameter than the diameter of the bars 16. In order to avoid conflicting vibrations and consequent distortion of the musical notes due to bodily contact of the sound bars with the pins or nails 15, the clearance between the said bars and the cut-outs 19 is less than the clearance between the body of the nails 15 and the openings 17 in the said bars, so that if there is any movement of the bars 16 in the cut-outs 19 longitudinally of the instrument, the said cut-outs will limit such movement and prevent contact between the pins 15 and bars 16. Likewise it will be seen by referring to Figures 2 to 4 of the drawing that the said cut-outs 19 also limit the upward movement of the bars 16 thus preventing disengagement between the said bars 16 and pins or nails 15. Furthermore, due to the fact that there is no appreciable clearance space between the heads of the respective nails and the cut-outs 19, the bars cannot be caught between the said nail heads and the cut-out surfaces in the said rails 17ª, thus forcing the bars at all times when the instrument is being played, to assume and maintain their natural playing positions.

If desirable the cut-outs 19 may be lined with insulating pads 20 (see Fig. 5) so that in case of movement of the bars into contacting position with the sides of the cut-outs 19, no deadening of the notes nor the setting up of conflicting vi-

brations due to such contact is possible. Each top rail 17a carries a note indicia plate 21 held in place by the rail securing nails 18.

In Figures 6 and 7 I have shown a modified form of the invention wherein instead of the insulating pads 20, I provide the bottom of the rails 17a with grooves 21a for the reception of insulating strips or pads 22 made of suitable non-vibrating material such as card-board, felt, etc., etc. The said pads may be made of such size and may be so positioned as to frictionally contact the sound bars 16 and thus prevent movement of same in any direction, thus assuring true musical notes every time the said bars are struck.

From the foregoing it will be seen that I have provided a xylophone in which the sound producing members or bars are at all times maintained in their normal or natural playing position; the said xylophone being further provided with means for preventing contact with, and locating disengagement from, the pins or nails upon which the said bars are loosely mounted.

It will further be seen that despite the numerous advantages flowing from my improved xylophone construction, said construction is simple and inexpensive.

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

1. In a xylophone, a frame having a pair of spaced apart side walls, a row of spaced apart pins, extending upwardly from each of the said side walls, resonant bars each having a pair of spaced apart holes through which oppositely disposed pins pass loosely, a rail overlying each side wall, said rails having cut-outs in alinement with the resonant bars, the cut-outs forming movement limiting means for the bars, the top of the pins being in close proximity to the material defining the cut-outs to prevent upward movement of the said bars beyond the said pin tops.

2. In a xylophone, a frame having a pair of spaced apart side walls, a row of spaced apart pins, extending upwardly from each of the said side walls, resonant bars of substantially semi-circular cross section provided with spaced apart openings through which oppositely disposed pins pass beyond the top of said bar, the diameter of the said holes being larger than the diameter of the pins, and a rail overlying each side wall, said rail having substantially semi-circular cut-outs in alinement with the bars but of larger diameter than the said bars, the clearance between the pins and their respective bar openings being greater than the clearance between the bars and their respective cut-outs.

3. In a xylophone, a frame having a pair of spaced apart side walls, a row of spaced apart pins, extending upwardly from each of the said side walls, resonant bars of substantially semi-circular cross section provided with spaced apart openings through which oppositely disposed pins pass, the diameter of the said holes being larger than the diameter of the pins, and a rail overlying each side wall, said rail having substantially semi-circular cut-outs in alinement with the bars but of larger diameter than the said bars, the clearance between the pins and their respective bar openings being greater than the clearance between the bars and their respective cut-outs, the tops of the pins being in close proximity to the edges of the cut-outs.

4. In a xylophone, a frame having a pair of spaced apart side walls, a row of spaced apart pins, extending upwardly from each of the said side walls, resonant bars of substantially semi-circular cross section provided with spaced apart openings through which oppositely disposed pins pass, a rail overlying each side wall, said rails having substantially semi-circular cut-outs in alinement with the bars but of larger diameter than diameter of the bars, and a non-resonant lining in each of the cut-outs for the purpose specified.

5. In a xylophone, a frame having a pair of spaced apart side walls, a row of spaced apart pins extending upwardly from each of the said side walls, resonant bars of substantially semi-circular cross section provided with spaced apart openings through which oppositely disposed pins pass, a rail overlying each side wall, said rails having substantially semi-circular cut-outs in alinement with the bars but of larger diameter than diameter of the bars, the said rails each having grooves intermediate the cut-outs, and non resonant strips extending from the said grooves into close proximity to the bars for the purpose specified.

6. In a xylophone, a frame having a pair of spaced apart side walls, a row of spaced apart pins, extending upwardly from each of the said side walls, resonant bars each having a pair of spaced apart holes through which oppositely disposed pins pass loosely, and a rail overlying each side wall, said rails having cut-outs in alinement with the said bars and grooves intermediate the cut-outs, and non-resonant strips extending from the said grooves into close proximity to the bars for the purpose specified.

7. In a xylophone, a frame having longitudinally split side walls comprising lower wall sections and upper rail sections, the said rails having spaced apart substantially semi-circular apertures, resonant bars of substantially semi-circular cross section extending through opposite apertures, the diameter of the said bars being smaller than the diameter of the apertures, the said bars having spaced apart openings and pins extending upwardly from the lower wall sections loosely through the said bar openings and being in substantial abutment with the rail apertures at their upper ends.

8. A xylophone or the like comprising a supporting frame having a pair of longitudinal side walls, each side wall being formed of a pair of super-imposed strips having a strip of sound insulating material interposed therebetween and the upper strip being formed with recesses extending upwardly from the lower edge so as to provide apertures in the two side walls, and a plurality of semi-tubular musical bars extending between the side walls and projecting through the apertures, the said bars having their convex sides facing upwardly so that the side edges thereof rest upon the strips of sound insulating material, and the bars having apertures formed therein above each side wall and being held in position by means of pins extending through said last-mentioned apertures into the side walls.

VICTOR ZIMMERMAN.