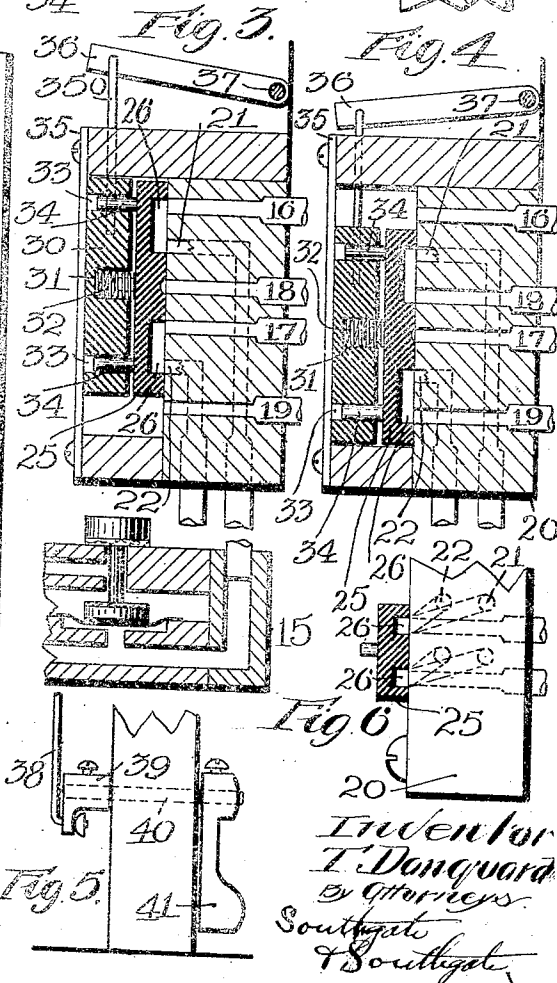
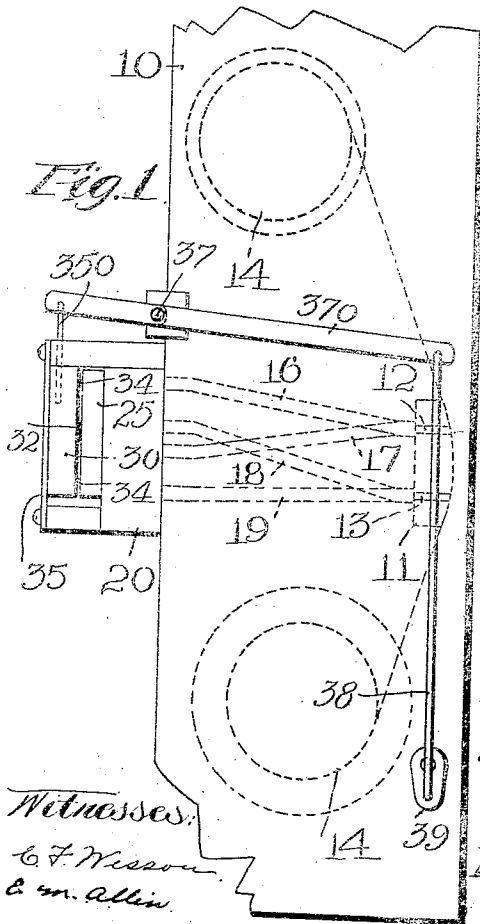
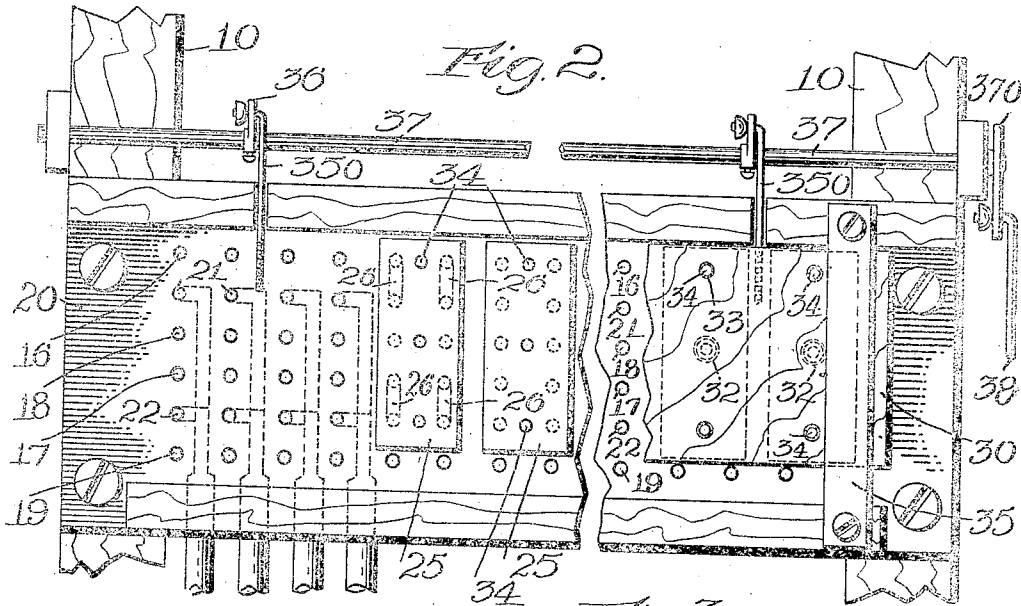


T. DANQUARD.
DOUBLE SCALE PNEUMATIC MUSICAL INSTRUMENT.
APPLICATION FILED DEC. 10, 1908.

933,366.

Patented Sept. 7, 1909.



UNITED STATES PATENT OFFICE.

THOMAS DANQUARD, OF NEW YORK, N. Y., ASSIGNOR TO AUTOPIANO CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

DOUBLE-SCALE PNEUMATIC MUSICAL INSTRUMENT.

933,366.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed December 10, 1908. Serial No. 486,786.

To all whom it may concern:

Be it known that I, THOMAS DANQUARD, 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 Double-Scale Pneumatic Musical Instrument, of which the following is a specification.

This invention relates to that type of musical instruments represented in Patent No. 902,481 granted to me on the 27th day of October, 1908.

The principal objects of this invention are to provide a construction substantially in accordance with said patent in which the necessity of careful construction and preservation of the long slide valve shall be avoided and to provide a construction in which the channels shall occupy only a small space.

Further objects and advantages of the invention will appear hereinafter.

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

Figure 1 is a side view of a tracker showing one form of the present invention applied thereto. Fig. 2 is a rear elevation of the same with parts removed. Figs. 3 and 4 are transverse sectional views showing a valve in two different positions. Fig. 5 is a fragmentary front view showing one means of operating the valves, and Fig. 6 is an end view of one of the valves partly in section.

The invention is shown as applied to an ordinary type of musical instrument having a tracker box 10, and tracker 11 provided with two sets of note channels 12 and 13 and rolls 14 for a music sheet. A primary pneumatic 15 forming a portion of the action is also indicated in Fig. 3. The two sets of note channels are formed in a single or separate tracker and connect with note conduits 16, 17, 18 and 19, the conduits 16 and 17 being connected with the channels 12. A number of pneumatics 15 is provided corresponding with the number of channels in the larger set, and means is provided whereby the note channels of either set can be connected with the proper number of said pneumatics. For this purpose the tracker box is shown as provided on the back thereof with a stationary block 20 into which the conduits 16, 18, 17 and 19 pass preferably in that order. These conduits terminate in openings on the rear surface of said block. Ac-

tion conduits 21 and 22, are located in two rows one being between the two rows of conduits 16 and 18 and the other between the two rows of conduits 17 and 19. One of these series of action conduits is connected with all of the actions and the other series with a certain number thereof preferably 65, as readily will be understood. On the face of the block in which these several conduits open are located a series of valves 25 for controlling them. Each of these valves is shown as provided with four longitudinal passages 26. Thus each of the valves crosses two lines of openings in the bar and consequently controls four notes. This is a convenient number but not essential. The valves are arranged in a series extending along the back of the block 20 and each one is independent of the others so that any irregularities of the same will be of small amount and the one affected can be removed very readily and replaced without disturbing the others. Each one also can be held to its seat independent of the others so that leakage is avoided or reduced and the operation of the device facilitated. This is considered an important improvement over the use of a single slide valve extending across the tracker box because a metal valve is difficult to make true so that it comes to its seat firmly at all points in its length and a wooden one is likely to get out of true after being made.

Spaced from the valves 25 is an operating bar or plate 30 having a series of openings 31 in which are located springs 32 one for each valve to normally press the valves toward their seats. This bar also has passages 33 for guide pins 34 on the valves. The bar 30 is held in position by a series of strips 35 fixed with respect to the block. This permits the valves to be moved along the bar 20 simultaneously and at the same time to be seated squarely, independently of each other. It will be seen that when this bar is shifted the valves must follow it and yet if the bar is out of true considerably that will have no effect on the way in which the valves come to their seats because each one is held individually by its spring and is guided individually by its pins 34. This bar is shown as operated by links 350, arms 36 on a rock-shaft 37, an arm 370, link 38, crank 39, shaft 40 and handle 41, the latter being located within the tracker box.

While I have illustrated and described a preferred embodiment of the invention, I am aware that many modifications may be made therein by any person skilled in the art without departing from the scope of my invention as expressed in the claims. Therefore, I do not wish to be limited to all the features shown but

What I do claim is:—

1. In a pneumatic musical instrument, the combination of a plurality of sets of note conduits, a series of separate slide valves for controlling said conduits, each valve having longitudinal channels spaced apart, means for yieldingly pressing each valve to its seat independent of the others, and means for simultaneously operating all the valves.

2. In a pneumatic musical instrument, the combination of a tracker box, a tracker having two sets of tracker channels, a block having four rows of conduits opening in one face thereof, the conduits of two rows being connected with one set of tracker channels and the conduits of the other two rows being connected with the other set of tracker channels, two sets of action conduits each opening in said face of the block at points between two of the note conduits, and a series of valves each having means for connecting certain of said action conduits with a note conduit of either series.

3. In a pneumatic musical instrument, the combination of a plurality of sets of note conduits, a series of separate valves for controlling said conduits, means for independently yieldingly holding each valve to its seat, a bar connected with all the valves, means for operating the bar, and means for guiding each valve with respect to the bar.

4. In a pneumatic musical instrument, the combination of a plurality of sets of note conduits, a block into which said note conduits enter, said block having a surface in which the conduits terminate, another set of conduits entering said block and terminating in the same surface for connecting the first named conduits with the action, a series of valves movable along said surface for controlling the connection of the last set of conduits with any one of the sets of note conduits, and means for simultaneously operating all of said valves.

5. In a pneumatic musical instrument, the combination of a tracker-box, a block fixed to the rear thereof, a plurality of sets of note conduits passing into said block, said block having a surface in which said

note conduits terminate, channels leading to the action from said block and terminating also in said surface, a plurality of slide valves each having a series of openings always communicating with said conduits leading to the action in all positions of the valve, and having a series of passages communicating with said note conduits in different positions of the valve, and means for operating said valves simultaneously.

6. In a pneumatic musical instrument, the combination of a tracker-box, a block, a plurality of slide valves on said block for controlling the connection of the tracker with the action, a movable member connected with all the slide valves a lever for reciprocating said movable member, a link connected with said lever, a shaft near the end of the tracker-box having a crank thereon connected with said link, and a handle on the shaft in the tracker box.

7. A pneumatic musical instrument comprising a plurality of sets of note conduits opening in a plane, a series of separate movable valves movable along said plane for controlling said conduits, said valves each having passages in position to register with the conduits of either set for opening them in certain positions of the valve, and means for simultaneously operating said valves.

8. In a pneumatic musical instrument, the combination of a tracker box, a stationary block fixed to the rear thereof, a plurality of series of note conduits and a series of action conduits entering said block, a series of valves each having means for controlling the connection of certain of the note conduits with the corresponding series of action conduits, and a single means for operating said valves.

9. In a pneumatic musical instrument, the combination of a tracker box, a plurality of sets of note channels, individual conduits connected with said channels, a block fixed on the rear of the tracker box and independent of the trackers and receiving said conduits, and a series of separate slide valves on the block for closing said conduits and movable to a plurality of positions in each of which it connects only one set of note channels with the conduits.

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

THOMAS DANQUARD. [L. s.]

Witnesses:

WM. J. KEELEY,

EDWD. M. BACHUS, Jr.