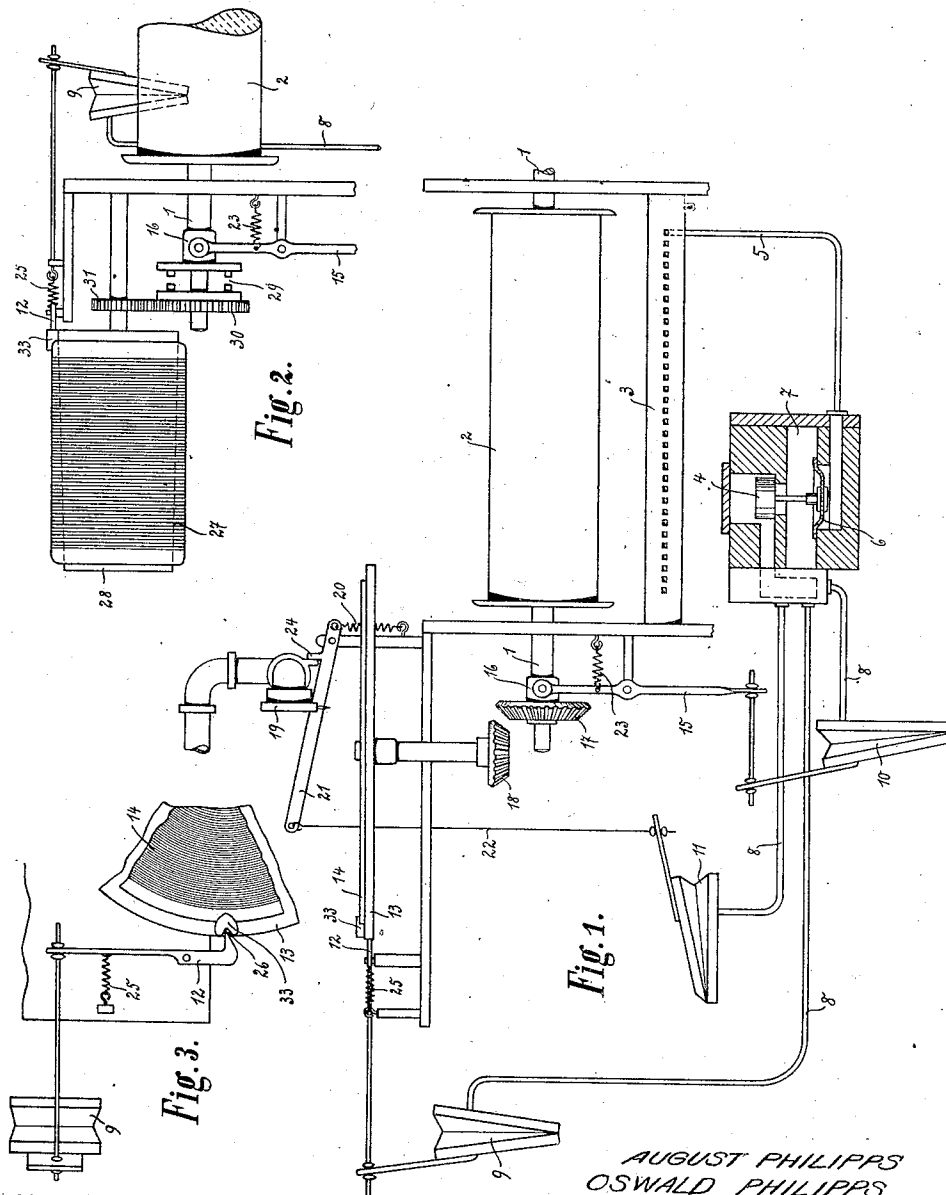


A. & O. PHILIPPS.
MUSICAL INSTRUMENT.
APPLICATION FILED JULY 26, 1909.

991,234.

Patented May 2, 1911.



Witnesses:

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UNITED STATES PATENT OFFICE.

AUGUST PHILIPPS AND OSWALD PHILIPPS, OF FRANKFORT-ON-THE-MAIN, GERMANY.

MUSICAL INSTRUMENT.

991,234.

Specification of Letters Patent.

Patented May 2, 1911.

Application filed July 26, 1909. Serial No. 509,745.

To all whom it may concern:

Be it known that we, AUGUST PHILIPPS and OSWALD PHILIPPS, both subjects of the Emperor of Germany, residing at Frankfort-on-the-Main, Germany, have invented certain new and useful Improvements in Musical Instruments; and we do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention to be hereinafter described relates to musical instruments, and particularly to a combination of musical instruments whereby both a vocal and an instrumental or two separate instrumental parts may be simultaneously produced.

Broadly speaking, it comprises two or more musical instruments and connections between the same for operating all of them separately and simultaneously.

In order to more clearly disclose the construction, operation and use of the invention, reference should be had to the accompanying drawings forming part of the present application.

Throughout the several figures of the drawings, like reference characters designate the same parts.

In the drawings: Figure 1 is a plan view of the invention as applied to a pneumatically played piano and a gramophone; Fig. 2 is a partial plan view of the invention, as applied to a phonograph; and, Fig. 3 is a fragmentary view, showing the means for locking the gramophone plate.

The main object of the invention is to provide means for rendering an instrumental and a vocal part of a musical selection separately and simultaneously, in order to avoid the present objection of such selections as at present rendered by a gramophone or a phonograph alone. To that end, a shaft 1 is provided, having a roll 2, from which the usual perforated sheet may travel over the air ducts of a tracker board 3 connected to a pipe 5 leading to a valve chest, in which is reciprocally mounted the valve 4, having connected thereto the diaphragm 6. The valve casing is divided into an upper chamber and a lower chamber 7 communicating therewith. As suction is created in the lower chamber 7 of the valve casing, a like suction will be created when the valve 4 is raised, in the upper chamber which communicates with pipes or ducts 8 leading to

the bellows 9, 10 and 11. Consequently, these bellows will be deflated. The movable member of the bellows 9 is connected to a rod which is connected to a lever 12 provided with a toe 26 adapted to fit into a notch 33 in the edge of a gramophone disk table 13 to prevent movement of the same. The toe is kept normally seated in the notch by means of a spring 25. As the bellows 9 is deflated, the lever 12 is rocked against the tension of the spring 25, and the toe 26 is withdrawn from its notch 33.

At the same time that the bellows 9 is deflated, the bellows 10 will also be deflated. To the movable member of the bellows 10 is connected a rod which is connected to a lever 15 provided with a forked end adapted to revolvably receive the collar or sleeve 16 of a bevel gear 17 slidably keyed on the shaft 2. Deflation of the bellows 10 and consequent movement of the lever 15, cause sliding of the gear 17. As the gear 17 travels toward the outer end of the shaft 2, it will become intermeshed with the co-operating bevel gear 18 on the lower end of the shaft supporting the gramophone disk table. In this way, the gramophone disk table will be driven directly from the same shaft as operates the roll 2 of the mechanical piano player, or similar device. The lever 15 and gear 17 are retracted to inoperative position by the spring 23.

Simultaneously with the deflation of the bellows 9 and 10, the bellows 11 will be similarly deflated. The movable member of the bellows 11 is connected to a flexible device 22, which is secured to one end of a lever 21, which, normally, supports the diaphragm 19 of a gramophone. A spring 20 is connected to the short arm of the lever 21 and acts to draw it down and raise the long arm so as to hold the diaphragm 19 elevated above and out of contact with the gramophone plate 13. The lever 21 is provided with a stop 24 adapted to engage a lug on the arm carrying the gramophone diaphragm. In this way, the diaphragm will be lowered onto the gramophone disk at the same point of the record each time. Each disk 14, of course, is provided with a projection adapted to fit into the notch 33 of the plate or table 13. On each disk the projection is placed at the same fixed distance from the beginning of the record. Consequently, as the diaphragm is lowered onto each disk, its needle will engage the

record groove thereof at exactly the same point of the record every time.

The chamber 7 of the valve casing is in communication with a partial vacuum or vacuum apparatus, and the duct 5 is also, normally, evacuated. The evacuation of the duct 5 is maintained by the usual note sheet, which passes from the roll 2 over the tracker board 3. When perforations in the note sheet register with the end of the air duct 5, air will rush through the duct and raise the diaphragm 6. As the diaphragm 6 rises, the valve 4 will be unseated and there will be communication between the upper chamber and lower chamber 7 of the valve casing. The partial vacuum in the chamber 7 will cause deflation of the bellows 9, 10 and 11, with the results previously noted. The operation of the parts may be reversed, of course, by simply forcing compressed air into the chamber 7.

Fig. 2 shows a combination similar to Figs. 1 and 3, except that in Fig. 2 a phonograph is substituted for the gramophone of Figs. 1 and 3, with slight minor changes of construction to adapt the connections to the cylindrical record 27 in place of the disk record 14.

It is thought that the operation, application and use of the invention will be clear from the preceding detailed description.

Changes may be made in the construction, arrangement and disposition of the several parts of the invention, without in any way departing from the field and scope of the same, and it is meant to include all such within this application.

Having thus fully described our invention what we claim as new, and desire to secure by Letters Patent, is:—

1. An apparatus of the character described, comprising a shaft, a roll mounted thereon and adapted to carry a perforated sheet, a tracker board provided with air ducts adapted to be uncovered by the perforations of the sheet, a valve chest divided into upper and lower communicating suction chambers, a valve adapted to control communication between the chambers, a pipe connected at its opposite ends respectively to the aforesaid tracker board and to the lower suction chamber of the valve chest, a pipe connected to the upper suction chamber of the valve chest, a bellows connected to said pipe, a bevel gear slidably keyed to the aforesaid shaft, a lever adapted to slide the gear, connections between the lever and bellows, and a revoluble gramophone disk table provided with a bevel gear adapted to be engaged and driven by the slidable gear.

2. An apparatus of the character described, comprising a rotary shaft, a roll mounted thereon, a tracker board provided with ducts adapted to be controlled by a perforated sheet passing from the roll, a valve

chest divided into upper and lower suction chambers, a pipe connecting the tracker board with the valve chest, a revoluble gramophone disk table, a gear connected thereto, a gear slidably keyed to the aforesaid shaft, means for intermeshing the second gear with the first gear, a bellows, a pipe connecting the bellows with one suction chamber of the valve chest, and connections between the bellows and the means for intermeshing the gears.

3. An apparatus of the character described, comprising a rotary shaft, a roll mounted thereon, a tracker board provided with ducts adapted to be controlled by a perforated sheet passing from the roll, a valve chest divided into upper and lower suction chambers, a pipe connecting the tracker board with the valve chest, a revoluble gramophone disk table, a gear connected thereto, a gear slidably keyed to the aforesaid shaft, means for intermeshing the second gear with the first gear, a bellows, a pipe connecting the bellows with one suction chamber of the valve chest, connections between the bellows and the means for intermeshing the gears, a second bellows, a pipe connecting the second bellows with one chamber of the valve chest, a gramophone horn arm movably mounted above the said gramophone disk table, means adapted to engage said arm and hold it in a normally inoperative position, and connections between said second bellows and said means.

4. An apparatus of the character described, comprising a rotary shaft, a roll mounted thereon, a tracker board provided with ducts adapted to be controlled by a perforated sheet passing from the roll, a valve chest divided into upper and lower suction chambers, a pipe connecting the tracker board with the valve chest, a revoluble gramophone disk table, a gear connected thereto, a gear slidably keyed to the aforesaid shaft, means for intermeshing the second gear with the first gear, a bellows, a pipe connecting the bellows with one suction chamber of the valve chest, connections between the bellows and the means for intermeshing the gears, a second bellows, a pipe connecting the second bellows with the valve chest, means for normally holding the aforesaid gramophone disk table in inoperative position, and connections between said means and said second bellows.

5. An apparatus of the character described, comprising a rotary shaft, a roll mounted thereon, a tracker board provided with ducts adapted to be controlled by a perforated sheet passing from the roll, a valve chest divided into upper and lower suction chambers, a pipe connecting the tracker board with the valve chest, a revoluble gramophone disk table, a gear connected thereto, a gear slidably keyed to the

aforesaid shaft, means for intermeshing the second gear with the first gear, a bellows, a pipe connecting the bellows with one suction chamber of the valve chest, connections between the bellows and the means for intermeshing the gears, a second bellows, a pipe connecting the second bellows with one chamber of the valve chest, a gramophone horn arm movably mounted above the said gramophone disk table, means engaging said arm and holding it in a normally inoperative position, connections between said second bellows and said means, a third bel-

lows, a pipe connecting the third bellows with the valve chest, means for normally holding the aforesaid gramophone disk table in inoperative position, and connections between said means and said third bellows. 15

In testimony whereof we have affixed our signatures in presence of two witnesses.

AUGUST PHILIPPS.
OSWALD PHILIPPS.

Witnesses:

JEAN GRUND,
CARL GRUND.