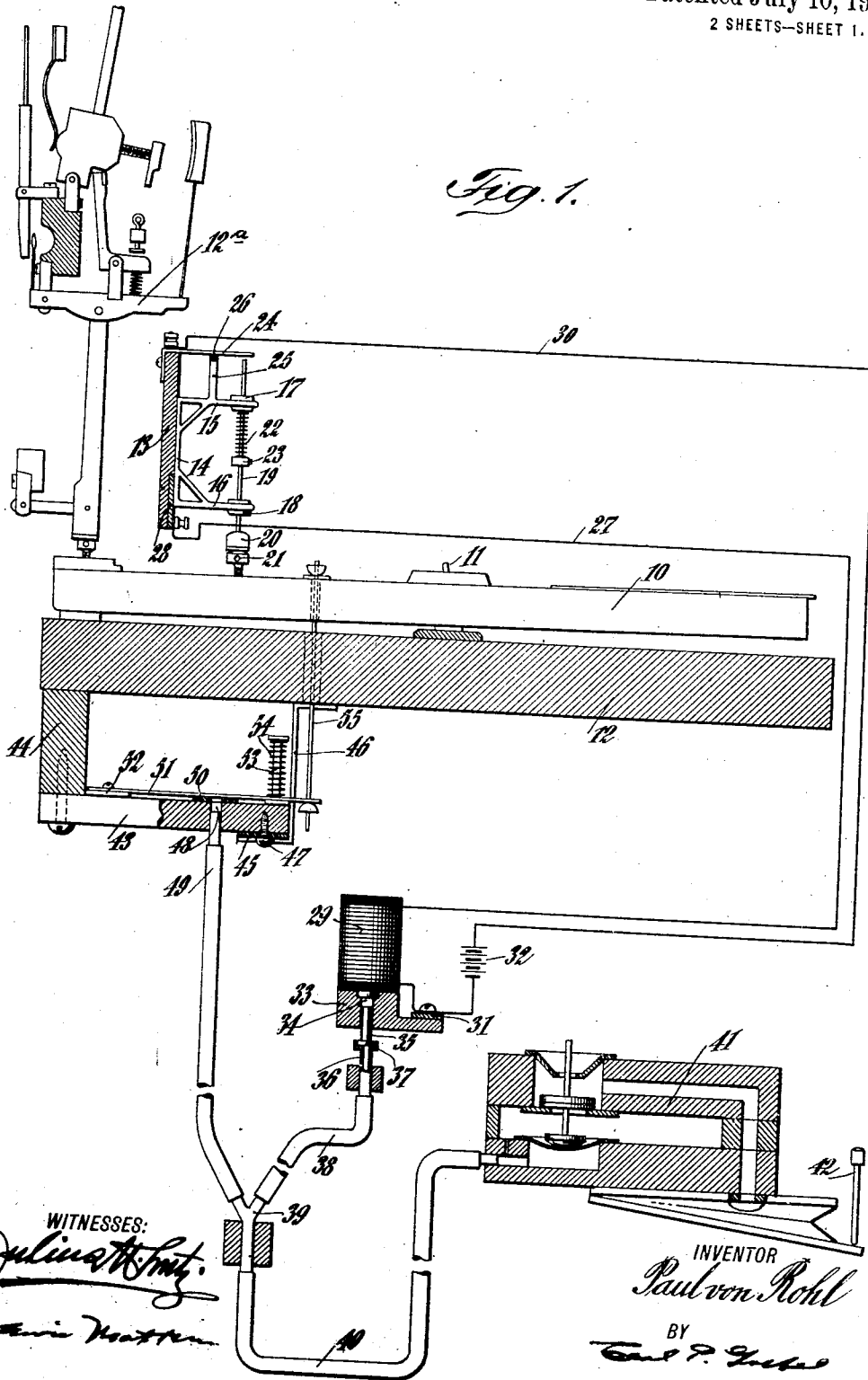


P. VON ROHL.
PIANO ATTACHMENT FOR OPERATING MUSICAL INSTRUMENTS.
APPLICATION FILED APR. 19, 1916.

1,233,148.

Patented July 10, 1917.
2 SHEETS—SHEET 1.

Fig. 1.



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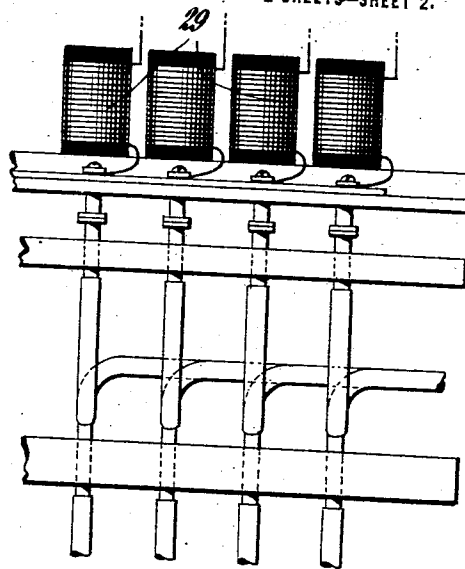
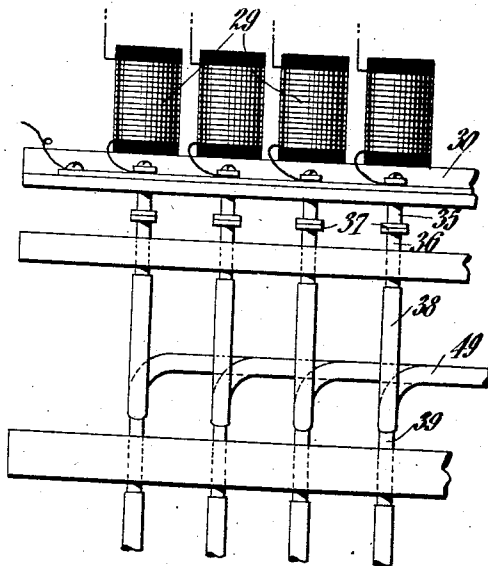


Fig. 2.

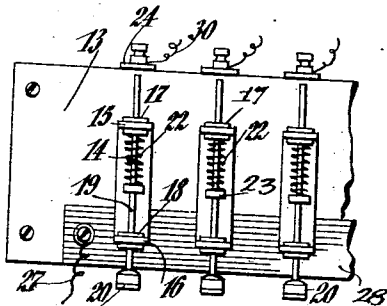


Fig. 3.

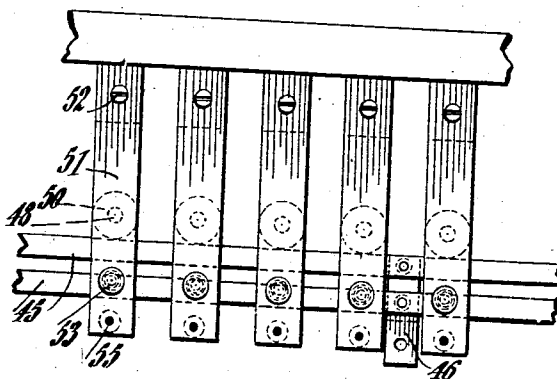


Fig. 4.

Witnesses:
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Frank M. [Signature]

Inventor
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Carl P. [Signature]

UNITED STATES PATENT OFFICE.

PAUL VON ROHL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-THIRD TO PAUL LASRICH
AND ONE-THIRD TO ERNEST FRUHNER, BOTH OF NEW YORK, N. Y.

PIANO ATTACHMENT FOR OPERATING MUSICAL INSTRUMENTS.

1,233,148.

Specification of Letters Patent.

Patented July 10, 1917.

Application filed April 19, 1916. Serial No. 92,197.

To all whom it may concern:

Be it known that I, PAUL VON ROHL, a citizen of the United States, and a resident of the borough of the Bronx, in the county of the Bronx and State of New York, have invented certain new and useful Improvements in Piano Attachments for Operating Musical Instruments, of which the following is a specification.

This invention relates to an improved attachment for musical instruments, and more particularly such an attachment for pianos or player-pianos, with which one or a number of additional instruments may be played by the manual or mechanical operation of a single instrument. With my improvements, a number of different instruments, such for instance as a piano and an organ or a piano and chimes, or drums, whistles, xylophones, etc., and any combination of these or other similar instruments may be played by a single performer or by a single mechanical player in the same room, such for instance as a moving-picture theater, to present an orchestration effect, or the different instruments may be played at different places. This last-mentioned possibility will find many advantageous uses, for instance, an artist may conduct a number of concerts, himself being present at only one, and many other similar uses will present themselves.

An object of the invention is to provide such a device which may be readily applied to any instrument and will be positive in operation, simple in construction, and inexpensive to manufacture.

With these and other objects in view, my invention is shown in the accompanying drawings, and will be hereinafter more fully described with reference thereto and finally pointed out in the claims.

In the accompanying drawings,

Figure 1 represents a vertical transverse section through a piano keyboard embodying this invention.

Fig. 2 represents a front elevation of a transmitting electro-magnetic transmitting attachment for operating a supplementary musical instrument, the central portion being broken out.

Fig. 3 represents a front elevation of a fragment of a mechanically actuated transmitting mechanism.

Fig. 4 represents a plan thereof.

Similar reference characters indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, and more particularly to Fig. 1 thereof, a key 10 being one of the series of keys constituting the keyboard of the primary musical instrument, is pivoted at 11 to a base 12 and operates a piano hammer in the ordinary manner. Above the key at the rear thereof, there is provided a perpendicularly disposed board 13, on which there is arranged a bracket 14, having a pair of arms 15 and 16 having bearings 17 and 18 therein, in which is guided a pitman 19, which is provided at its lower end with an enlarged portion 20, which rests on an adjustable support 21. A spring 22 is arranged on the said pitman, and engages at its upper end the bearing 17 and rests at its lower end on an adjustable collar 23. A contact plate 24 is secured at the upper side of the board 13, and is slightly spaced from the upper end of the rod 19 in rest position of the key and is engaged by the said rod when the key is depressed. A vertical support 25 is provided on the bracket 14, having an insulated top 26 upon which the contact plates 24 rest.

An electric wire 27 is grounded on the bracket 14 by means of a longitudinal plate 28, and is connected at its other end to an electro-magnet 29. A second electric wire 30 is connected at one end to the contact plate 24, and at the other end to a plate 31, to which the electro-magnets 29 are connected, a source of electric power 32 being provided in circuit.

The electro-magnets are preferably disposed in the additional instrument to be played. In the example illustrated they are arranged on a board 33 provided with cylindrical holes 34 beneath the several magnets respectively. Tubes 36 having flanges 37 which constitute valve seats, are disposed below the holes 34. Valves 35 normally rest on said valve seats and close the tubes 36. The stems of these valves slide in the holes 34, moving upward when the electro-magnets are energized and dropping downward by gravity when said magnets are cut out. The tube 36 is connected by means of a flexible tube 38 to one arm of a Y-shaped tube-joint 39, which is in turn connected by a flexible tube 40 to a pneumatic member 41,

which operates a playing element 42, which may be connected to the corresponding sounding device of any suitable instrument.

In operation a key 10 is depressed, causing the pitman 19 to close contact with the plate 24 and the closure member 35 to be raised from its seat by the electro-magnet 29. The pipe 40 is thus vented, the pneumatic 41 thereby actuated and the playing element 42 of the secondary instrument operated in unison with the key 10.

An auxiliary mechanical transmitting device is also provided in connection with the keys of the piano, which will cause the pneumatic to operate in the event of the failure of the transmitter to operate. This auxiliary device comprises a bar 43 provided beneath the keybed 12, supported at its rear end by a strip 44 and at the front end by a longitudinal slotted bar 45, supported at intervals from the keybed 12 by hangers 46. The bars 43 are secured to the slotted bar 45 by screws 47. The slotted bar 45, it will be seen, permits adjustment of the bars 43 with respect to the piano keys. A cylindrical opening 48 is provided in the bar 43, which is connected by means of a flexible tube 49 with the Y-shaped tube-joint 39. A felt or leather washer 50 is provided at the upper side of the opening 48, and the opening is normally closed by a flap-valve 51 of spring metal, secured at 52 to the bar 43 and guided in its movement by a rod 53, on which is disposed a spring 54 which bears on the flap-valve and holds the same in close engagement with the washer 50. The outer end of the valve 51 is connected by means of a rod 55, with the piano key 10, so that by depression of the key the valve is lifted and air is admitted to the pneumatic.

In the use of this attachment, the depression of the keys as 10 of the keyboard instrument to which the attachment is applied, simultaneously opens the valves 51 and 35 of the mechanical and electromagnetic devices respectively and air is admitted through the branches 38 and 49 and trunks 40 of the forked tubes to the pneumatics 41, causing the bellows to collapse and the playing elements as 42 to be operated in unison and correspondence with the primary instrument.

When both devices are used, the action is simultaneous, but it will be understood that one form only may be used, if desired, the electric attachment being especially useful for playing an instrument located at some distance away from the playing instrument.

I have illustrated and described preferred

and satisfactory forms of my invention, but it is obvious that changes may be made therein, within the spirit and scope thereof, as defined in the appended claims.

I claim:—

1. An attachment for a keyboard musical instrument comprising a pneumatic adapted to operate an additional instrument, an air tube forked at one end and connected at its single end with said pneumatic, valves normally closing the forked ends of said tube, a mechanical actuator for operating one of said valves, and an electromagnetic actuator for operating the other valve, said mechanical actuator and electromagnetic actuator being in touch respectively with opposite sides of the same key of the musical instrument and simultaneously operated by the depression thereof.

2. An attachment for a keyboard musical instrument comprising a support disposed above the keyboard of the primary musical instrument transversely of the keys thereof, brackets secured thereto above the several keys and provided with guide bearings disposed in vertical alinement and with rests above said bearings, flexible contact arms secured to said support and normally engaging said rests, contact rods slidable in said guide bearings underneath said contact arms, springs normally holding said rods in touch at their lower ends with said keys and permitting them to be lifted into contact with said arms by the depression of said keys, pneumatics adapted to operate an additional instrument, air tubes for actuating said pneumatics, valves for closing said air tubes, electromagnets for actuating said valves, and electric wires connecting said electromagnets with said contact arms.

3. An attachment for a keyboard musical instrument comprising a bar disposed below the keybed and provided with a series of air openings, a series of flexible valve strips secured to said bar, a series of springs normally holding said strips in closing position over said air openings, a series of lifting rods connected at their upper ends with the keys of said keyboard and at their lower ends with said flexible valve strips, pneumatics adapted to actuate an additional musical instrument, and tubes connecting said air openings with said pneumatics.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

PAUL VON ROHL.

Witnesses:

HARRY CAHN,
S. BLUNT.

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