Feb. 6, 1951 H. ZIMMERMAN 2,540,925

MUSICAL INSTRUMENT OF THE XYLOPHONE TYPE

Filed Nov. 10, 1945 2 Sheets-Sheet 1

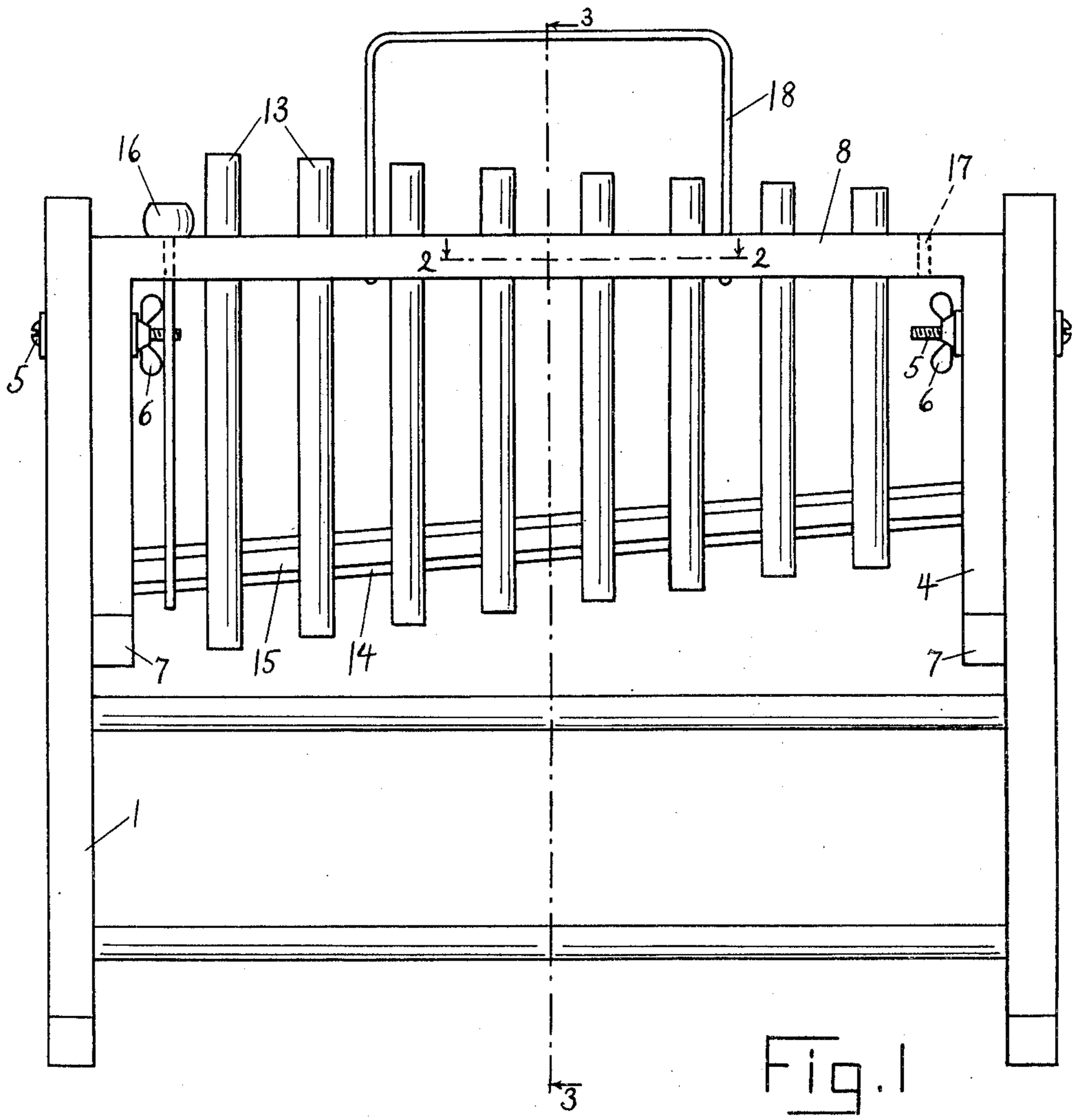

Fig. 1

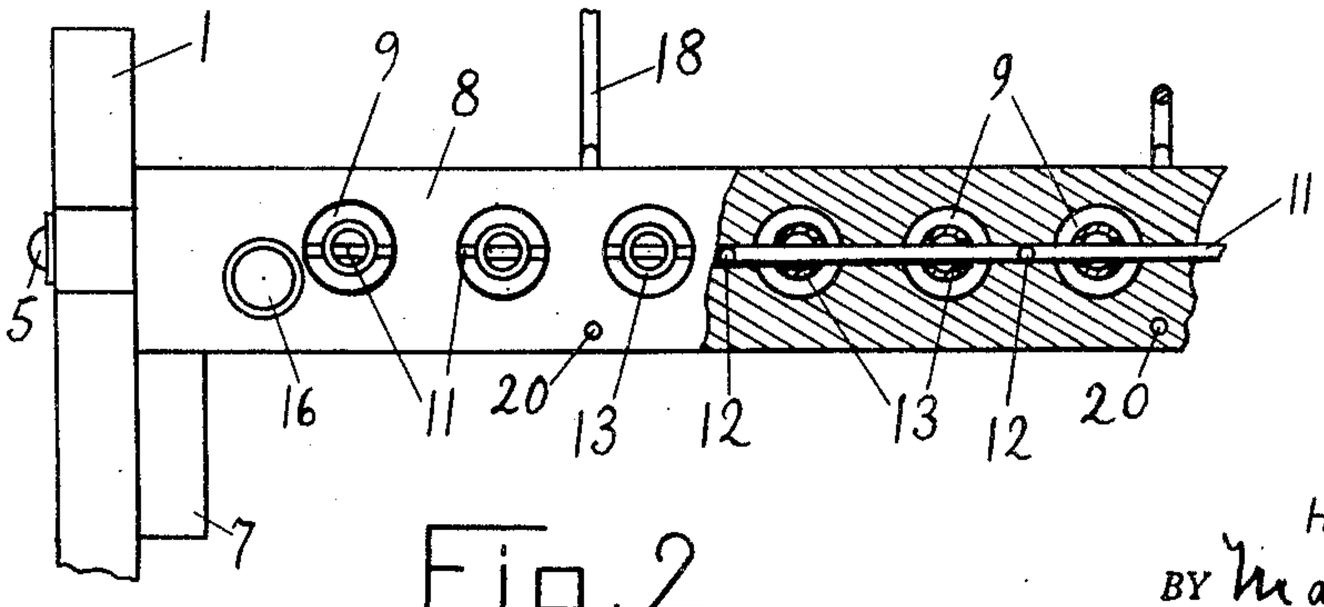

Fig. 2

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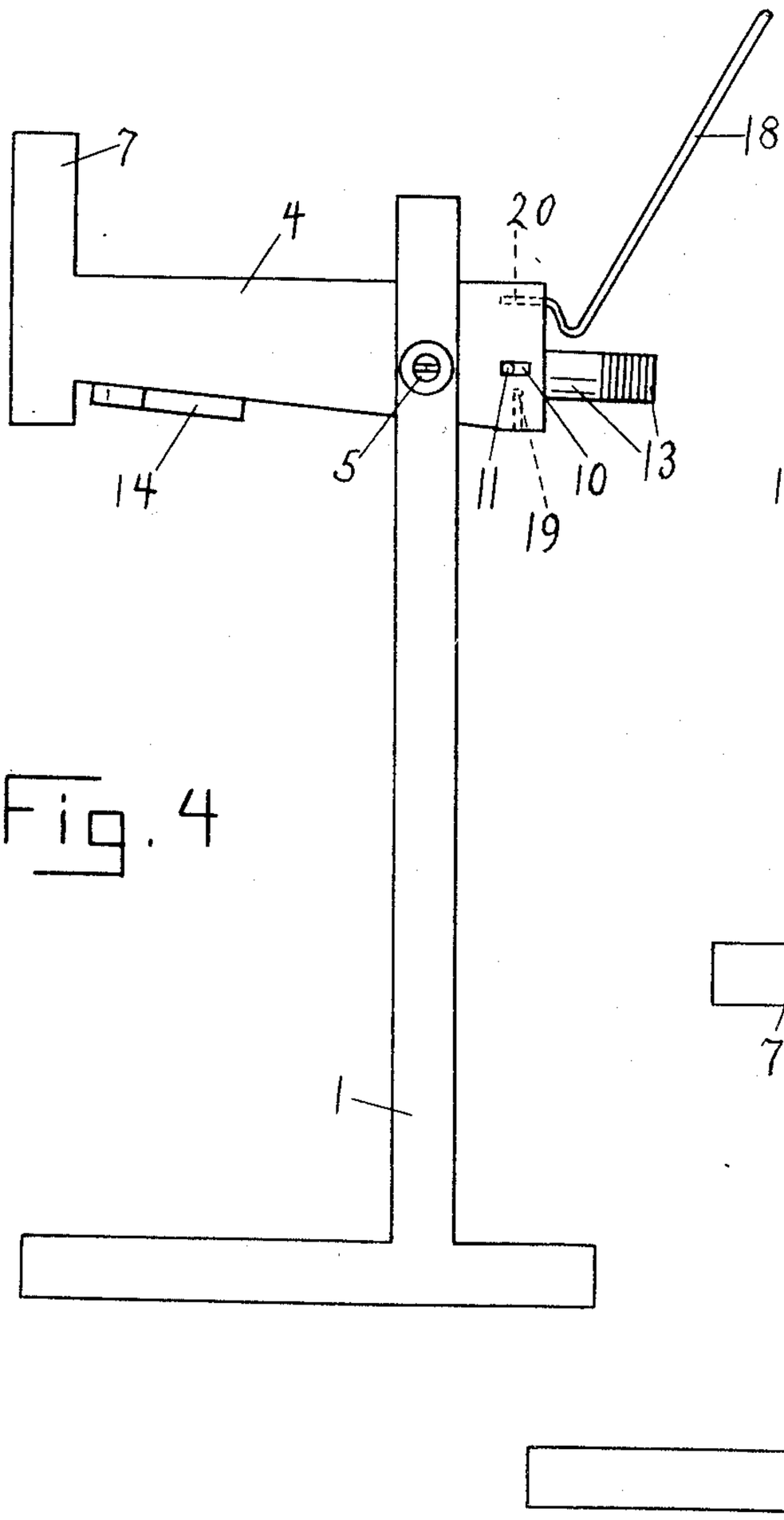

Fig. 4

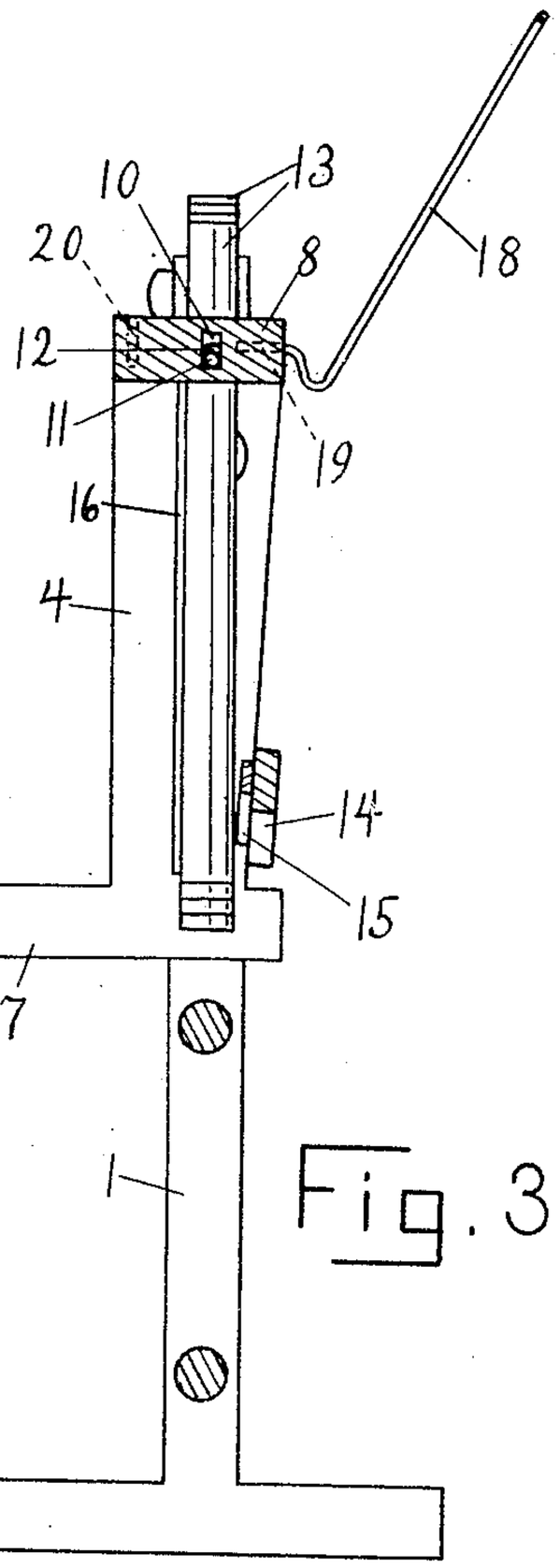

Fig. 3

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UNITED STATES PATENT OFFICE

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MUSICAL INSTRUMENT OF THE XYLOPHONE TYPE

Harry Zimmerman, New York, N. Y.

Application November 10, 1945, Serial No. 627,844

2 Claims. (Cl. 84—403)

1

My invention relates to musical instruments of the xylophone type or to instruments having a number of differently tuned sounding bars.

Objects of my invention are instruments of this type which can be played in any of several positions, each of these positions providing for another inclination of the sounding bars; instruments where the sounding bars can be used in a vertical or in a horizontal position, and instruments where the sounding bars can be adjusted to any desired inclination in the entire range from a vertical to a horizontal position.

Other objects are to provide for a suspension of the sounding bars which permits clean and full tones, to suspend the bars only at one line positioned near one end of each bar whereby the bars have a maximum of vibratory liberty and can hang in a vertical position without contacting any other body than the suspension means, and to provide a cord or a similar substantially linear suspension means which passes with clearance through bores of the bars whereby the structure of the suspension is of utmost simplicity and permits free vibration of the bars.

Further objects are to provide for modulation of the tones, and to provide a soft cushion on which the bars come to rest in one position of the bars whereby the tones are mollified while, in another position, the bars do not contact this cushion.

Still other objects are to provide the instrument with a holder for a note sheet, and to provide for adjustment of the position of this holder to the vertical and horizontal positions of the bars.

Still further objects are to obtain these results with a structure that can be made and assembled easily and inexpensively, and to provide for easy and reliable adjustment of the instrument to the different positions of the bars.

Still other objects and advantages will appear from the following description of an exemplifying embodiment of my invention, from the appended claims and from the accompanying drawings in which:

Fig. 1 shows a front view of an embodiment of my invention in a condition where the sounding bars are suspended in vertical positions.

Fig. 2 shows a top view of a broken off part of the same embodiment, a part of this view being a cross-section taken along the line 2—2 in Fig. 1.

Fig. 3 shows a cross-section of the same embodiment, taken along the line 3—3 and seen from the right side in Fig. 1.

Fig. 4 shows a side view of the same embodiment, seen in the same direction as Fig. 3, the instrument being adjusted to a condition where the sounding bars are positioned about horizontally.

2

Referring to the drawings, numeral 1 indicates an outer frame or rack adapted to stand on a table or any other suitable support. The rack 1 supports an inner frame 4 in an adjustable position. Preferably the frames 1 and 4 are rotatably connected. For example, two threaded bolts 5 pass through co-axial bores of the two frames and can be tightened in any mutual angular position of the frames by means of nuts 6. The inner frame 4 may be provided with feet 7 and can be placed on a table, alone without the rack 1, in two different positions, either in the direction shown in Fig. 3 or on that shown in Fig. 4.

The frame 4 has a horizontal, elongated head piece 8 provided with openings 9 directed parallel to each other across the piece 8. A narrow slot 10 extends throughout the length of the piece 8, except where this slot is interrupted by the openings 9. A cord or similar suspension member 11 is positioned in this slot, crosses the openings 9 and may be affixed to the piece 8 in any suitable manner. For example, small nails 12 positioned near the ends of the slot 10 and at suitable intervals between these ends are driven through the cord 11 into the bottom of the slot.

In each of the openings 9, a sounding bar 13 is suspended. These bars may be hollow cylinders of glass or metal or may have any other suitable shape and may be made of any other suitable material. The bars 13 have radially positioned openings for the passage of the suspension member 11. Preferably these openings have diameters larger than the diameter of the cord 11. The diameters of the openings 9 are larger than the cross-sections of the bars 13 whereby clearance is left around these bars. The bars are tuned to different tones, preferably by making the bars of different lengths. Each bar has a part projecting far beyond that side of the piece 8 which is the lower side in Figs. 1 and 3.

A ledge 14 is affixed to the back side of the frame 4 in a position where this ledge crosses these far projecting parts of the bars 13. A strip 15 made of felt or any other soft material is affixed to the ledge's front side facing the bars 13. Preferably, the direction of the ledge 14 is so oblique that the ledge is nearer to the piece 8 where the ledge crosses the shorter bars 13 than where the ledge crosses the longer bars.

The frame 4 or the piece 8 may have an opening for the insertion of a hammer or beating

stick 16 whereby this hammer, if not used, can be stored in a handy position. A similar opening 17 may be provided for another similar hammer.

A holder 18 adapted to support a sheet of paper or the like showing notes or similar prescriptions for playing the instrument can be affixed to the frame 4 in several positions. The holder 18 may be made of wire and may have two wire ends fitting recesses or openings provided in the piece 8. Preferably two sets of such openings are provided, one set 19 receiving the holder ends in a direction where the holder has a position suitable for observation of the sheet when the frame 4 is in the position shown in Fig. 3, and one set 20 receiving these ends in a direction where the holder has the same suitable position when the frame 4 is in the position shown in Fig. 4. This result is obtained by making the directions of the holes 19 and 20 perpendicular to each other.

When the nuts 6 are loosened, the frame 4 can be turned around the axis of the bolts 5 into any desired angular position and can be fixed in the chosen position by tightening the nuts. In the position shown in Fig. 3 or in a position turned slightly anti-clockwise thereto, the bars 13 do not contact the soft strip 15 and are pendulously suspended on the member 11. When the frame 4 is turned in clockwise direction, the bars contact the strip 15 whereby the tones produced by the bars are softened or mollified the more the frame's position comes near to the position shown in Fig. 4.

One of the advantages of the rack 1 is that the tone bars are positioned at a height convenient for the player. If the table is sufficiently high or this advantage is not necessary, and if positions of the frame between the positions shown in Figs. 3 and 4 are not required, the rack 1 may be omitted, or the frame 4 may be taken out of the rack 1. In this condition, the frame 4 can be placed directly on the table either in the position shown in Fig. 3 or in the position shown in Fig. 4.

I desire it understood that my invention is not confined to the particular embodiment shown and described, the same being merely illustrative, and that my invention may be carried out in other ways without departing from the spirit of my invention as it is obvious that the particular embodiment shown and described is only one of the many that may be employed to attain the objects of my invention.

Having described the nature of my invention, what I claim and desire to protect by Letters Patent is:

1. A musical instrument of the xylophone type comprising a supporting rack, a frame rotatably carried by said rack for rotation about a horizontal axis, said frame including an elongated head member extending parallel to said axis of rotation, a plurality of aligned spaced bores formed through said head member at right angles to said axis, a tone bar having one end loosely engaging in each of said bores, suspension means on said head member engaging said one ends of said tone bars for supporting the latter from said head member, and an elongated ledge on said frame extending across the other ends of said tone bars and spaced therefrom when said frame is rotated to dispose said suspension means in a vertical plane extending through said axis of rotation.

2. A musical instrument of the xylophone type comprising a supporting rack, a frame rotatably carried by said rack for rotation about a horizontal axis, said from including an elongated head member extending parallel to said axis of rotation, a plurality of aligned spaced apart bores formed through said head member at right zontal axis, said frame including an elongated relatively thin suspension member extending longitudinally through said head member and diametrically across said bores, a plurality of spaced apart substantially parallel tone bars, one end of each of said tone bars extending loosely into a selected one of said bores, means loosely mounting said one end of each tone bar on said suspension member, and an elongated ledge member on said frame extending across said tone bars adjacent the other ends thereof and spaced from the latter when said frame is rotated to dispose said suspension member in a vertical plane extending through said axis of rotation, said ledge being adapted to engage said tone bars adjacent said other ends when said frame is rotated to dispose said ledge in underlying relationship to said bars.

HARRY ZIMMERMAN.

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