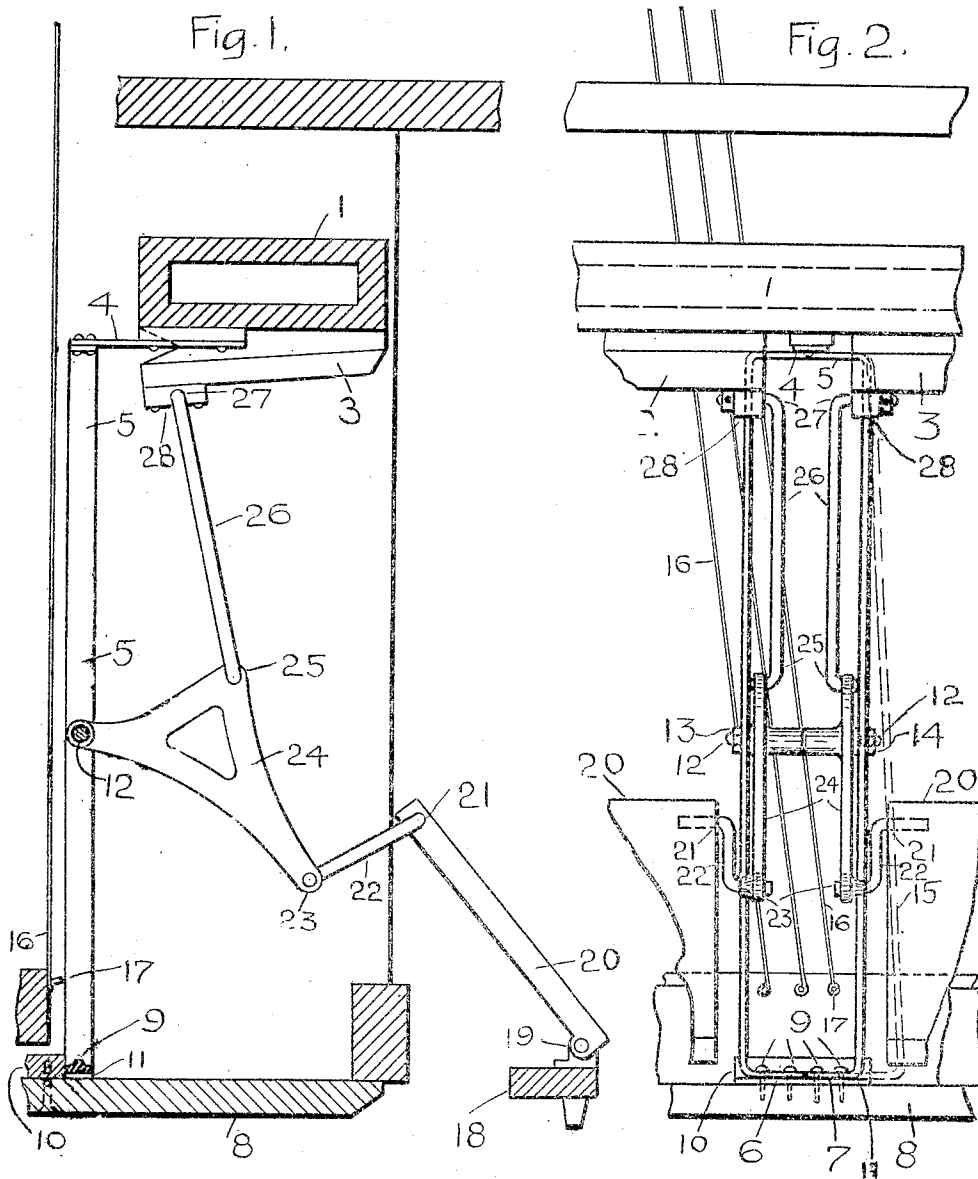


R. A. GALLY.  
PIANO PLAYING PUMPING PEDALS.  
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1,056,985.

Patented Mar. 25, 1913.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## PIANO-PLAYING PUMPING-PEDALS.

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Specification of Letters Patent.

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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 Piano-Playing Pumping-Pedals, of which the following is a specification.

Former devices of this character have lacked rigidity and economy of space. The present structure is stiff and strong in its fastening to the instrument, compact and steady in its movements, and with free sight of and access to the lower strings and their hitch pins without disturbing the pedals or the support.

In the drawings Figure 1 is a cross section taken at the middle of the bellows and showing the support frame, pumper pedals, and connections from bellows pumps to pedals; and Fig. 2 is a front view of middle part of bellows and its two pumbers with the support frame for the pedal connections.

The bellows-chest 1 has two pumbers 2, 3, laid underneath said chest and with their hinges lengthwise of the chest, the hinges being preferably at the front edge of the chest, and the opening edges of the pumbers being at the rear of the chest. There is a small space between the two pumbers at the middle of the chest, allowing the fastening of the bracket or flange 4 of the support frame 5 to the under face of the chest 1 at said space.

The frame 5 is preferably made of a single piece strip of flat machine steel bent into a long rectangle, the cross part at the top being of the middle portion of the solid part of the strip of steel, and the two ends 6 and 7 of the strip brought together intermediate the bottom cross part of the frame 5. The two cross-wise ends 6 and 7 of the frame 5 are fastened to the bottom-board 8 of the piano case by screws 9.

A block 10 is fastened to bottom-board 8 at rear of bottom of frame 5 to resist all rearward pressure from working strain. A removable block 11 is laid between ends 6 and 7 of frame 5 and bottom-board 8, so that when it is desired to remove the cross-rod bearing or shaft 12, it is only necessary to remove the nuts 13 and 14 from the threaded ends of the shaft 12, remove screws 9 from bottom ends 6 and 7, slip out the block 11 and by springing the frame 5 open as per

dotted lines 15, slip out shaft 12 from its holes in the frame 5 without removing the frame from upper fastening.

The frame 5 being of an open skeleton form, the strings 16 and their hitch-pins 17 are in full view and easy of access, as is not possible with the former style of a board support. A floor-rest 18 has bearings 19 supporting pumper-pedals 20 which have bearings 21 at their upper ends, in which links 22 engage and connect to bearings 23 in bell-crank 24. At rear of bell-crank 24 is a bearing hole working on shaft 12 in frame 5, and from the bearing 25 at upper front part of bell-crank 24 a link 26 connects upwardly to a bearing-hole 27 in a block 28 on pumper 2 or 3.

All the bearings 19, 21, 23, 12, 25 and 27, and the hinge line of the pumper 2 or 3, have axes parallel to each other, avoiding any interfering arcs of motion, yet not requiring any swivel joints or the like as in previous pumper apparatus having bell-crank action combined with pumbers laid lengthwise of the piano but having their hinges transverse of said length and at right angles to the bell-crank axis.

What I claim as my invention, is:

1. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pumbers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumbers to said pedals, and a vertical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board and a bearing across the middle part of and between the two uprights of said frame and on which said connections are operatively borne.

2. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pumbers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumbers to said pedals, and a vertical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board and a detachable bearing across the middle part of and between the two uprights of said frame and on which said connections are operatively borne.

3. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pump-

ers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumpers to said pedals, and a vertical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board and on which said connections are operatively borne, and a forwardly-extending flange at the top of said frame and which flange is attached to the under face of said bellows-chest.

4. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pumpers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumpers to said pedals, and a vertical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board, and a bearing across the middle part of and between the two uprights of said frame and on which said connections are operatively borne, the bottom of said frame consisting of two parts each at an angle from and bent from the two vertical parts and separable from each other at their adjoining ends.

5. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pumpers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumpers to said pedals, and a vertical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board, and a detachable bearing across the middle part of and between the two uprights of said frame and on which said connections are operatively borne, the bottom of said frame consisting of two parts each at an angle from and bent from the two vertical parts and separable from each other at their adjoining ends.

6. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pumpers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumpers to said pedals, and a ver-

tical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board, and a detachable bearing across the middle part of and between the two uprights of said frame and on which said connections are operatively borne, the bottom of said frame consisting of two parts each at an angle from and bent from the two vertical parts and separable from each other at their adjoining ends, and means for fastening both said ends to said bottom-board.

7. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pumpers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumpers to said pedals, and a vertical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board, and a detachable bearing across the middle part of and between the two uprights of said frame and on which said connections are operatively borne, the bottom of said frame consisting of two parts each at an angle from and bent from the two vertical parts and separable from each other at their adjoining ends, and means for fastening both said ends to said bottom-board, and a removable block between said ends and the bottom-board to which they are fastened.

8. In a player-piano: a bottom-board and pumper-pedals, a bellows-chest and pumpers on said chest all in horizontal position lengthwise of the piano and above said bottom-board and pedals, actuating connections from said pumpers to said pedals, and a vertical rectangular bent metal frame of skeleton form attached to said bellows-chest and said bottom-board, and a resisting-block attached to said bottom-board immediately against the rear of the lower part of said frame.

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Witnesses:

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