

E. T. TURNEY.
PIANO PLAYER.
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1,028,308.

Patented June 4, 1912.

Fig. 1.

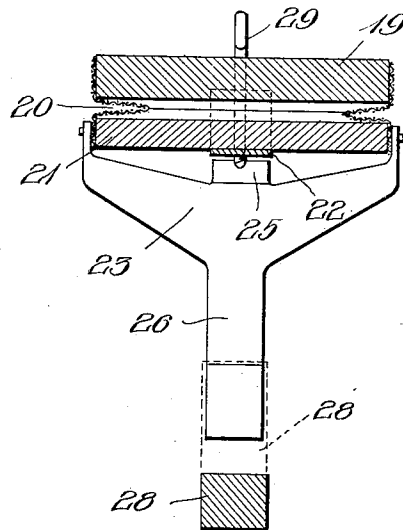
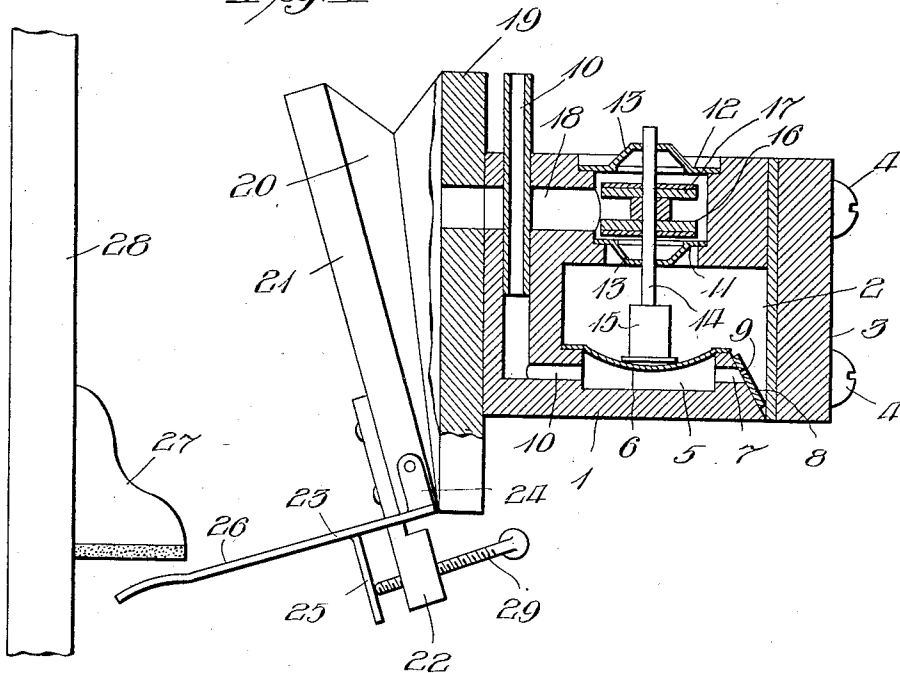


Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

EUGENE T. TURNEY, OF DAVENPORT, IOWA, ASSIGNOR TO AMERICAN PNEUMATIC ACTION COMPANY, OF DAVENPORT, IOWA, A CORPORATION OF WEST VIRGINIA.

PIANO-PLAYER.

1,028,308.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EUGENE T. TURNEY, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented a new and useful Improvement in Piano-Players, of which the following is a specification.

My invention relates to improvements in piano players and has special reference to that portion of a piano player, usually termed a pneumatic, which actuates or imparts motion to the piano action.

The object of my invention is to provide facilities whereby the movement of the pneumatic may be easily adjusted to proper relation with the piano action from the front, and without the necessity of in any way disturbing the rest of the mechanism, or the inconvenience and delay of introducing a tool into narrow and unhandy corners or passages.

I attain the above object by the construction illustrated in the accompanying drawings, in which:—

Figure 1 is an elevation of a pneumatic having my invention embodied therein, the valves being shown in central section, and Fig. 2 is a plan of the adjustable arm.

Similar reference numerals refer to similar parts throughout the several views.

The reference numeral 1 designates the valve casing, which contains the wind chest, 2. The front of the valve casing consists of the strip 3, which is screwed to the casing by means of the screws 4. In the bottom of the casing, below the wind chest, is a diaphragm chamber, 5, separated from the wind chest by the diaphragm, 6. A passage way 7, leads from the diaphragm chamber, 5, to the wind chest, the end of which opens into the wind chest and is closed by a piece of parchment or other suitable material, 8, in which there is the usual bleed hole, 9. A passage way 10, leads from the diaphragm chamber through the bottom and rear walls of the casing, 1, and connects with a tracker board (not shown). Directly above the diaphragm, the top of the casing is cut away to the outside atmosphere, and so as to accommodate the valve seats 11 and 12. These valve seats have punched up from their central portions the valve stem guides, 13. A valve stem, 14, slides in said valve stem guides, and the lower end thereof is pro-

vided with the button, 15, which comes contiguous to the diaphragm, 6. Valves, 16 and 17, are carried by said valve stem, and are so arranged thereon with respect to the valve seats, 11 and 12, that when one valve is seated the other is open. A channel, 18, leads directly back from between the valve seats, 11 and 12, to the rear wall of the casing to which is secured the fixed bellows member, 19. Secured to the fixed bellows member so that they hinge at their lower edges by the bellows folds, 20, is a movable bellows member, 21. To the rear face of the movable bellows member is secured an arm, 22, which projects below the lower edge thereof.

The adjustable arm for the pneumatic is clearly shown in plan in Fig. 2, and comprises the base portions, 23, the rear corners whereof are turned up at 24, to form strips which are tacked to the edges of the movable bellows member, 21, so as to swing about the connections therewith. The portion of the base contiguous to the bellows is cut away to accommodate the arm, 22. I have found it economical to bend this portion of the arm downwardly to form the projection, 25, which extends parallel with the arm 22, instead of making said projection of a separate piece of material and securing it to the arm. Extending rearwardly from the base portion, 23, is the arm, 26, the rear end of which is concaved so as to better adapt it to co-act with a bracket, 27, upon a piano action, 28. A suitable screw 29 is screwed into the arm, 22, from the front face thereof so as to extend therethrough and impinge against the projection 25.

The action of the device is as follows:—When air is admitted to the channel, 10, by a perforation in the music roll passing over an opening in the tracker board, the diaphragm 6 is forced upwardly. This raises the valve stem, 14, and seats the valve 17, and opens the valve 16. The air from the bellows folds, 20, is drawn through the passage 18 into the wind chest, and the bellows is collapsed by the atmospheric pressure. This causes the inner end of the arm 26, to be swung upwardly into engagement with the bracket, 27, and the piano action is moved. It can be easily appreciated that in order to secure a proper co-action between the arm, 26, and the piano action, a rather delicate

adjustment is necessary. It will also be perceived that the arm 26 may be raised or lowered with respect to bellows members and the piano action by merely turning the screw, 29, which is readily accessible from the front of the instrument. When the air ceases to enter the channel 10 in the valve casing, the air in the diaphragm chamber is exhausted through the bleed hole, valve 16 seats, valve 17 opens and the bellows falls open by gravity ready for another operation.

Having described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. In a piano player a wind chest, a bellows placed in rear of said wind chest in a substantially vertical position with its members hinged together at their lower edges, the lower part of said bellows being exposed below said wind chest so as to be accessible from the front, a rearwardly extending arm at the lower edge of said bellows and pivotally attached to the movable member thereof, and an adjusting device below the lower

edge of the bellows and accessible from the front for adjusting said arm.

2. In a piano player a bellows having a vertical fixed member 19 and a movable member 21 pivoted to each other at their lower edges, an arm 26 having a broad base portion 23, cut away at the center with ends 24 bent up and pivotally attached to the side edges of said movable member 21, said arm having also a downward projection 25 parallel to said movable member, a bracket 22 fastened to the outer face of said movable member and passing through the cut away portion of said arm to a point adjacent to said projection, and an adjusting screw 29 screwing through said bracket and bearing against said projection to adjust the angle of said arm relatively to said movable member of the bellows.

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

EUGENE T. TURNEY.

Witnesses:

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