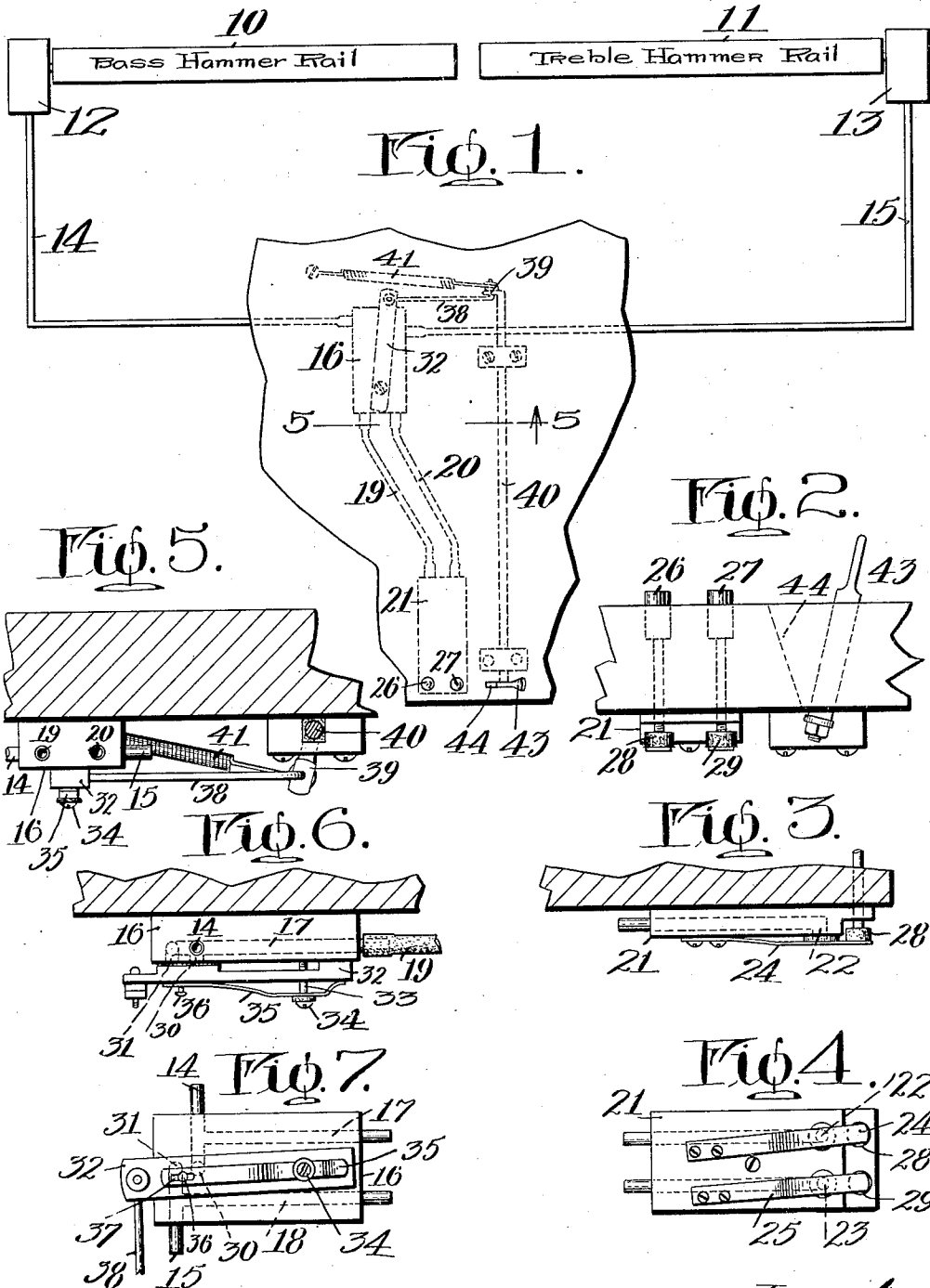


J. FIALA.
MUSICAL INSTRUMENT.
APPLICATION FILED DEC. 5, 1912.

1,064,720.

Patented June 17, 1913.



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UNITED STATES PATENT OFFICE.

JOSEPH FIALA, OF NEW YORK, N. Y., ASSIGNOR TO STANDARD PNEUMATIC ACTION CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

MUSICAL INSTRUMENT.

1,064,720.

Specification of Letters Patent.

Patented June 17, 1913.

Application filed December 5, 1912. Serial No. 735,012.

To all whom it may concern:

Be it known that I, JOSEPH FIALA, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Musical Instrument, of which the following is a specification.

This invention relates to a musical instrument and is particularly adapted for that type which involve pneumatic self-playing devices.

The principal objects of the invention are to provide a simple and convenient means readily accessible from a single point on the key bed for affecting the tone of any desired part of the instrument, but particularly for independently affecting the bass and treble portions.

More specifically the invention involves the use of a hammer rest rail in sections, a set of independently operating controlling means therefor, one for each section, and an independently operating but contiguous member having means for simultaneously operating all the sections without disturbing the first named operating means.

The invention also involves improvements in details of construction and combination of parts as will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a plan of a portion of a musical instrument showing how this invention can be applied thereto, Fig. 2 is an end elevation of a portion of the front of the key bed on enlarged scale showing the controlling devices. Fig. 3 is a transverse sectional view of the front and bottom of the key bed showing the controlling devices in side elevation. Fig. 4 is a bottom plan view of the same. Fig. 5 is a sectional view on the line 5—5 of Fig. 1 on enlarged scale. Fig. 6 is a side elevation of the channel box shown in Figs. 1 and 5, and Fig. 7 is a bottom plan of the same.

For the purpose of giving a loud or soft tone as desired to the different sections of the instrument, the hammer rest rail is divided into a plurality of sections and in this instance it is shown as divided into two parts, the bass 10 and treble 11. These parts are operated respectively by a pair of pneumatics 12 and 13, the details of which are not shown, as any desired kind of pneumatic can be employed. These are connected

by a pair of pipes or channels 14 and 15 with a channel box 16. This channel box is provided with two passages 17 and 18 which are connected by means of pipes 19 and 20 or the like with a plate 21 which has two passages constituting continuations of the pipes 19 and 20 and having openings 22 and 23 respectively. These openings are covered by valves 24 and 25 which are shown in the form of flat springs that normally close the openings. For operation of these valves a pair of independent push buttons 26 and 27 are shown. The depression of either of these push buttons will lower the corresponding spring away from its opening and admit air through the pipes, channels, and channel box to the pneumatic with which this opening is directly connected, thus operating that section of the hammer rest rail. The push buttons 26 and 27 are shown as provided with adjustable heads 28 and 29 for directly engaging the springs.

As so far described, it will be obvious that the hammer rest rail sections, whether there are two or more of them, will be operated independently of each other. For the purpose of operating all of the sections simultaneously, each of the channels 17 and 18 is provided with an opening 30, 31 in the bottom of the channel box 16. For the purpose of covering these openings normally a valve 32 is provided pivoted on a vertical pin 33 which constitutes an axis. This pin is provided with a head 34 and over it is a spring 35 which bears on the valve on both sides of the pins and holds the valve up yielding against the surface of the channel box. The latter is provided with a pin 36 passing through a long slot 37 in the spring to hold it in position.

The end of the valve 32 is connected by a horizontal rod 38 with an arm 39 projecting downwardly from a horizontal shaft 40. This shaft is perpendicular to the rod 38 and the latter is pivoted to the arm on an axle parallel to the shaft. Also connected to the arm at the same point is a spring 41 for normally pulling the arm over into position in which the valve is closed. On the other end of the shaft adjacent to the push buttons is an arm 43 by which the shaft can be turned. This arm passes through a passage 44, one wall of which constitutes a stop and is so located as to limit the motion of the valve to that in which it covers the openings in the

bottom of the channel box. It will be seen, therefore, that the spring normally holds the shaft in such position that the second arm thereon is in its limited position and the valve closed.

The operation of the device will be obvious from what has been said. Each of the sections of the hammer rail is operated independently of the other by the respective push buttons 26 and 27. Normally the spring holds the valve 32 closed and if it is desired to operate all the sections of the hammer rest rail at the same time the arm 43 is moved in its slot thus admitting air to all of the pneumatics and operating all the hammer rest rail sections.

It will be understood that this invention is not necessarily used with the number of rest rail sections shown in the drawings; that these sections do not necessarily constitute the entire rest rail; and that the operations specified can be used for moving the rest rail sections in either direction.

Although I have illustrated and described a single embodiment of the invention I am aware of the fact that modifications can be made in the construction without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to the construction shown, but

What I do claim is:—

1. In a musical instrument, the combination with the hammer rest rail comprising a plurality of independently movable sections normally located in alinement, of a pneumatic connected with each of said sections for operating it, means for admitting air to each of said pneumatics, a push button for controlling each of said means independently, and a valve for simultaneously admitting air to all of said pneumatics.

2. In a musical instrument, the combination with the hammer rest rail comprising a plurality of independently movable sections, of a pneumatic connected with each of said sections for operating it, means for admitting air to each of said pneumatics independently, a push button for controlling each of said means independently, a valve for simultaneously admitting air to all of said pneumatics, means for normally holding said valve closed, and a lever having an operative handle adjacent to said push buttons for opening said valve.

3. In a musical instrument, the combination with the hammer rest rail comprising a plurality of independently movable sections, of a pneumatic connected with each of said sections for operating it, means for admitting air to each of said pneumatics, a push

button for controlling each of said means independently, a valve for simultaneously admitting air to all of said pneumatics, said valve being adapted to swing on a vertical axis, a horizontal rod connected with said valve for swinging it, a horizontal shaft transverse to said rod having an arm pivotally connected with the rod, and an arm on the other end of said shaft near said buttons for operating the shaft.

4. In a musical instrument, the combination with a hammer rest rail comprising a plurality of independently movable sections, a pneumatic connected with each of said sections for operating it, a valve for simultaneously admitting air to all of said pneumatics, said valve being adapted to swing on a vertical axis, a horizontal rod connected with said valve for swinging it, a horizontal shaft transverse to said rod having an arm pivotally connected with the rod, an arm on said shaft for operating it, a spring connected with the first named arm for holding the valve yieldingly in closed position, and a stop for engaging the second arm to limit the motion of the valve due to the spring.

5. In a musical instrument, the combination with a hammer rest rail in sections, said sections being normally in alinement but movable independently of each other, a pneumatic for operating each of said sections, a channel box provided with a plurality of channels, one communicating with each of said pneumatics, a plate having a corresponding number of openings therein each independently connected with one of said channels, valves for controlling the admission of air to said openings, said channel box having openings in the surface thereof connected with all of said channels, a valve oscillatable along the surface of said channel box, a stop for limiting the motion of said valve to a position in which it covers said openings, a pin on which said valve is pivoted, said pin extending beyond the surface of the valve, a spring engaging the head of the pin for holding the valve against the surface of said channel box, a rod connected with the end of the valve, a shaft having an arm to which the rod is pivoted, and a spring for normally holding the valve in position over said opening.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JOSEPH FIALA.

Witnesses:

A. B. KROEGER,
J. A. LE CATA.