J. B. KOHLER.

PERCUSSION MUSICAL INSTRUMENT.

APPLICATION FILED APR. 26, 1915.

1,192,324.

Patented July 25, 1916.

2 SHEETS—SHEET 1.

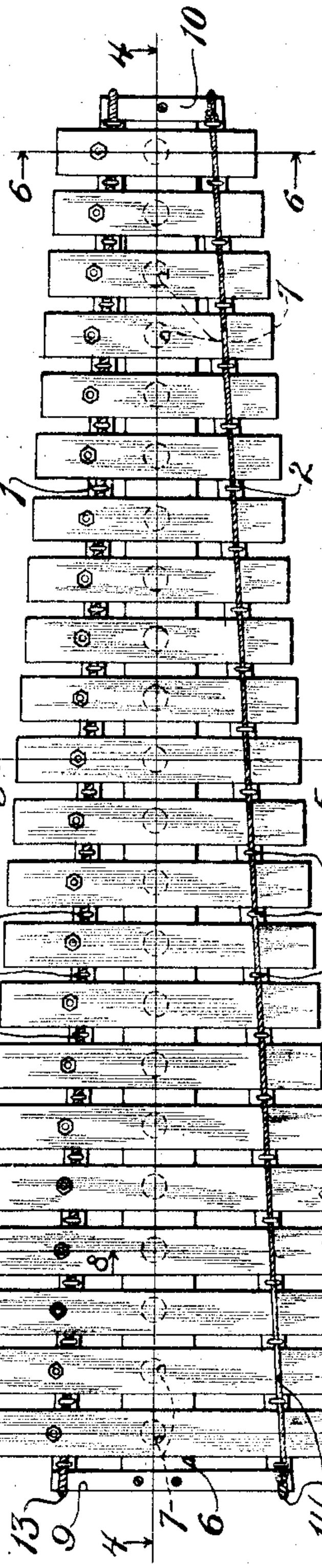

Fig. 1.

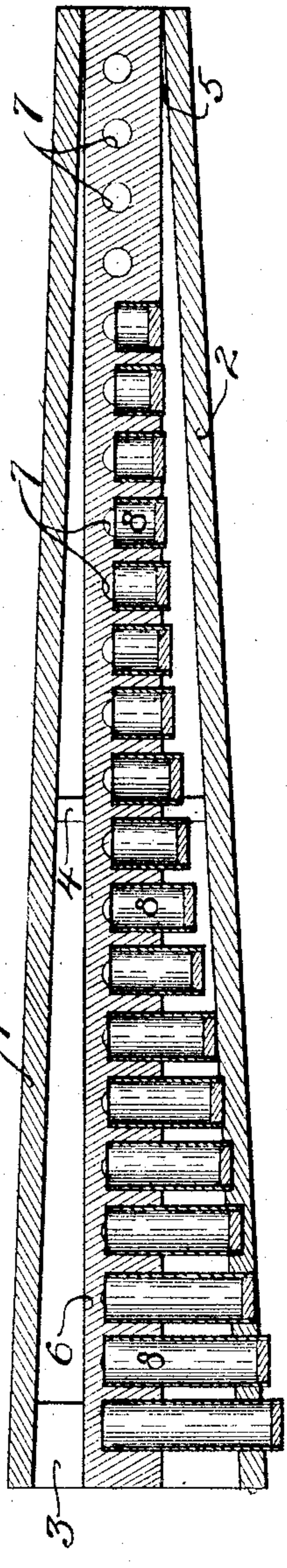

Fig. 3.

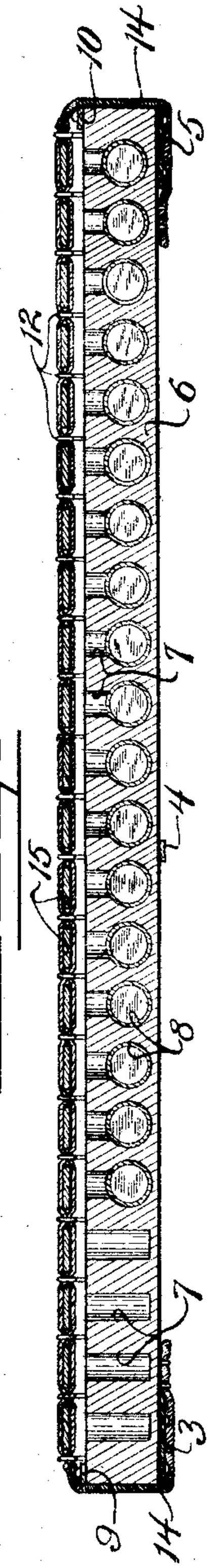

Fig. 4.

Witnesses

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THE NORRIS PETERS CO. PHOTO-LITHO. WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 2

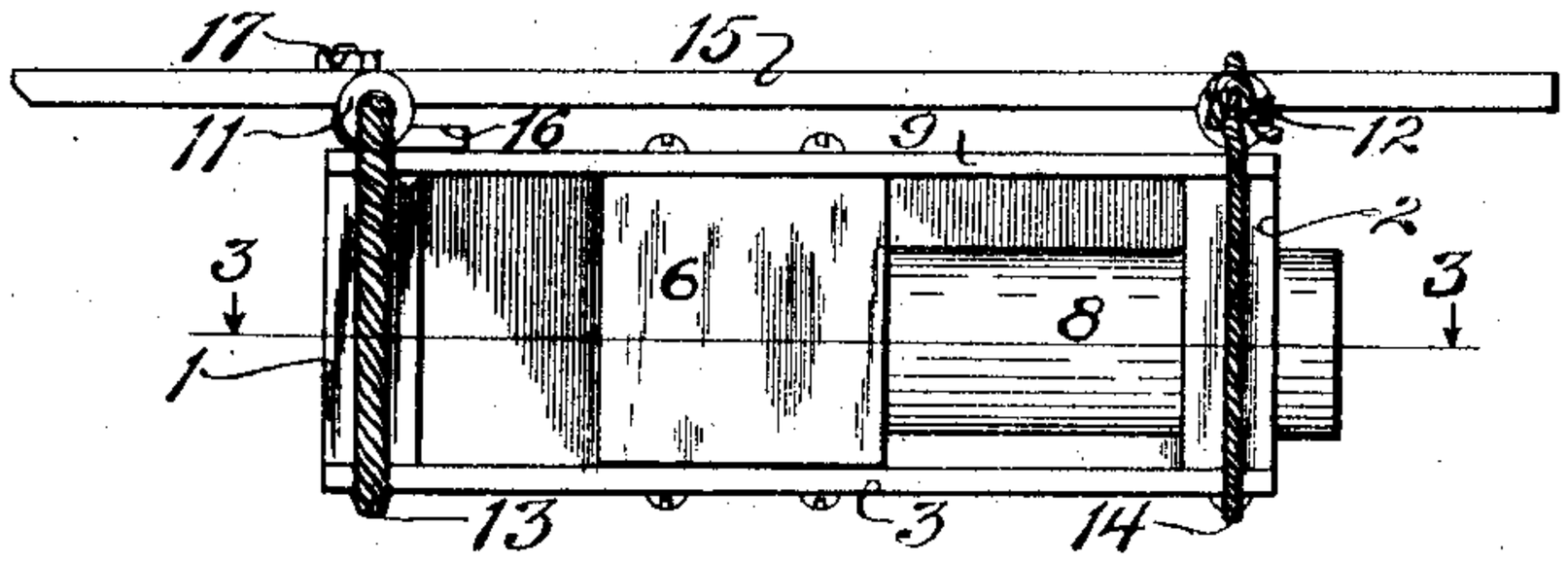


Fig. 5

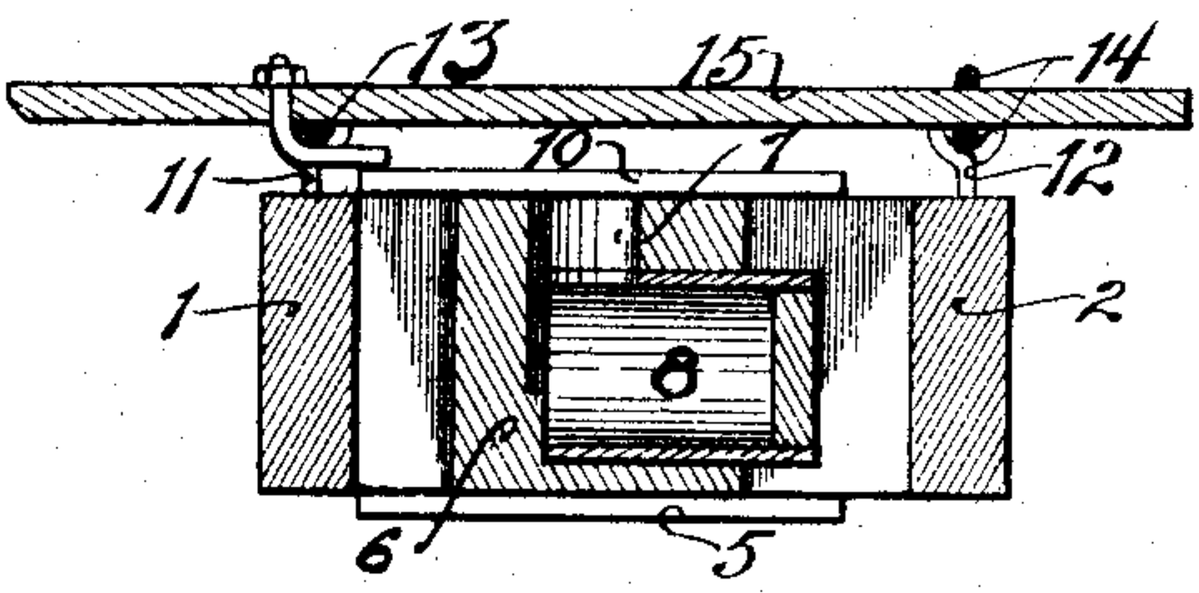


Fig. 6

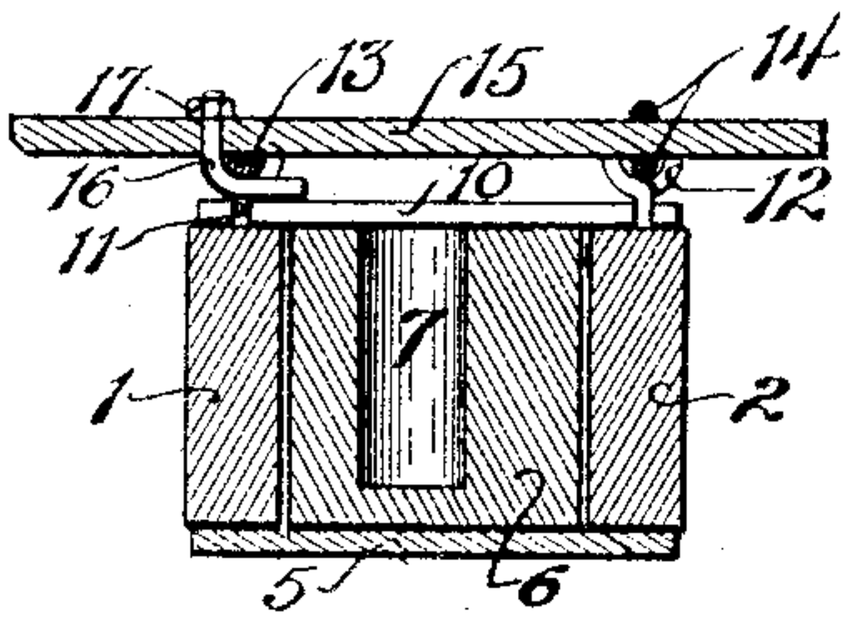


Fig. 7

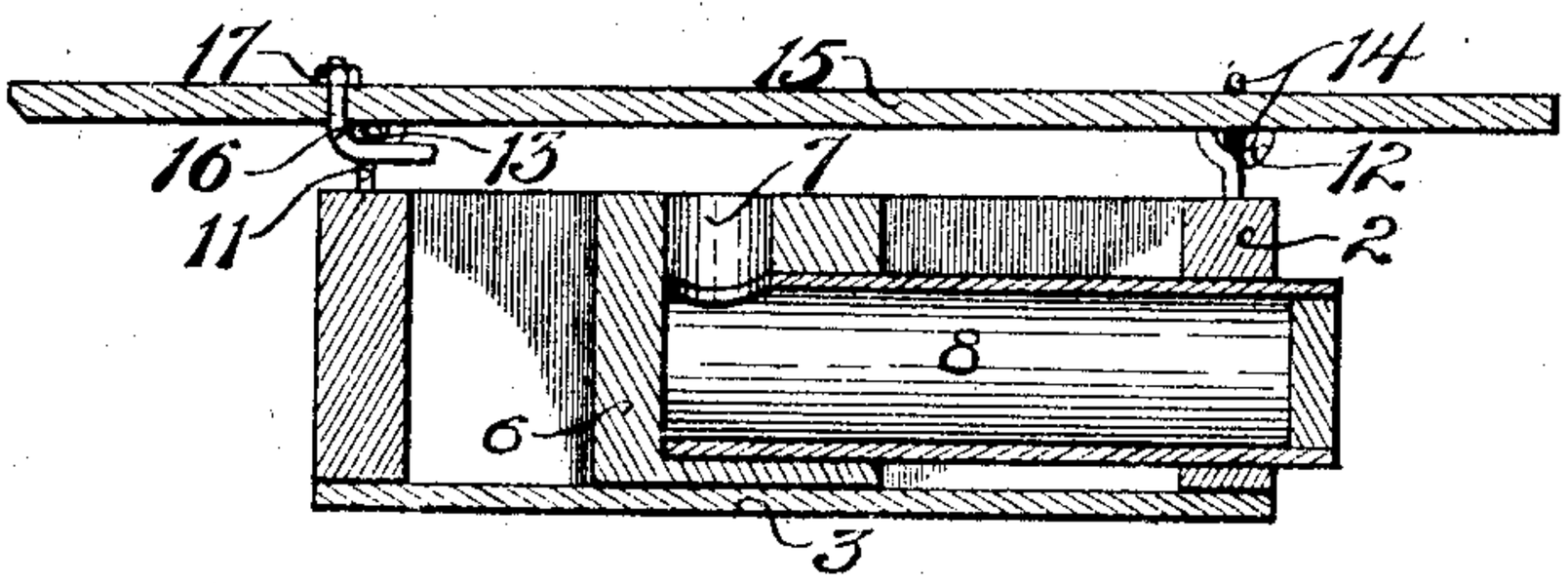
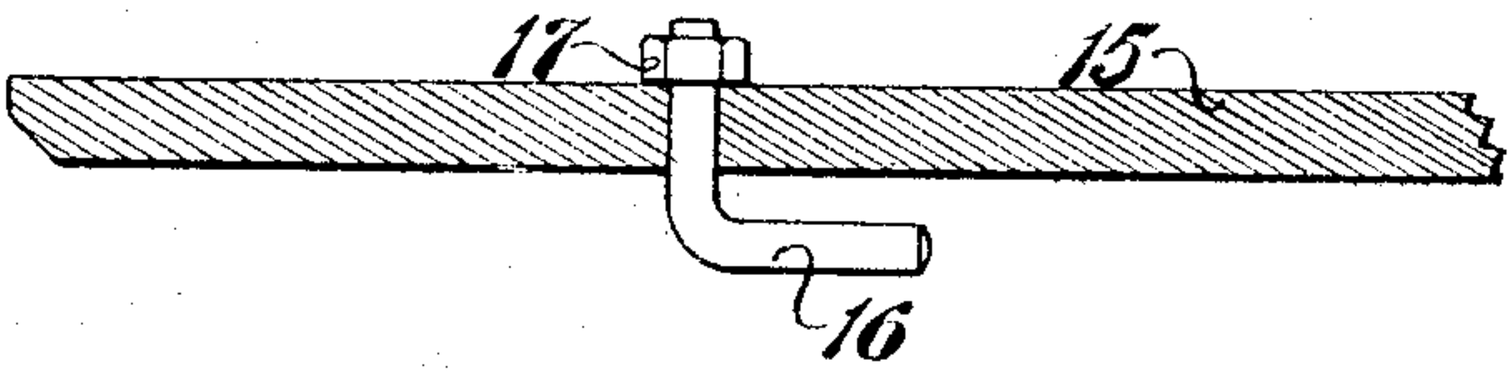


Fig. 8



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN B. KOHLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE KOHLER-LIEBICH COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

PERCUSSION MUSICAL INSTRUMENT.

1,192,324. Specification of Letters Patent. Patented July 25, 1916.

Application filed April 26, 1915. Serial No. 23,849.

To all whom it may concern:

Be it known that I, JOHN B. KOHLER, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Percussion Musical Instruments; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in that type of musical instruments commonly known as xylophones, consisting of a series of metal or wooden plates or bars suspended over a sound box or resonator, the different plates or bars graduated in length to give the different notes of the musical scale when caused to vibrate by striking or rubbing the same.

It is an object therefore of this invention to provide a construction wherein an improved form of sound box is associated with sounding members suspended thereon in a novel and efficient manner, permitting ready detachment of the sounding members without requiring re-adjustment of the parts.

It is also an object of this invention to provide a construction wherein a single unitary member is provided beneath the sounding plates having a plurality of compartments therein with extensions to form resonators for increasing the volume of tone of the sounding plates when the same are caused to vibrate.

It is also an object of this invention to provide a construction wherein sounding bars or plates are detachably suspended upon cords above a resonator or sounding box having individual compartments, one for each of said plates, the construction and arrangement of the parts being such as to form an exceedingly compact device.

It is furthermore an important object of this invention to provide a musical instrument embracing a plurality of sounding plates detachably supported above a resonator, the resonator consisting of a unitary member apertured in its surface beneath each of said sounding members and provided with laterally extending resonator chambers communicating with said apertures.

It is finally an object of this invention to construct an improved type of musical instrument simple and compact in design and capable of giving forth a rich full tone.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

In the drawings: Figure 1 is a top plan view of a device embodying the principles of my invention. Fig. 2 is an end view thereof. Fig. 3 is a detail section taken on line 3—3 of Fig. 2. Fig. 4 is a detail section taken on line 4—4 of Fig. 1. Fig. 5 is a detail section taken on line 5—5 of Fig. 1. Fig. 6 is a detail section taken on line 6—6 of Fig. 1. Fig. 7 is a detail section taken on line 7—7 of Fig. 1. Fig. 8 is a detail section taken on line 8—8 of Fig. 1 with parts omitted.

As shown in the drawings, the reference numerals 1 and 2, indicate side frame members, preferably constructed of wood, and arranged, as clearly shown in Fig. 3, in convergent relation, being joined at one end by a cross-piece 3, and approximately at their middle by another cross-piece 4, and with a small cross-piece 5, at the other or narrow end. Extending between said frame members 1 and 2, is a long integral wooden member 6, of rectangular cross section, although of course not necessarily so, having a plurality of holes or apertures 7, drilled vertically through the upper surface thereof and spaced apart equi-distantly throughout the entire length of said member. Inserted through large apertures in one of the side walls of said member are a plurality of tubular resonator cylinders affording chambers 8, which, as clearly shown in Fig. 3, are of varying length, the length depending upon the pitch of the sounding plate or member with which the same is associated. Each of said tubular members communicates with one of the vertically disposed

apertures or holes 7, in said member 6, the upper wall of the tubular members 8, being cut away for the purpose, as clearly shown in Figs. 5 and 6. Certain of the longer tubular members 8, project into and others project entirely through apertures provided in said frame member 2, as clearly shown in Fig. 3, so that said frame member acts as a support and reinforcement for the longer tubular resonators. Metal bars serving as cross-pieces to reinforce the structure, are secured at each end thereof over the respective frame pieces 1 and 2, and intermediate member 6, and are denoted respectively by the reference numerals 9 and 10.

Secured equi-distantly in the upper surface of the respective frame members 1 and 2, are a plurality of screw eyes 11 and 12, respectively. Threaded through the screw eyes 11, is a single heavy silken cord 13, and threaded through the screw eyes 12, are two smaller silken cords 14, with the ends of the cord 13, and one of the cords 14, drawn downwardly around the end of the structure beneath the bottom cross-pieces 3 and 5, respectively, and secured to the lower surface of the respective frame members 1 and 2, in the manner clearly shown in Figs. 2 and 4. The purpose of the silken cords 13 and 14, is to support the metal or wooden sounding plates or bars, which are each denoted by the reference numeral 15, the same being graduated in length, as clearly shown in Fig. 1, for a certain period of vibration corresponding to the notes of a musical scale.

Each of the sounding bars or plates 15, has inserted through an aperture near one end thereof a small right angled or bent pin 16, threaded at one end to receive a small nut 17, engaged thereon to hold the same rigidly and tightly attached to the sounding member, and permitting the curved or bent end of said pin to engage beneath the large cord 13, with the sounding member resting upon and supported by the cord, as clearly shown in Fig. 5. The other end of the sounding member is inserted between the respective cords 14, in the manner clearly shown in Figs. 4, 5, 6, and 7, so that each of the sounding members is supported in a manner free to vibrate in response to a blow imparted thereon and to give forth the desired tone without transmitting the vibrations through the screw-eyes 12, to the frame members. Of course, each of the sounding members 15, is disposed directly above the respective aperture 7, communicating with the resonator for that particular sounding member, so that the volume of tone, due to the fact that the column of air within the resonator is set into vibration when the sounding member is struck, is greatly increased and enriched.

The operation is thought to be obvious from the description. In playing the instrument it is only necessary to strike the desired sounding member with a beater having a relatively soft head, and the sound given forth will continue until the vibrations die down or are damped by contact with an object. The peculiar manner in which the sounding members are attached and supported permits the deivce to be played in practically any position and also permits the sounding members to be readily detached for packing or shipment of the device from place to place.

I am aware that various details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. In a musical instrument of the class described, a long integral member having a plurality of apertures in the upper surface thereof, resonators inserted through the side of said member and communicating with said apertures, and sounding members suspended above said apertures.

2. In a device of the class described, the combination with a long integral member having a plurality of apertures in the upper surface thereof, of sounding members suspended one above each of said apertures, and resonators communicating through one of the side walls of said long integral member with certain of said apertures.

3. In a device of the class described, the combination with resonators, of sounding members one disposed above each thereof, cords supporting said sounding members, one end of each of said sounding members inserted between two of said cords, and means secured on each of the sounding members near the other end thereof to engage beneath another of said cords.

4. In a device of the class described, the combination with a plurality of resonators, of sounding members, one disposed above each of said resonators, sets of screw eyes arranged in spaced relation above said resonators, a single heavy cord trained through one set of said screw eyes upon which said sounding members rest at one of their ends, means secured rigidly on each sounding member engaging beneath said cord, and a plurality of cords trained through the other set of said screw eyes with the other ends of each of the sounding members inserted between said cords and supported thereby.

5. In a musical instrument of the class described, a sounding member, and means supporting the same comprising a single cord, means on one end of the sounding

member engaging beneath said cord to hold the sounding member in position on the cord, and a pair of cords forming a part of said first mentioned means arranged to receive the other end of the sounding member inserted therebetween.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN B. KOHLER.

Witnesses:
CHARLES W. HILLS, Jr.,
EARL M. HARDINE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."