

July 16, 1929.

J. LE R. BANKS

1,720,991

MUSICAL INSTRUMENT

Original Filed Dec. 14, 1927 2 Sheets-Sheet 1

Fig. 1.

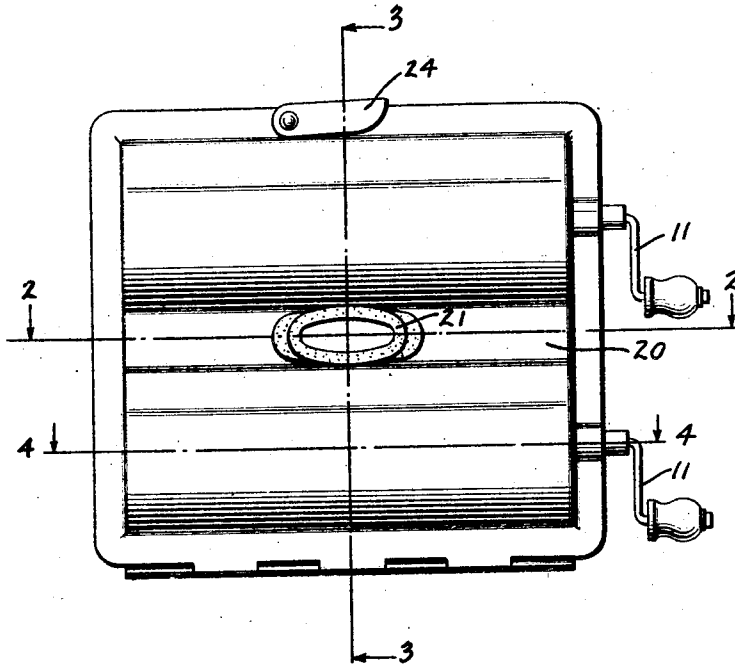
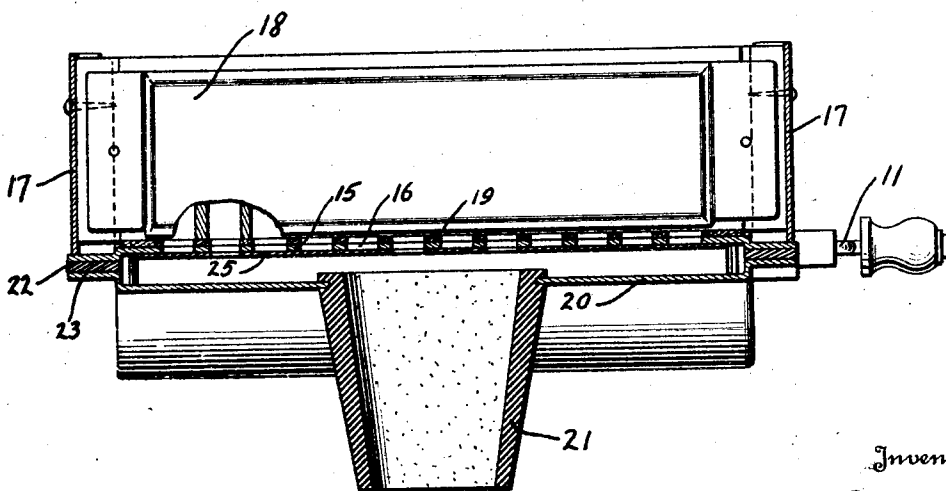


Fig. 2.



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Fig. 3.

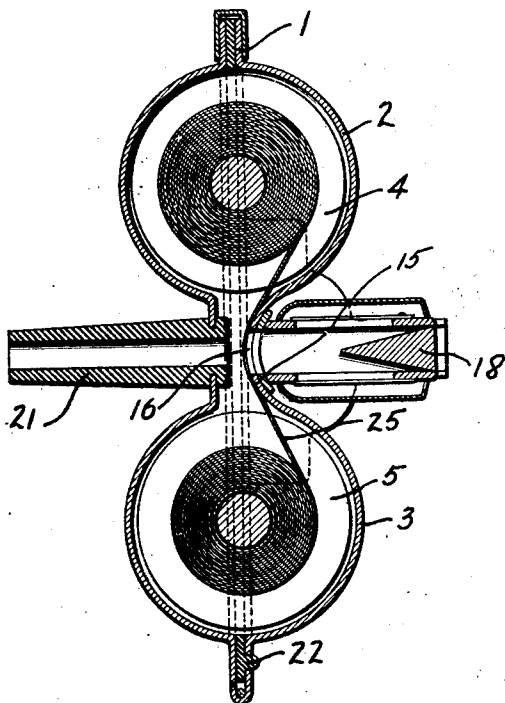


Fig. 5.

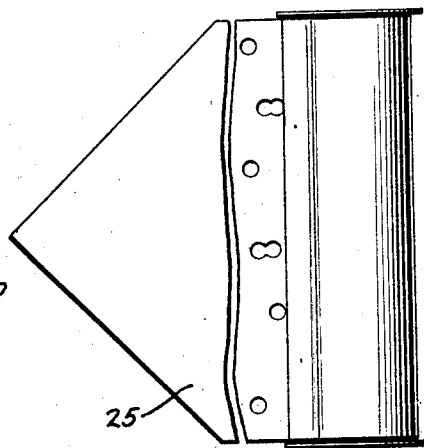


Fig. 6.

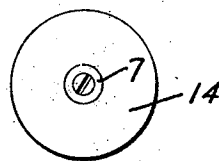
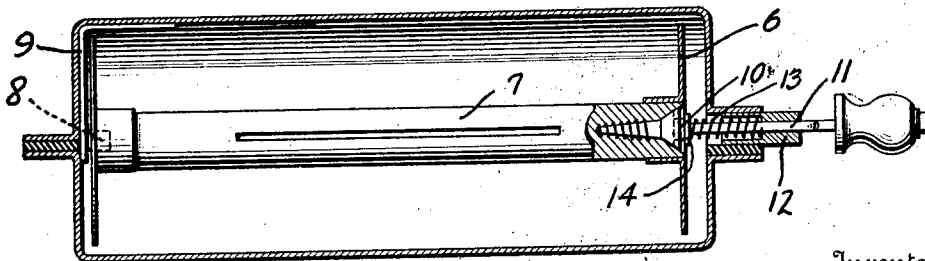


Fig. 4.



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MUSICAL INSTRUMENT.

Application filed December 14, 1927, Serial No. 239,981. Renewed April 5, 1929.

My present invention relates to an attachment for mouth organs or harmonicas whereby a music roll of the perforated paper type may be utilized to play the same.

5 The principal object of this invention is to produce a simplified structure from a commercial standpoint without detracting from the effectiveness of play of the instrument.

To this end the invention contemplates the provision of two substantially duplicate shells hinged together, one shell being adapted to carry a reel or spool carrying the music roll to be played, an empty spool to receive the music roll as played in appropriate semi-cylindrical pockets, and the mouth organ. The other shell is provided with similar semi-cylindrical pockets between which is mounted a mouthpiece through which air for playing is supplied to the device. The two shells when closed upon each other form two parallel cylindrical pockets, with a spool in each, these pockets being connected by a parallel walled slot. One of these walls is perforated to form a tracker bar, the apertures therein coinciding with the apertures in the mouth organ mouthpiece. The other wall is formed with an elongated aperture into which is removably secured a flexible mouthpiece. A gasket between the two shells prevents escape of air except through the tracker bar apertures. A perforated gasket between the tracker bar and the mouth organ insures the air passing to the proper reed in the harmonica. The removable spools are provided with suitable cranks or handles so that the music roll may be wound from one to the other and back again.

I have illustrated an embodiment of my invention in the drawings, in which:

40 Figure 1 is a plan view of a device embodying my invention.

Fig. 2 is a sectional view along the line 2—2 of Fig. 1.

45 Fig. 3 is a similar view on the line 3—3 of Fig. 1.

Fig. 4 is a sectional view along the line 4—4 of Fig. 1.

Fig. 5 is a detail of the music roll.

Fig. 6 is an end view of one of the spools.

50 In these drawings, I have shown at 1 a half shell provided with two semi-cylindrical recesses or pockets 2 and 3 adapted to accommodate spools 4 and 5.

Each spool consists of a terminal disc 6 mounted upon a trunnion or axle 7. The axle

of each spool has at one end an aperture to receive the stud 8 carried upon spring arm 9 fixed to the bottom of the respective semi-cylindrical pocket. These arms serve as brakes to prevent too rapid winding or unwinding of the music roll. The other end of the axles is provided with an elongated slot to receive the indented end 10 of the crank 11. This crank passes through bearing 12 and is provided with an encircling spring 13 bearing at one end against the bearing sleeve 12 and at the other against a washer 14 abutting the end 10. Therefore, the crank end 10 is held in the slot in the end of the spool axle under tension of the spring, although the spool may be readily removed when desired. Obviously, each spool is so supported at each end that it floats within its cylindrical recess or pocket.

In the reel containing shell there is a raised slightly curved portion 15 between the spools which is perforated as at 16 to form a tracker bar as in the usual player piano. Attached to the outside of this shell at each end is a bracket 17 having an inwardly facing slot adapted to receive and hold the end of a mouth organ or harmonica 18. This musical instrument is moved up between the semi-cylindrical pockets from the outside until the mouth of the harmonica is in proximity to the tracker bar. A cork gasket 19 is arranged between the harmonica and the tracker bar in order that air entering the instrument will be confined to the proper reed chamber. The apertures in tracker bar gasket and harmonica thus coincide.

The opposing shell likewise is provided with two semi-cylindrical pockets which when the two shells are closed overlies the spools. Between these two pockets is a substantially plane surface 20 which receives in an aperture therein a rubber or flexible mouthpiece 21. The mouthpiece 21 is retained in the aperture by reason of the fact that the walls of the tube 21 are incut.

100 It will be observed that upon closing the two shells upon the rubber gasket 22 which is secured to the surrounding flange 23 in one of the shells, that an air tight compartment is formed except for the air inlet which comprises the mouth piece, and the air exit through the tracker bar. A latch 24 is used to make the shells fast.

By enclosing the spools within the air compartment a decided improvement results over 110

and above my prior patent, as the only escape for the air is through the harmonica.

The harmonica used is one with two duplicate sets of reeds reversed as to each other so that the same note will be sounded by passage of air in either direction through the harmonica. This makes for ease of playing as the operator may breathe normally into and out of the mouthpiece without discomfort and the instrument will be effectively played.

The music sheet is shown at 25 and is of the usual player piano type consisting of an elongated paper sheet and perforated, the perforations coinciding with the proper aperture in the tracker bar, the extent of the perforation determining the period of time over which the corresponding reed will be vibrated. This player sheet is wound from one spool, across the tracker bar and up on the other spool by manipulation of the handle or crank of the empty spool. Upon completion of the selection, the handle or crank of the now empty spool is operated so that the sheet is re-wound ready for repetition. The spool with its music sheet may obviously be replaced at will by another spool containing another sheet upon which is recorded another selection.

The flexible mouthpiece has the advantage that by compressing the same with the teeth or lips while playing, the flow of air may be varied and a desirable modulated effect produced.

What is claimed is:

1. A musical device comprising a closed air chamber, a perforated music sheet within the chamber, a mouth organ secured to the outside of the chamber, means for moving said sheet past the mouth organ and means to pass air through the roll and mouth organ.

2. A musical device comprising two complementary hinged shells, each including two parallel semi-cylindrical recesses, a spool in each recess in one shell, a tracker bar between said recesses, a mouth organ secured to the outside of said shell and between the recesses and a mouthpiece between the recesses in the other shell.

3. A musical device comprising two complementary hinged shells, each comprising two parallel semi-cylindrical pockets and a flange surrounding the same, the flanges being superimposed upon each other, a gasket between the flanges, means to secure the two shells together, means in one shell to secure a music sheet therein, a tracker bar between the pockets in one shell, means to pass a music roll over the tracker bar, means to secure a mouth organ in proximity to the tracker bar and outside one shell and means for passing air through the shells.

4. A musical device comprising two hinged complementary shells, each including parallel semi-cylindrical pockets, means in one shell for removably holding two spools,

means without the shell for rotating each spool, a tracker bar formed in the shell wall between spools, means on the outside of the tracker bar shell for removably holding a mouth organ, means for securing the two shells together in an air-tight manner and means to introduce air into the closed chamber formed by the two shells.

5. An attachment for mouth organs comprising a casing arranged to open for the reception of a perforated music roll, means on said casing for securing the same to a mouth organ, said casing having a series of slots therein corresponding in number and position to the air passages of the mouth organ, means to introduce air to said casing, means to hold the music roll in the casing, and means to actuate the music roll when held in said casing.

6. An attachment for mouth organs comprising a casing arranged to open for the reception of a perforated music roll, means on said casing for securing the same to a mouth organ, said casing having a series of slots therein corresponding in number and position to the air passages of the mouth organ, means to introduce air to said casing, means to hold the music roll in the casing, means to actuate the music roll when held in casing, and means to maintain the music roll under tension in said casing.

7. An attachment for mouth organs having a casing including a pair of hinged halves forming when closed a pair of cylindrical chambers connected by a narrow slot, means to support a music roll in one of said chambers, a winding reel in the other chamber, said casing having a series of slots on one side of said casing over which the material of the roll passes, means on said casing to support a mouth organ with its openings in registry with said slots, and a breath tube for introducing air into said casing.

8. An attachment for mouth organs having a casing including a pair of hinged halves forming when closed a pair of cylindrical chambers connected by a narrow slot, means to support a music roll in one of said chambers, a winding reel in the other chamber, said casing having a series of slots on one side of said casing over which the material of the roll passes, means on said casing to support a mouth organ with its openings in registry with said slots, and a breath tube for introducing air into said casing, and means to maintain the music roll under tension in said casing.

9. A musical device comprising a closed air chamber, a perforated music sheet within the chamber, a mouth organ secured to the outside of the chamber with its mouthpiece adjacent said chamber, the chamber wall having apertures coinciding with the apertures in the mouthpiece of the mouth organ, and means without the chamber for moving

the music sheet over the chamber apertures, thereby controlling the passage of air through the mouth organ.

10. A musical device comprising a closed
5 air chamber, a perforated music sheet within the chamber, the chamber having a series of apertures in its walls, a mouth organ having its mouthpiece in proximity to said apertures, means to pass the music sheet over said aper-
10 tures and means whereby air may be caused to pass through the music sheet, apertures and mouth organ.

11. A musical instrument comprising a casing of two separable sections forming
15 when closed a pair of substantially cylindrical pockets connected by a narrow passage, means for moving a perforated note sheet from one pocket to the other through said narrow passage, said casing having a re-
20 entrant perforated wall between said pockets defining said narrow passage, reed carrying

means disposed in the re-entrant space formed by said re-entrant wall between said pockets, said narrow passage having thereat a tracker board surface, substantially as de- 25 scribed.

12. A musical instrument comprising a casing of two separable members forming when closed a pair of pockets spaced apart and connected by a narrow passage, means for mov- 30 ing a perforated note sheet from one pocket to the other through said narrow passage, each of said separable members having a re-entrant wall between its pocketed portions, said walls defining said narrow passage, one 35 of said walls carrying a mouth piece and the other of said walls being perforated to form a tracker board surface, and reed plates supported on the outer side of the perforated re-entrant wall, substantially as described. 40

In testimony whereof, I affix my signature.

JOSEPH LE ROY BANKS.