Oct. 8, 1929. A. M. JEFFRESS 1,731,103

MUSICAL INSTRUMENT

Filed Aug. 29, 1927 2 Sheets-Sheet 1

Fig. 1.

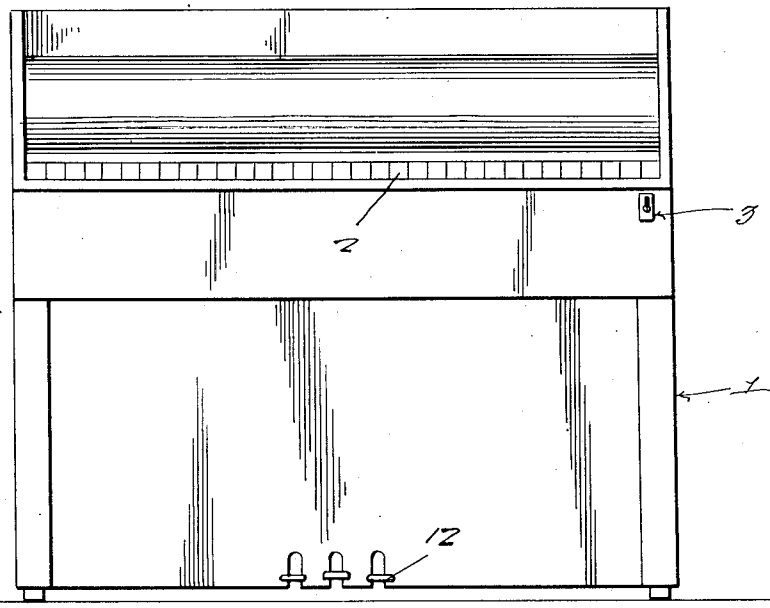


Fig. 4.

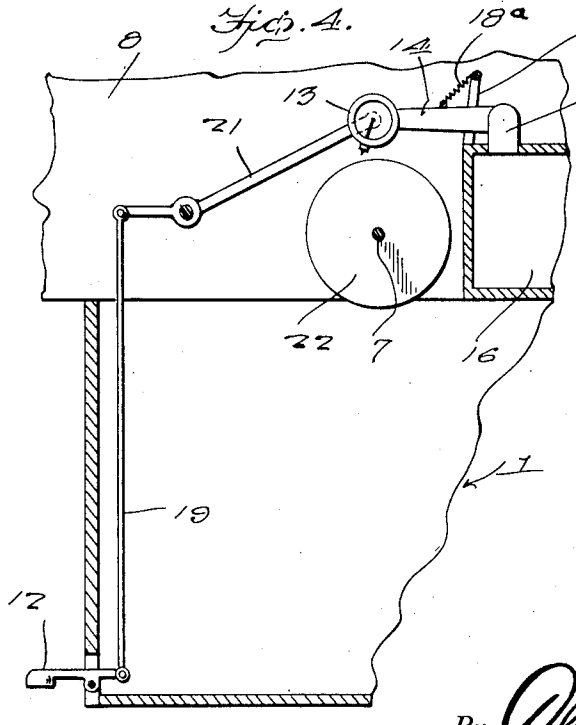
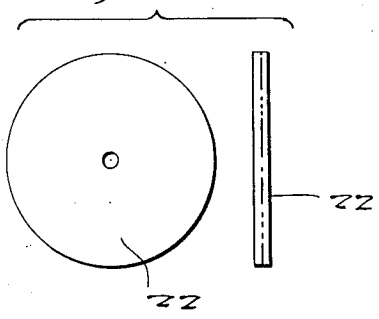


Fig. 5.



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Fig. 3.

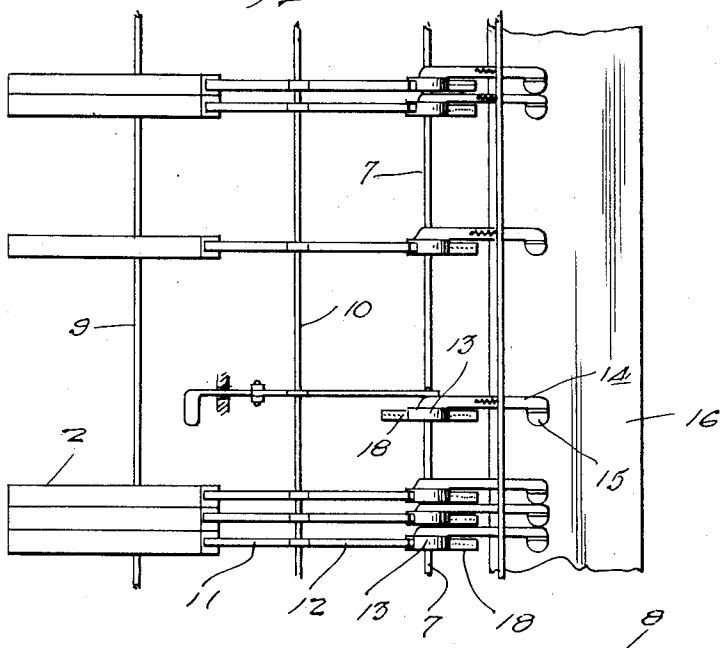
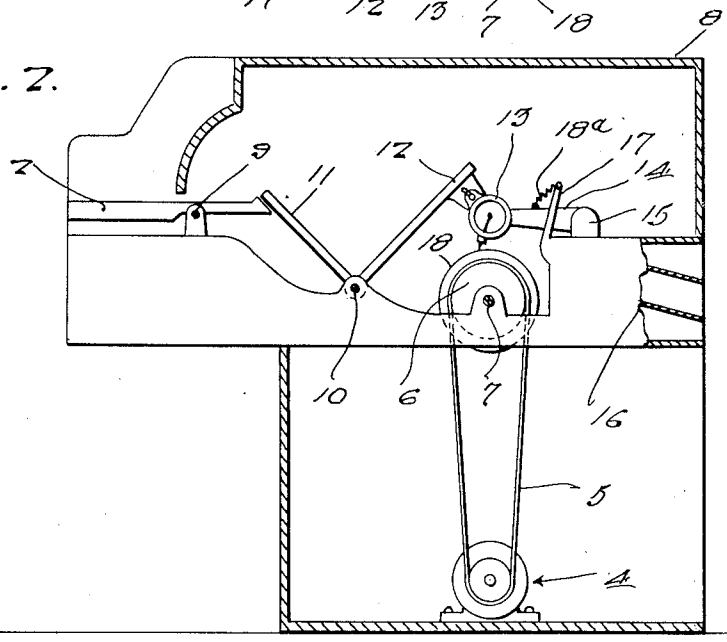


Fig. 7.



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UNITED STATES PATENT OFFICE

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MUSICAL INSTRUMENT

Application filed August 29, 1927. Serial No. 216,219.

This invention relates to an improved musical instrument, and it has more particular reference to a structure of this kind which includes a plurality of records for reproducing the voice, and various kinds of instruments.

Briefly, the invention has reference to a cabinet which includes what may be designated as an imitation piano key-board, these keys being located as usual and constructed to operate, by suitable means, a plurality of individual sound reproducing boxes. Each box cooperates with an individual record upon which the voice or the tone of some musical instrument is recorded. Each record represents certain tone and by manipulating the proper reproducers, the recorded tones can be grouped in such a manner as to play different melodies.

The object is to provide an instrument of this kind which will permit a person familiar with the piano keyboard to simply press the keys to operate the proper reproducers for playing violin music, horn music, or any other instrument desired. As a matter of fact it is an object to produce a combination of instruments whereby the performer may play sufficient instruments at one time to simulate an orchestra.

The structural features and advantages of the invention will become apparent from the following description and drawings.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a front elevation of the cabinet of the instrument.

Figure 2 is an end view with portions broken away and shown in section to disclose the details more plainly.

Figure 3 is a fragmentary top plan view.

Figure 4 is a view showing a drum operating pedal, and

Figure 5 is a view showing one of the records.

Referring to the drawings in detail, it will be seen that the cabinet is represented by the reference character 1, which may be of any suitable or ornamental configuration, and in the present instance is provided with a key board, the keys of which are represented by the reference characters 2. As before stated, this key board simulates the ordinary piano key board. As shown in Figure 1, the front of the cabinet is provided with an electric switch 3 for controlling an electric motor (see Figure 2) represented by the reference character 4. This motor drives a belt 5 trained over a pulley 6 on a rotary shaft 7 journaled for rotation in the hollow housing 8 of the cabinet. As shown also in Figure 2 the keys 2 are rockably mounted on a rod 9. In addition, there is another rod 10 between the rods 9 and rod 7, and substantially V-shaped members are rockably mounted upon this shaft. One arm 11 of each V-shaped member cooperates with the beveled end of an adjacent key 2, while the other arm 12 is provided with means for operating a sound box or a conventional reproducer 13. This reproducer is carried by a tone arm 14 which connects with an elbow 15 leading into a common sound amplifier 16. The sound wave passages of this amplifier discharge through the back of the instrument. Cooperating with each tone arm is an upstanding part 17 with which a coil spring 18[a] is connected, and this coil spring is connected with the tone arm to maintain the reproducer normally disengaged from the complementary record 18 which is rigidly fastened on the shaft 7. As shown in Figure 5 each record comprises a relatively thin disk, the periphery of which is provided with a continuous sound groove. In accordance with my idea there will be several groups of these records. For instance, each record will contain one tone, and the records will be arranged in chromatic order so as to produce a complete scale of half-tones. It is to be assumed that each group of records is for the same type of instrument. For instance, one group may contain tones forming a chromatic scale produced by a violin. Another group may be made by a horn of some kind, a third group by a piano, and so on. The records will be located with respect to the keys on the key board so that when the performer presses the key representing "middle

C" for instance, that particular tone will be produced on the complemental record. Thus, a pianist may utilize his knowledge for playing various orchestral instruments, thus making the device amusing and practical.

In Figure 4 I show an operating rod 19 connected with a foot pedal 20 and with an arm 21. The arm here is connected with one of the reproducers 13 and this particular reproducer cooperates with a record 22 produced by a drum. By manipulating the pedal in time, "beats" from a drum may be represented in the combination of instruments being played.

It is believed to be apparent that by depressing the appropriate keys for operating the reproducers of one set of records, it is plain that the operator may play a violin solo by bringing the proper reproducers into engagement with the proper records. In this way the previously recorded tones from the violin may be reproduced and caused to emanate from the sound amplifying box. While playing the violin the operator may, if proficient, play the piano along with it, or possibly a third instrument by arranging the mechanism and groups of records in proper order. Then too, by manipulating the foot, the drum beat may be sounded to keep time with the selection being played.

It is believed that by considering the description in connection with the drawings, persons familiar with devices of this class will be able to obtain a clear understanding of the same.

Minor changes coming within the field of invention claimed may be resorted to if desired.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a structure of the class described, a cabinet, a shaft mounted for rotation in said cabinet, a piano keyboard embodying a plurality of individual operating keys, a plurality of individual records fixedly mounted on said shaft, each record embodying a sound groove representing a sound reproduced by a predetermined instrument and also representing a predetermined tone of that instrument, a plurality of individual reproducers cooperable with the records, spring means for automatically maintaining the reproducers out of engagement with the records, and means interposed between said first named means and cooperable with the keys whereby manipulating the keys said reproducers may be brought selectively into play.

2. In a musical instrument of the class described, a cabinet, a shaft mounted for rotation in said cabinet, a sound amplifier built in the cabinet in the rear of said shaft, a stationary rod disposed in spaced parallelism with said shaft, a key board, embodying a plurality of individual operating keys rockably mounted on said rod, a second rod mounted in the space between the first named rod and said shaft, a plurality of individual substantially V-shaped key operated members mounted upon the second rod and having a forwardly projecting arm portion disposed for cooperation with the inner end of said keys, a plurality of individual reproducers mounted in the cabinet, spring means for normally maintaining said reproducers in an inoperative state, a plurality of individual records mounted for rotation on the aforesaid shaft, each record embodying a sound groove representing a sound reproduced by a predetermined instrument and also representing a predetermined tone of that instrument, said reproducers being cooperable with the record, whereby to permit selective depression of the keys on the key board for individual operation of the selected reproducer and its complemental record.

In testimony whereof I affix my signature.

ANTHONY MURRAY JEFFRESS.