

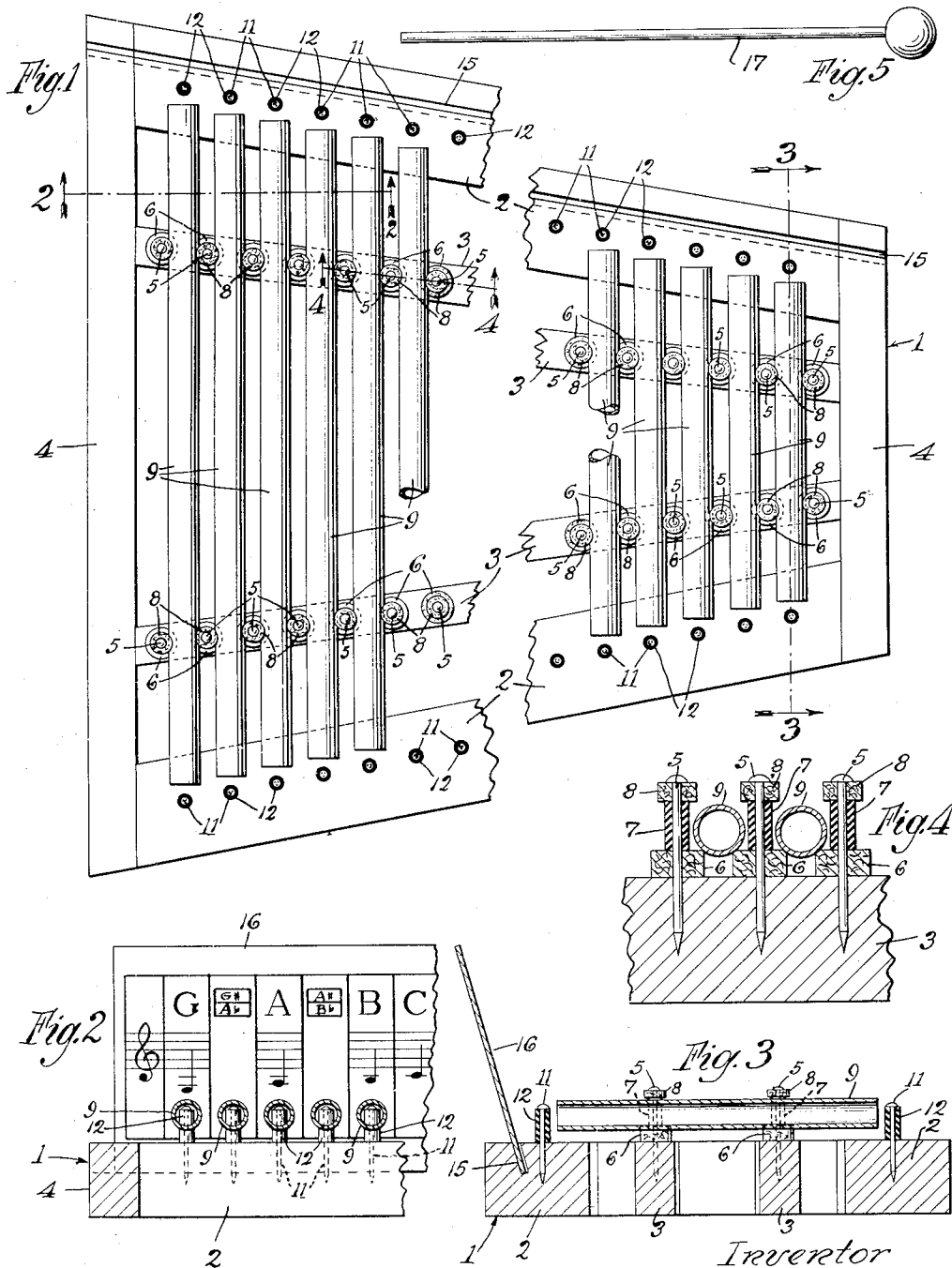
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MUSICAL INSTRUMENT

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MUSICAL INSTRUMENT

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5 Claims. (Cl. 84—403)

My invention relates to an improvement in musical instruments and has for one purpose the provision of an improved musical device in which metallic tubes are employed as a sounding means.

Another purpose is the provision of improved means for mounting and supporting such tubes.

Another purpose is the provision of improved means for permitting a variety of scales to be practiced.

Another purpose is the provision of improved means for associating with the individual sound members a graph or indicating device or notation, illustrating and describing the notes struck.

Another purpose is the provision of improved means for demountably and replaceably positioning and supporting such indicating means.

Other objects will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawing wherein: Figure 1 is a plan view, with parts broken away;

Figure 2 is a section on the line 2—2 of Figure 1, including a chromatic scale chart;

Figure 3 is a cross section taken on line 3—3 of Figure 1, illustrating a chart in position;

Figure 4 is an enlarged fragmentary section taken on line 4—4 of Figure 1; and

Figure 5 is a view of a hammer for playing my invention.

Like parts are indicated by like symbols throughout the specification and drawing.

Referring to the drawing, I employ any suitable base member 1, herein shown in the form of a harp-like frame having outside bounding members 2, inside members 3, and transverse members 4. Mounted along the inside members 3 are a plurality of pins 5, each such pin having a pad or disc 6 of felt or the like at its base, a tube or mounting 7, which may be of rubber, and an upper and somewhat smaller felt member 8. Mounted in the space between the pins are a plurality of sounding tubes 9, each one here shown as an open-ended cylinder, the length of the cylinders varying to vary the note obtained by sounding them.

In order to prevent unintended lengthwise movement of the sounding members, I provide a plurality of pins 11, each such pin being positioned in one of the mounting members 2 and being surrounded by a sleeve of rubber or the like 12.

It will be understood, in the first place, that the space between individual pins is such, and the flexibility of the upper felt members 8 is such,

that the tubes 9 can, by relatively slight thrust or pull, be pushed into or drawn out of the seat provided. The tubes are, however, quite firmly positioned for use, each tube resting, without any pressure against it, upon the edges of adjacent felt members 6. Thus the sounding of the tube is unimpeded. However, if the user wishes to shift, say, from the chromatic scale, he can simply pull out some of the tubes. Or the particular scale employed, or the particular position on the keyboard as a whole, can be varied by varying the tubes.

Positioned along one side of the instrument I may employ a slot 15 adapted removably to receive any suitable card or chart 16, herein shown as illustrating the chromatic scale, with a note indication opposite each sounding member. The device may be played, for example, by use of the hammer 17, and the user can identify the particular note by observation of the said card or chart.

It will be realized that, whereas I have described and illustrated a practical and operative device, nevertheless many changes may be made in the size, shape, number and disposition of parts without departing from the spirit of my invention. I therefore wish my description and drawing to be taken as in a broad sense illustrative or diagrammatic rather than as limiting me to the precise showing.

The use and operation of my device is as follows:

My invention provides in the first place a new musical instrument and, in the second place, an instrument or tool designed to aid children in learning to think, sing, read and write in terms of melodies and chords. It has for one advantage that it provides the pupil, by means of the series of tubular bells, with a series of tones arranged in space, in a consecutive order, which he can visualize, manipulate, imitate with his voice, and associate with their numbers, syllables and letter-names, as well as with their staff symbols.

In the use of my invention, the instrument, including the bells, may be as little as 18 inches in length and weigh less than 4 pounds, and yet has tones which compare favorably with the much larger and more bulky bar-bells. The ease of playing is a great advantage. The bells are arranged in a single alinement and in a single level. They are preferably mounted in chromatic order, and in a straight horizontal line, in left to right succession, from high to low.

A very important feature is the fact that bells foreign to any particular key can be removed, 55

which greatly simplifies the playing technique. This is done by simply lifting out the individual bells 9 which are not necessary for the particular key which is being played. Then they may be replaced, and other bells taken out. The individual bells or tubes 9 can readily be removed, and yet they cannot be accidentally displaced either upwardly or longitudinally. They can't be shaken out.

A facsimile keyboard 16 extends across the tubes immediately above the upper ends. By this means any tube may be located quickly and surely. Each key, white or black, shows its own letter or pitch name. A staff, drawn across the key board, as shown in Figure 2, shows the corresponding staff note for each key and its corresponding tube. Thus a beginner in music can vibrate any tube, listen, imitate its tone, and know its name and its note symbol. Any suitable indicating means may be positioned in the slot 15. I may employ, for example, any desired type of scale selector, containing the syllables and numbers of the major scale on one side, and those of the minor scale on the other.

An advantage of my device consists in the fact that my tubular sounding members or bells rest freely by gravity upon supporting means such as the pads 6 and do not have to be pierced or penetrated by any supporting or holding means. In normal use they contact merely the corners of the members 6 and are out of contact with the members 7 and 8. There is thus a minimum interference with the resonance or sounding of the bells.

I claim:

1. In a musical instrument, a base, a plurality of tubular bells in the form of open-ended hollow cylinders, and positioning and supporting means for said bells including a plurality of flexible stops positioned between each pair of adjacent bells, said stops having associated with them laterally spaced supporting abutment members of yielding material, upon which the bells rest, said stops being normally out of contact with said bells, and means, alined with and located beyond the ends of said bells, adapted to prevent their unintended endwise removal.

2. In a musical instrument, a base, a plurality of upstanding members on said base, a tubular sounding member positioned between each pair of upstanding members, and supporting means

therefor upon which the sounding members freely rest, including yielding members positioned about each upstanding member and adapted normally to hold the sounding members out of contact with the upstanding members, said yielding members being sufficiently flexible to permit intended upward removal of the sounding members, each such yielding member including a portion overhanging said tubular sounding members.

3. In a musical instrument, a base, a plurality of supporting abutments on said base, a plurality of generally tubular sounding members mounted on said abutments, each said tubular member resting freely gravitally upon adjacent spaced pairs of said abutments and being freely removable upwardly therefrom, and means for preventing unintended upward movement of said tubular members but adapted readily to permit an intended upward movement including upstanding stops having outwardly expanded portions at the upper ends thereof, said expanded portions being of compressible material.

4. In a musical instrument, a base, a plurality of supporting abutments on said base, a plurality of generally tubular sounding members mounted on said abutments, each said tubular member resting freely gravitally upon adjacent spaced pairs of said abutments and being freely removable upwardly therefrom, and means for preventing unintended upward movement of said tubular members but adapted readily to permit an intended upward movement, including upstanding members located at each side of each said tubular sounding member and overhanging members of yieldable material mounted thereon and normally out of contact with said sounding members.

5. In a musical instrument, a base, a plurality of tubular bells in the form of open-ended hollow cylinders, and positioning and supporting means for said bells including a plurality of flexible stops positioned between each pair of adjacent bells, supporting abutment means of yielding material upon which the bells rest freely by gravity, said flexible stops being normally out of contact with said bells, and including overhanging portions adapted to prevent unintended upward escape of the bells, while permitting their intended removal.

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