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E. E. FLORA.

DETACHABLE KEY CHANGER FOR PNEUMATIC PIANO PLAYERS.

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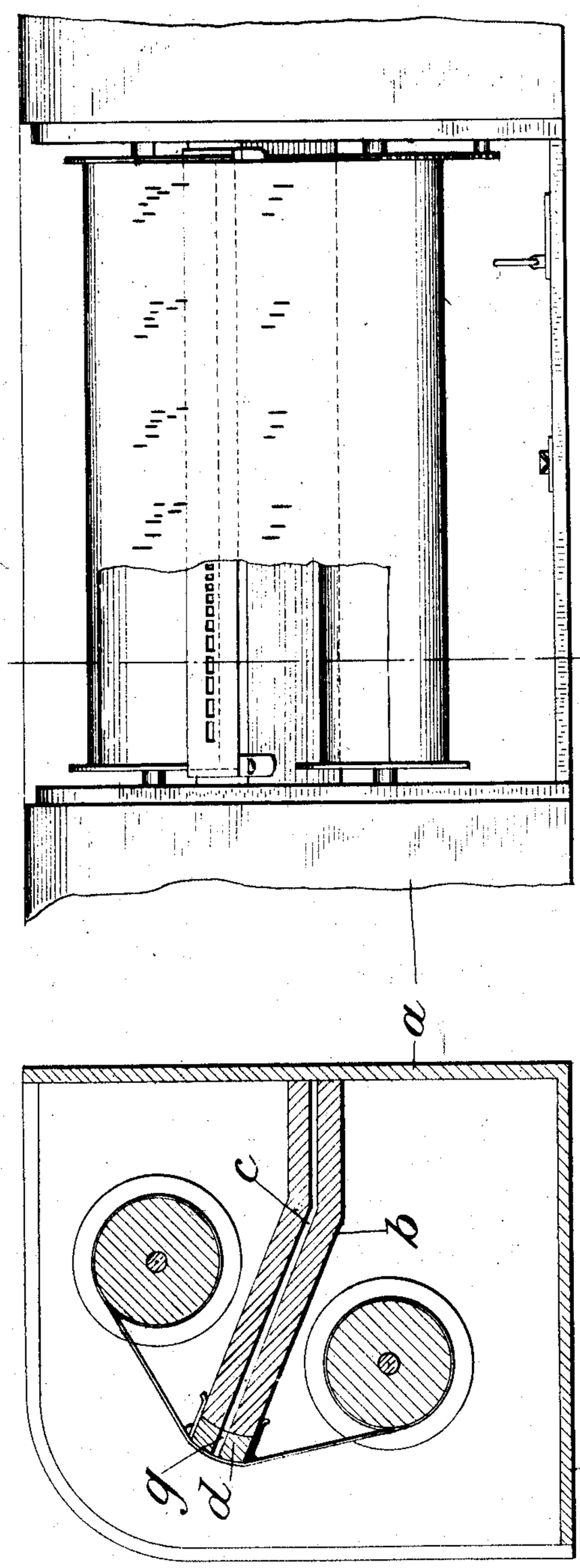

Fig. 2

Fig. 1

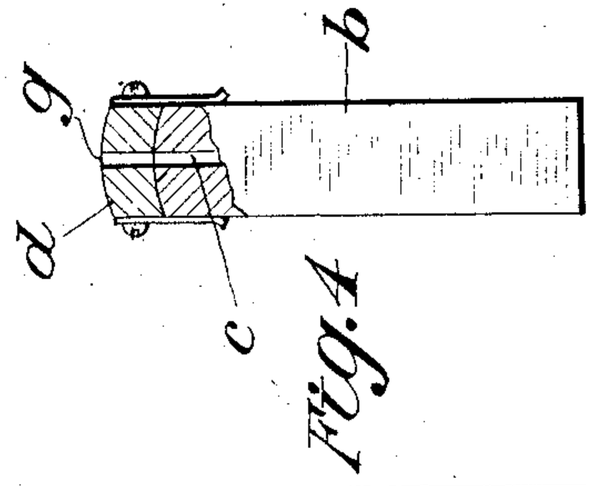

Fig. 4

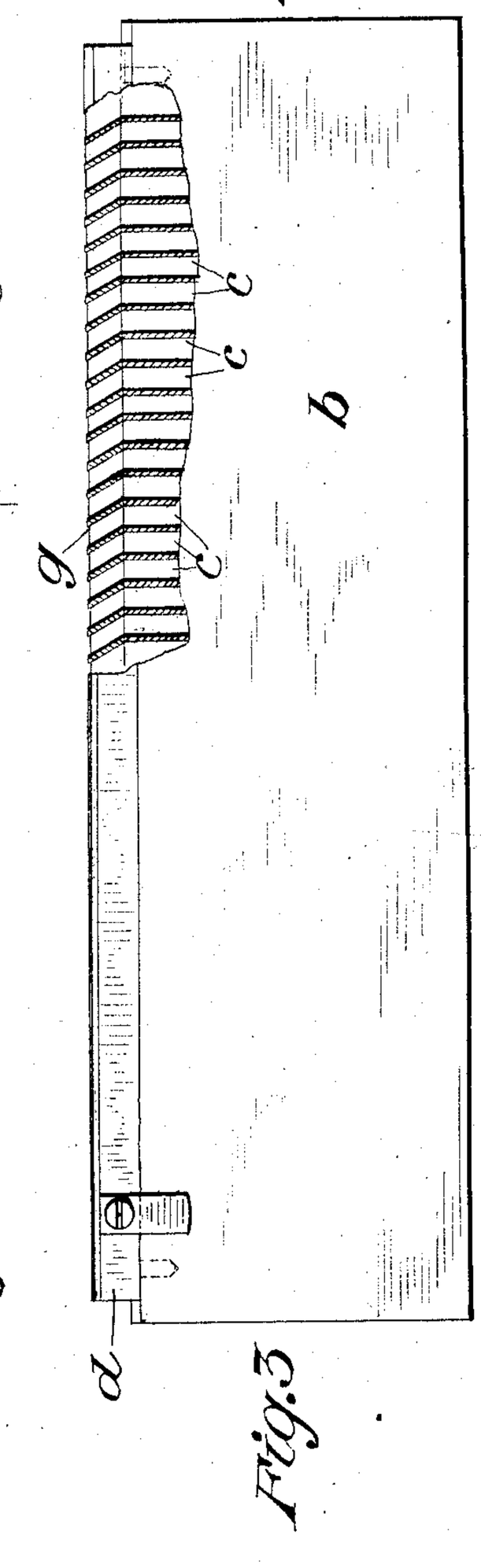

Fig. 3

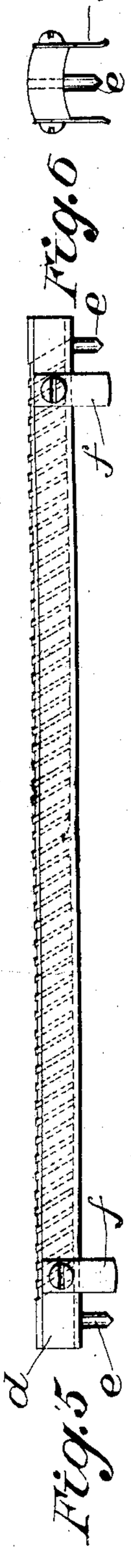

Fig. 6

Fig. 5

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DETACHABLE KEY-CHANGER FOR PNEUMATIC PIANO-PLAYERS.

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To all whom it may concern:

Be it known that I, ELLSWORTH E. FLORA, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Detachable Key-Changers for Pnuematic Piano-Players, of which the following is a specification.

This invention relates to that class of mechanisms which is adapted to be used in connection with the keyboard of a piano for the operation or manipulation of the same and which are known as "pneumatic piano-players," and particularly to the means by which the "key" may be changed, as will more fully hereinafter appear.

The principal object of the invention is to provide a pneumatic piano-player with simple and efficient means by which the key may be changed.

Other objects of the invention will appear from an examination of the drawings and the following description and claims.

The invention consists principally in a pneumatic piano-player in which there is combined a detachable tracker-board provided with air-channels extending therethrough, the outlet ends of which are in alinement with one set of air-channels in the main portion and the inlet ends opposite another set of air-channels in the main portion.

The invention consists, further, in a pneumatic piano-player in which there is combined a fixed main portion provided with air-channels and a tracker-board detachably and reversibly secured thereto provided with inclined air-channels extending therethrough, the outlet ends of which are in alinement with one set of channels and the inlet ends arranged above or opposite the next adjacent air-channels in the main portion.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a cross-sectional elevation of a portion of a pneumatic piano-player fitted with these improvement and taken on line 1 of Fig. 2; Fig. 2, a from elevation of the same looking at it from the left of Fig. 1; Fig. 3, an enlarged plan view of the piano tracker-board with these improvements detachably secured thereto and partially broken away to show the arrangement of the air-channels; Fig. 4, an end view of the same; Fig. 5, a front elevation of the detachable tracker-board removed from the "player," and Fig. 6 an end view of the same.

In the art to which this invention relates it is well known that the pneumatic piano-players as they are ordinarily made are adapted to play the music in the key in which the "music" is made only, and, further, that oftentimes the music is not written or made in the best key. The principal object, therefore, of this invention is to provide a detachable and reversible tracker-board for such devices which will enable the operator to play the music in two or more keys, all of which will be understood and appreciated by those skilled in the art.

In illustrating and describing these improvements I have only illustrated and described that which I consider to be new, taken in connection with so much as is old as will properly disclose the invention to others and enable those skilled in the art to practice the same, leaving out of consideration other and well-known mechanisms which, if illustrated and described herein, would only tend to confusion, prolixity, and ambiguity.

In constructing and using these improvements I take a pneumatic piano-player *a*, such as the "Cecilian," having a main tracker-board portion *b*, provided with air channels or ducts *c*, leading to the operating mechanisms. (Not shown.) I take a second tracker-board *d* and detachably secure it to the main portion by means of the dowels *e e* and clamping-springs *f*. This "detachable" tracker-board, as I prefer to term it, is provided with a plurality of air-channels *g*, of a number equal to those in the main portion, extending therethrough and arranged at an incline, so that the lower or outlet ends, as shown in Fig. 3, are in alinement each with its particular air-channel in the main portion and communicates with the inlet end of such main air-channel, while the inlet or upper ends of each of the air-channels of the detachable tracker-board are arranged opposite or above the next adjacent air-channel or sets thereof in the main portion.

In the drawings, Fig. 3, it will be noticed that the inlet ends of the air-channels in the detachable portion are opposite the next adjacent air-channels of the main portion to the left of the channels therein which coincide with their outlet ends, and as it is the inlet end of the main channels and the position of the inlet end of the detachable tracker-board channels with relation to the main channels

with which they communicate which governs the key in which the music may be played and that a change of the position of the inlet end of the air-channels of the detachable tracker-board portion with relation to the inlet ends of the main air-channels with which they communicate will change the key it will be seen that this device permits of the piece being played in a key differing from that in which it would be played if the main portion only were used. The detachable tracker-board is made also so that it can be reversed end for end, so that the channels will incline to the right and bring its inlet ends two notes or channels to the right of the position shown in Fig. 3, one note to the right of the inlet end of the main channels with which they communicate, and thus permit of the music being played in still another key. The use, therefore, of a detachable tracker-board when made as described and shown herein permits the operator of a pneumatic piano-player to play the music in three keys—first, in the normal or key in which it is written or made; second, a full note below the same, and, third, a full note above the key in which it is written.

I claim—

1. In a device of the class described, the combination of a main portion provided with air-channels extending therethrough and to the operative mechanisms, and a detachable tracker-board provided with air-channels therethrough, the outlet ends of which coincide with one set of such channels in the main portion while the inlet ends are arranged opposite or above another set of air-channels in the main portion, substantially as described.

2. In a device of the class described, the combination of a main portion provided with air-channels extending therethrough and a detachable tracker-board provided with inclined channels extending therethrough having outlet ends communicating with the air-channels of the main portion, and inlet ends arranged coincident with channels in the main portion adjacent to those with which the outlet ends communicate, substantially as described.

3. In a device of the class described, the combination of a main portion provided with air-channels extending therethrough, and a detachable tracker-board detachably and reversibly secured thereto provided with air-channels extending therethrough at an incline, the outlet ends of which coincide with one set of channels in the main board while the inlet ends are arranged opposite the air-channels in the main portion adjacent to those with which the outlet ends coincide, substantially as described.

4. In a device of the class described, the combination of a main portion provided with air-channels extending therethrough, a detachable tracker-board detachably and reversibly secured thereto provided with air-channels extending therethrough at an incline, the outlet ends of which coincide with one set of channels in the main board while the inlet ends are arranged opposite the air-channels in the main portion next adjacent to those with which the outlet ends coincide, and pin-and-spring mechanism for detachably and reversibly securing the detachable tracker-board to the main portion, substantially as described.

5. In combination with a tracker-board of a mechanical musical instrument, a supplemental removable tracker-board.

6. In combination with a tracker-board of a mechanical musical instrument, a removable superposed tracker-board.

7. In combination with a tracker-board of a mechanical musical instrument, a second removable registering tracker-board.

8. In combination with a tracker-board of a mechanical musical instrument, a removable tracker-board, and means for securing said parts together.

9. A mechanical musical instrument provided with two coacting tracker-boards, one fixed and the other removable.

10. A mechanical musical instrument provided with two coacting tracker-boards, one fixed and the other removable, and the removable board adjustable on the fixed board.

11. In an automatic playing attachment for musical instruments, the combination of a permanent tracker-bar, a detachable tracker-bar, and means for securing the detachable tracker-bar to the permanent tracker-bar.

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