

A. MARCY.
TRANSPOSING KEY BOARD.

No. 461,616.

Patented Oct. 20, 1891.

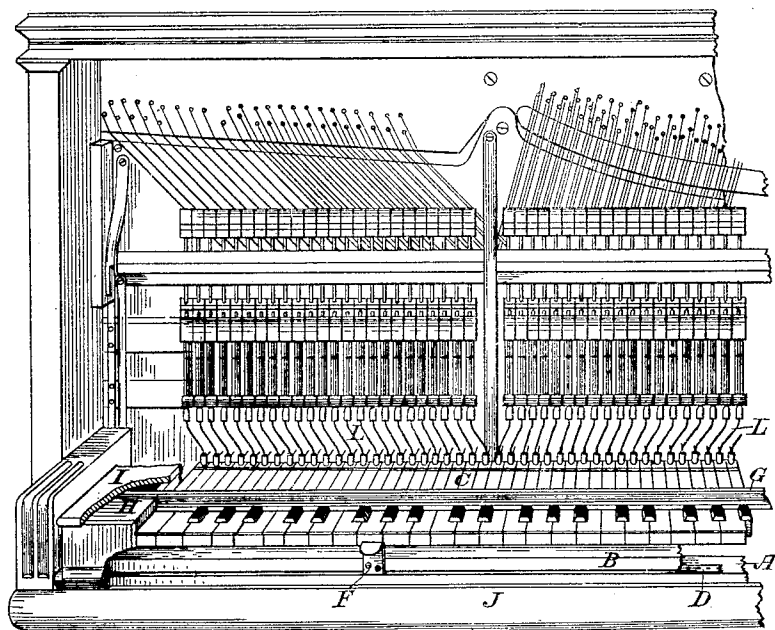


Fig. 1.

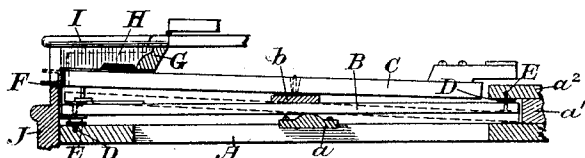


Fig. 2.

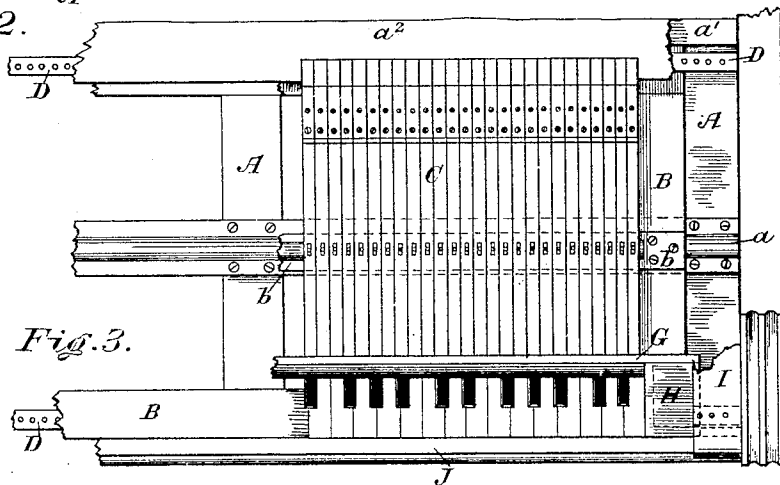


Fig. 3.

Witnesses:

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H. Holloway

Inventor.

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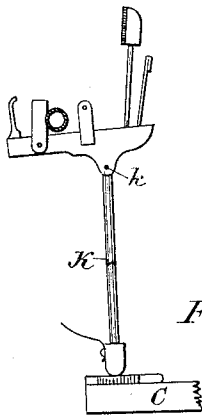


Fig. 4.

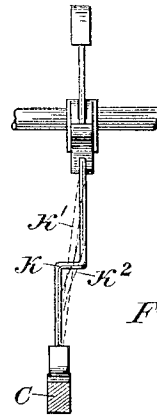


Fig. 5.

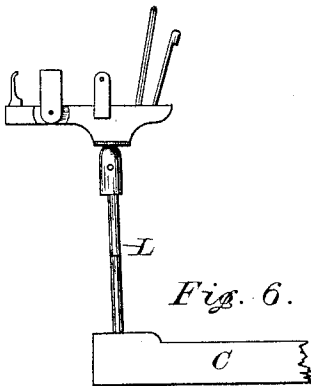


Fig. 6.

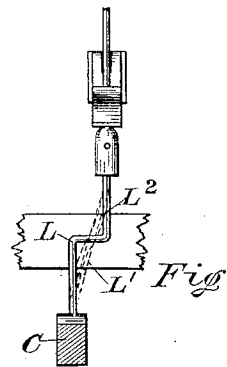


Fig. 7.

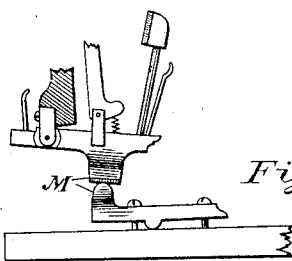


Fig. 8.

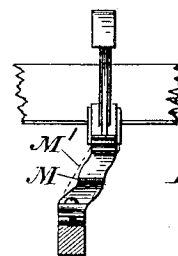


Fig. 9.

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UNITED STATES PATENT OFFICE.

ALEXANDER MARCY, OF CLINTON, ONTARIO, CANADA.

TRANSPOSING KEY-BOARD.

SPECIFICATION forming part of Letters Patent No. 461,616, dated October 20, 1891.

Application filed August 28, 1889. Serial No. 322,269. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER MARCY, a commercial traveler, and a citizen of the United States, residing in Clinton, in the county of Huron, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Transposing Piano-Actions and Key-Boards for Overstrung Piano-Scales; and I do hereby declare that the following is a full, clear, and exact description of the same, and that the same has never been patented by myself or others in this or any other country with my knowledge or consent.

Piano-actions have connecting lifters or bearers to connect the action with the keys, and in all overstrung piano-scales having the bass-strings crossing at an angle above or in front of the treble there is one or more vacant spaces between the hammers in the actions. These vacant spaces extend down to the keys, so that there is a vacant space between the connecting lifters or bearers and also between the keys.

My invention consists of making piano-actions, key-frames, and key-boards for any of the various piano-scales with overstrung bass, so that the key-frame and keys may be moved to the right and left for the purpose of transposing the music and leave the keys in position to work the actions. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of an upright piano, the front casing removed to exhibit the action and the application of my invention thereto. Fig. 2 is a cross-section of the key-frame, keys, and supporting-frame of a piano, exhibiting the key-frame, keys, key-guard, &c., in position and the dotted lines their position when ready to be moved to the right or left. Fig. 3 is a plan of a portion of the keys, key-frame, key-guard, &c., exhibiting their position when transposed or moved to the left on the main or supporting frame. Figs. 4 and 5 are respectively side and front elevations of one form of connecting lifters or bearers to exhibit the different forms of deflection I employ to overcome the space between the hammers and connecting lifters or bearers caused by the overstrung scale. Figs. 6 and 7 are

respectively side and front elevations of other forms of lifters or bearers used in pianos, the lifters or bearers being on top exhibiting the deflections, as in Figs. 4 and 5. Figs. 8 and 9 are similar views to exhibit my application to the case of lifters or bearers sometimes used in piano-actions.

Similar figures refer to similar parts throughout the several views.

The supporting-frame A in my improved piano differs only essentially from others in respect of being placed slightly lower relative to the key-levers, &c., in order to admit the key-frame B resting upon the rocking bar a, placed longitudinally on the said supporting-frame A. The key-frame B is a rectangular frame, as shown in portions exhibited in Figs. 1 and 3, and has the usual rocking bar B, upon which the key-levers C rest, with surplus keys on each end, or more keys than there are lifters or bearers L in the action. Along the under side of the ledge a², secured to the strip a' of the supporting-frame A, is secured a guide-strip D, of metal, preferably having holes therein corresponding with the chromatic scale, and the keys into which the pin E, projecting from the key-frame B, enters and secures the frame B in whatever position desired. A similar strip D and pin E are employed at the rear side of the key-frame B; but their positions are reversed, the strip D being secured to the ledge a², secured to and forming part of the strip a', which is part of the supporting-frame A, while the pin E is secured to the top of the key-frame B. The lifts F, secured at convenient points along the key-frame B are used to move the key-frame and keys to the right and left for the purpose of transposing the music. The key-guard G is similar to those in use, and is secured to the key-frame B and moves with it to the right and left. On the ends of the key-guard G is formed a casing II, sliding or telescoping in the portion of the piano-casing I to inclose the casing in a desirable way. The key-slip J is the ordinary form in use, and upon which the casing I is formed partly at its ends.

The different forms of connecting lifters or bearers K, K', K², L, L', and L², and M and M' in piano-actions for overstrung scale

through which motion is communicated to the action from the key-levers C in my improved action, all diverge from the center of the key-board, giving them about equal spacing at the lower end, so as to correspond with the keys, as shown in Fig. 1. Fig. 1 shows two sections with one vacant or open space between the hammers. Where there are three sections in the action the center section is fitted with straight lifters or bearers of the ordinary forms used generally. The lifters or bearers in the outside sections deflect toward the center, as shown in Fig. 1, giving all the same spacing.

The connecting lifters or bearers K and L shown in Figs. 4 to 7 are exhibited as deflecting or offsetting to the right by right-angled offsets K and L in Figs. 5 and 7, the reverse curve K' and L', and by angular slants K² and L², respectively, in dotted lines, or they may have any other suitable form given them desirable. Those on the left end of the piano will deflect or offset to the right, and those on the right end of the piano will deflect or offset to the left, so as to have about equal spacing at the lower end, as shown in Fig. 1.

When connecting lifters or bearers M are employed, as in Figs. 8 and 9, they (the upper and lower lifters or bearers) are made longer than usual to allow of offsetting by curves of any suitable form. The reverse curves M and M' are shown as applied.

The connecting lifters or bearers L and M may deflect any way desired to correspond with the keys, and may be made of wood or any other suitable material.

In a transposing piano-action and key-board for overstrung piano-scales there is an additional half-octave or less of surplus keys C, Fig. 3, on each end of the key-board more than there are lifters or bearers L, Fig. 1, so that when the middle C-key near the center of the piano is moved from its proper place five degrees or semi-tones to the right the surplus keys C on the left end of the key-board will be in use and the surplus keys on the right end of the key-board will be under the casing or key-blocks H and I, Fig. 3, and when it is moved from its proper place six degrees or semi-tones to the left the surplus key C on

the right end of the key-board will be in use and the surplus keys on the left end will be under the casing or key-blocks H and I, Fig. 1.

In transposing piano-actions and key-boards for overstrung piano-scales the keys C, Fig. 3, are made straight, and the back end, where they connect with the connecting lifters or bearers L, Fig. 1, and M, Fig. 9, is spaced so as to correspond with the spacing of the lifters or bearers L and M, so that the key-frame and keys may be moved to the right or left and have each of the keys come directly under the lifters or bearers L and M and work the action.

In transposing piano-actions and key-boards for overstrung piano-scales the movable key-guard G, Fig. 1, is a narrow strip passing over the keys at the back end of the black keys. Each end is fastened to the key-frame, and it moves to the right and left with the key-frame and keys, as shown in Fig. 3.

I am not aware that prior to my invention of any means that has ever been known or used to transpose music with piano key-boards and actions on overstrung piano-scales. Therefore

What I do claim, and desire to secure by Letters Patent, is—

1. In transposing piano-actions and key-boards for overstrung piano-scales, the combination of the connecting lifters or bearers in piano-actions deflecting to the right and left so as to give them about equal spacing where they connect with the keys, as shown and described, for the purposes set forth.

2. The combination, in transposing piano-actions and key-boards for overstrung piano-scales, of the connecting lifters or bearers deflecting to the right and left, the half-octave or less of surplus keys, the octave or less of surplus keys, the straight keys with the back end about equally spaced, the movable key-guard G, the movable key-frame A, the movable keys C, and the movable lifts F, as shown and described, for the purposes set forth.

Clinton, Ontario, August 19, 1889.

ALEXANDER MARCY.

Witnesses:

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W. HOLLOWAY.