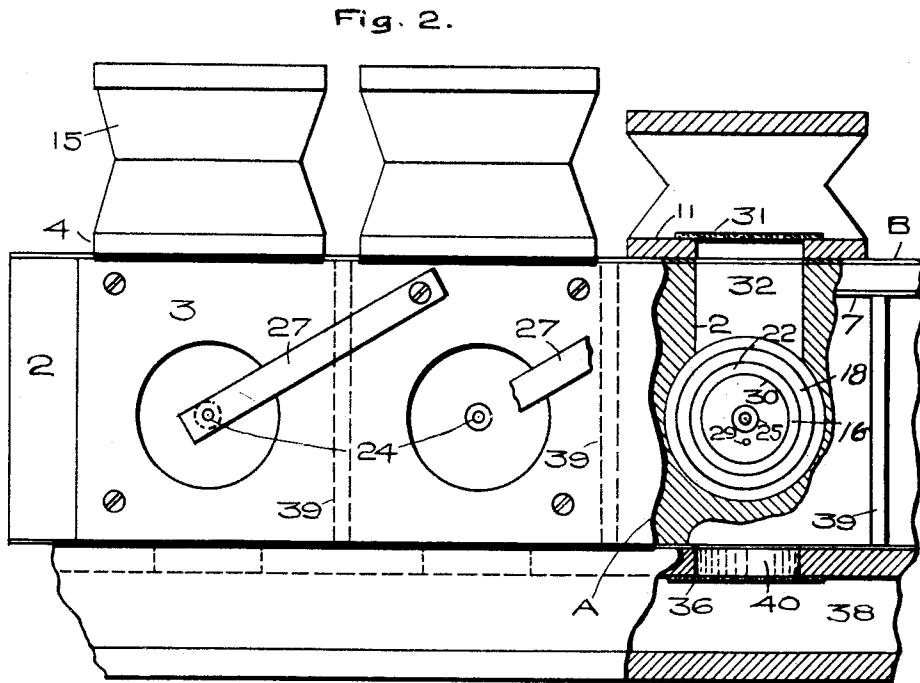
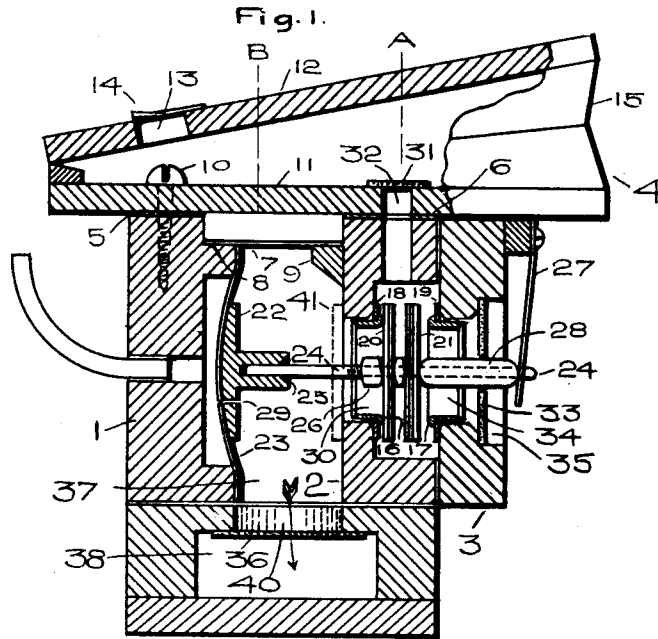


R. A. GALLY.
MUSIC PLAYER VALVE ACTION.
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1,106,040.

Patented Aug. 4, 1914.



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UNITED STATES PATENT OFFICE.

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MUSIC-PLAYER VALVE-ACTION.

1,106,040.

Specification of Letters Patent.

Patented Aug. 4, 1914.

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To all whom it may concern:

Be it known that I, ROBERT A. GALLY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Music-Player Valve-Actions, of which the following is a specification.

The object of my invention is to obviate various noises common to previous devices of this nature and make easy the regulation of the valves to the pneumatics that actuate said valves, to prevent disturbance or injury to the valves or the striker pneumatics by accidental collapse of said strikers from an outside blow; and to make the wind joint from the valves to the strikers of improved structure.

Many of the parts shown herein are for illustration only, such parts being also shown, and many of them claimed in a division of this application entitled Music player valves, #749,812, filed Feb. 21, 1913.

In the drawings Figure 1 is an end view of a valve chest in section with a striker pneumatic attached, and Fig. 2 a front view of said chest with parts in section taken at A and B of Fig. 1.

The valve action now shown comprises a pouch rail 1, valve rail 2 and valve-cap 3, a striker pneumatic 4 being attached to said rails 1 and 2, preferably by leather or similar split joints 5 and 6 glued to both striker and rails, to allow removal of striker for repairs, by the pulling apart of the leather without damage to the wood of either board 11 of striker 4 or of rails 1 and 2. The seal 7 closing the space between rails 1 and 2, is made independent of the joint of striker 4, the edge of pouch rail 1 having a rabbet 8 along its inner edge and a mold or ledge 9 is applied to or formed with valve rail 2 and opposite to the rabbet 8, the seal 7 being attached to rabbet 8 and ledge 9. This style of seal avoids its disturbance or possible damage through careless removal of the striker 4 when attached directly to the main seal as 7, as was shown in my previous application #701264 filed June 3rd, 1912. A screw 10 may be added to secure fixed board 11 of striker 4 more firmly to the action, while the moving board 12 provided with an entry hole 13 therein opposite said screw 10 which enables the removal of said screw, this being rendered especially convenient by

reason of the flap seal 14 over hole 13 being movable.

Movable flap seal 14 has the very important function of allowing the air within striker 4 to escape without disturbing the valves or blowing out and spoiling the fold of covering 15 of striker 4, as would otherwise occur when the striker was pressed closed by accidental handling. Such blowing out of covering 15 causes a sharp noise when it is drawn back by the next exhaust of air from the striker. The movable seal 14 lies naturally close over the hole or vent 13 and is drawn fully airtight when air is being drawn from the striker.

The valve seats 16, 17, usually of eyelet form, may be of any suitable material, a non-corrosive substance preferable, as hard rubber or the like, and of a nature that will not warp from a true face. To avoid danger of such seats loosening from their valve boards as 2 and 3, and consequent leakage, and as safeguard against the shrinkage of the wood of said boards cracking a hard rubber or compo seat, or the splitting of the board from its shrinkage strain on the seats or eyelets, the hole in the valve board is made loose to the valve seat, a gasket 18, 19, of yielding material, as leather, is made with a central hole to fit snugly over the hub of the seat or eyelet, with the outer part of said gasket extending outward and sealed to the valve board. Such a joint is absolutely safe against leakage or other trouble.

Regulating of valves 20 and 21 with respect to each other and to the follower 22 attached to pouch 23, is made easy by having the valve rod 24 placed loosely in a hole 25 of the follower 22, so that rod 24 may be withdrawn from hole 25 and together with its assembled valves on it, be removed from the valve action for regulating or cleaning. A regulating button 26 just to the rear of valve 20 is movable lengthwise of valve rod 24 on a threaded portion of the rod, and adjusts follower 22 and pouch 23 to valve 20 when latter is seated, and is easily adjusted when rod 24 and its valves are removed without the risk of loosening the follower from the pouch as when turning a valve rod that is screwed into its follower.

To use a spring as 27 to aid the return of valves 20 and 21 and rod 24 and tight seating of valve 20, and yet avoid a shoulder on rod 24 that would interfere with the removal

of the valves from the rod, a removable sleeve 28 is slid freely on to rod 24, with the rear end of the sleeve against the valve parts, and its forward end against the guide spring 27 which presses back the sleeve against the valve parts. The return vent 29 is placed in the follower button 22 which is attached to pouch 23, this vent 29 being opposite to the valve port or hole 30, so that the vent may be examined, regulated or cleaned through said valve hole 30 when the valve is removed.

Noises are often caused by an over-quick draft or shock of air when the controlling valves of a pneumatic are operated, and part of this noise is heard from the interior through the thin covering 15 of the pneumatic 4. The passing of noises through covering 15 may be largely prevented by a felt 31 or similar porous material placed across the windway 32 leading from the pneumatic 4 to the air controlling valves, which will cut off the sound waves, yet still allow air flow. The prevention of over-quick inward flow of outside air to a pneumatic 4 is obtained by a felt 33 or similar porous material placed across the outer port 34, most conveniently and neatly in a counterbored hole or recess 35 in face of valve cap 3, the hole 35 being preferably larger than port 34, to allow use of porous or air retarding material of ordinary thickness instead of an extremely thin material required for the smaller hole 34. This air flow retarding of outer port not only quiets the air rush noise through outer port 30, but prevents racing and consequent pounding or snapping noises of striker pneumatic 4 on quickly repeating operation, and reduces the tendency of valve 20 to make a pounding noise at finish of its return action. To minimize the noises from over-quick airflow through valve-ways, and motion of valves 20 and 21 and pouch 23, a felt or similar porous material is placed between the action chamber 37 and the air tension supply 38. When there are several pneumatics 4, and controlling pneumatics and valves to each, a separate chamber is provided for each as indicated by partitions 39 in Fig. 2, and an individual windway 40 connects each such chamber to air tension supply 38, each windway 40 having a felt 36. This same retard of airflow through the valves and from striker pneumatic 4 may be accomplished by placing a felt 41 across valve hole 30, but this will not retard the outward action of pouch 23, and will obscure vent 29.

What I claim as my invention, is:—

1. A music player valve chest having two rails opposite each other with an air space between, a pneumatic having its fixed board or part attached to an edge of each said rail, and an imperforate sheet like air seal from one said rail to the other and across

said air space, near the said edges, and adjacent to but separate from said fixed board of the said pneumatic.

2. A music player valve chest having two rails opposite each other with an air space between, a pneumatic having its fixed board or part attached to an edge of each said rail, a rabbet near said edge of one said rail, and a ledge near said edge of the other said rail, and an imperforate sheet like air seal from said rabbet near the said edge of the one said rail to a ledge near the said edge of the other rail, and adjacent to but separate from said fixed board of the said pneumatic.

3. A music player valve chest having two rails opposite each other with an air space between, a pneumatic having its fixed board or part attached by a separable joint to an edge of each said rail, and an imperforate sheet like air seal from one said rail to the other and across said air space, near the said edges, and adjacent to but separate from said fixed board of the said pneumatic.

4. A music player valve chest having two rails opposite each other with an air space between, a pneumatic having its fixed board or part attached by a separable joint to an edge of each said rail, a rabbet near said edge of one said rail, and a ledge near said edge of the other said rail, and an imperforate sheet like air seal from a rabbet near the said edge of the one said rail to a ledge near the said edge of the other rail, and adjacent to but separate from said fixed board of the said pneumatic.

5. A music player valve chest having two rails opposite each other with an air space between, a pneumatic having its fixed board or part removably attached to an edge of each said rail, and an imperforate sheet like air seal from one said rail to the other and across said air space, near the said edges, and adjacent to but separate from said fixed board of the said pneumatic.

6. A music player valve chest having two rails opposite each other with an air space between, a pneumatic having its fixed board or part removably attached to an edge of each said rail, a rabbet near said edge of one said rail, and a ledge near said edge of the other said rail, and an imperforate sheet like air seal from a rabbet near the said edge of the one said rail to a ledge near the said edge of the other rail, and adjacent to but separate from said fixed board of the said pneumatic.

7. A music player pneumatic having a fixed board and a moving board, a screw in said fixed board with the head of said screw inside the pneumatic, an entry hole in said moving board and opposite to said screw head, and a movable flap outside of and over said entry hole.

8. A music player valve action having an

exterior pneumatic and controlling valves thereto, air connections from said valves to said pneumatic, and a porous material across said air connections between said valves and said pneumatic.

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9. A music player valve action having a striker pneumatic, an actuating valve and ports to said pneumatic, an action chamber and a controlling pneumatic therein, and connections from said controlling pneumatic to said valve, an air tension supply, a windway from said action chamber to

said air tension supply, and a porous material across said windway.

10. A music player valve action having a pneumatic, an actuating valve and port to said pneumatic, an air tension supply to said valve and port, and a porous material interposed between said valve and port and said air tension supply.

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Witnesses:

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