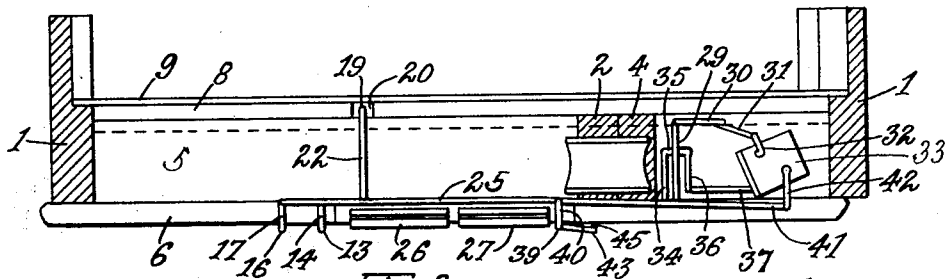
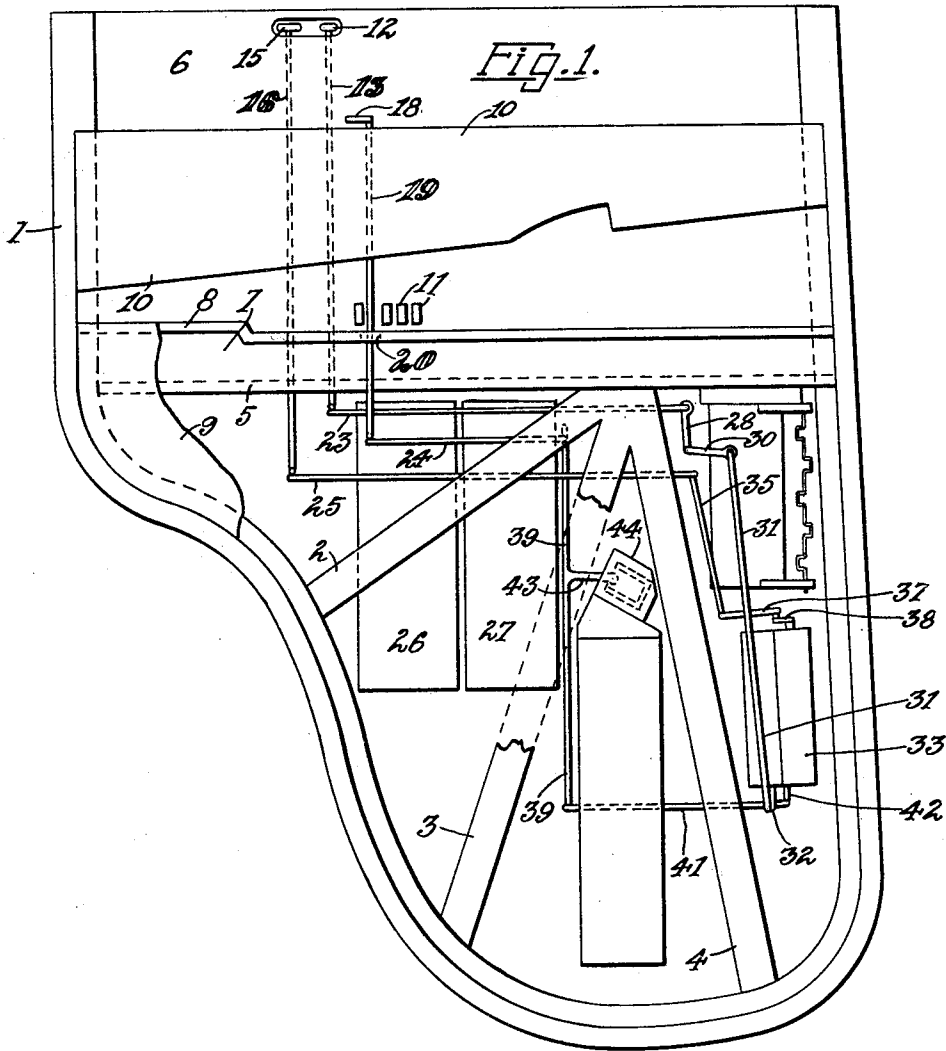


R. A. GALLY.
PIANO PLAYING CONTROL SYSTEM.
APPLICATION FILED FEB. 12, 1913.

1,104,729.

Patented July 21, 1914.



Witnesses:
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Fig. 2.

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UNITED STATES PATENT OFFICE

ROBERT A. GALLY, OF CINCINNATI, OHIO, ASSIGNOR TO THE BALDWIN COMPANY, OF CINCINNATI, OHIO.

PIANO-PLAYING-CONTROL SYSTEM.

1,104,729.

Specification of Letters Patent.

Patented July 21, 1914.

Application filed February 12, 1913. Serial No. 747,926.

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-Control Systems, of which the following is a specification.

Previous arrangements of control handles, connections and devices for player pianos of horizontal type, as grands, have been complicated, indirect and difficult of access, where the present invention has a simple, orderly disposition of parts within easy view, reach and removal.

In the drawings, Figure 1 is a plan view of a grand piano with the strings, plate and most of the soundboard removed to show the present invention, and Fig. 2 is a view from the rear with the rim cut away at A and B of Fig. 1 and the posts removed, except at their places of attachment to the cross rail.

The horizontal case has a rim 1 with several braces as 2, 3 and 4 connected from said rim to a cross-rail 5 at points intermediate the length of said rail. A keyed or table 6 is attached underneath the front of said rim 1 with its rear part joining the cross-rail 5. From the top of said cross-rail 5 is an extension 7 and bearing-rail 8 on which is attached the front edge of the soundboard 9 which extends rearwardly above and clear of the posts 2, 3 and 4.

Forward of the soundboard 9 and its supporting parts 8, 7 and 5, is the wrest-plank of pin-block 10, under which the piano action is placed, of which only a few hammers 11 are shown in Fig. 1, at the "break" or extra space of the scale of the piano.

Tempo handle 12 is placed at the front of the keyed 6 and has a shaft 13 extending rearwardly and beyond the back of the keyed 6 and cross-rail 5, with a suitable crank 14 at its rear end.

Secondary tempo control rocker 15 or other similar device at front of keyed 6 has a shaft 16 extending rearwardly and beyond the back of the keyed 6 and cross rail 5, with a suitable crank 17 at its rear end.

Reroll arm 18 at the front of the wrest-plank 10 has its shaft 19 extending rearwardly immediately underneath the wrest-plank 10 and the soundboard 9, a notch 20 being provided in bearing rail 8 to give

room for this shaft 19, which shaft and notch are positioned at a "break" or extra space in the piano scale where there is sufficient room between the piano hammers 11 to accommodate said shaft 19. At rear of this shaft 19 is a suitable crank 22.

The three shafts 13, 16 and 19 preferably terminate at different positions rearward of the keyed 6 and cross-rail 5 so that their cranks 14, 17 and 22 may have connecting wires 23, 24 and 25 extending crosswise of the piano without interference, even though in one plane immediately under the braces 2, 3 and 4 for best economy of room, especially when the bellows pumpers 26 and 27 are placed in horizontal position under and adjacent the braces 2, 3 and 4, with the wires 23, 24 and 25 lying neatly between the posts and pumpers.

The far ends of wires 23, 24 and 25 engage with cranks which respectively control rearwardly extending connections to the tempo, secondary tempo, and the cut-out and reroll valves, as will now be described.

Tempo connecting wire 23 at its far end is attached to an arm 28 of vertical crank 29, having another arm 30 to which connecting wire 31 is attached, which wire 31 leads rearward to the tempo-valve rod 32 of tempo-box 33.

Secondary-tempo connecting wire 25 at its far end is attached to an arm 34 at the front end of a rock-shaft 35, at the rear end of which is an arm 36 from which connecting wire 37 leads to the arm 38 which controls the secondary-tempo means in tempo-box 33.

Reroll connecting wire 24 at its far end is attached to an arm at the front of rock-shaft 39, at the rear end of which shaft is an arm 40 from which a connecting wire 41 leads to an actuating arm 42 which works the direct air service valve inside the tempo-box 33. Intermediate the rock-shaft 39 is an arm 43 extending under the cut-out box 44 and having a rod 45 to operate the cut-out valve inside said cut-out box 44.

The three controls have an orderly and related arrangement, yet each can be distinctly traced as follows: Tempo handle 12, shaft 13 and arm 14; wire 23; arm 28, rocker 29 and arm 30; and wire 31 to valve rod 32 of the tempo box 33. Secondary-tempo rocker 15, shaft 16 and arm 17; wire

25; arm 24, rock-shaft 35 and arm 36; and wire 37 to the arm 38 of the secondary-tempo means of the tempo-box 33, the rocker 15 being adapted for operation as in my Patent #1,056,984, issued March 25, 1913. 5
 Reroll arm 18, shaft 19, and arm 22; wire 24; arm and shaft 39; arm 40; and wire 41 to arm 42 of the direct-air service valve in tempo-box 33; the intermediate arm 43 of 10
 shaft 39 acting on rod 45 and the cut-out valve in box 44. Thus there are four subdivisions of parts of the controls,—forward longitudinal shafts 13, 16 and 19; forward transverse wires 23, 24 and 25; rearward 15
 longitudinal shafts 35 and 39 and wire 31; and rearward transverse wires 37 and 41, and intermediate transverse arm 43.

Various different details of shafts, cranks, arms and connections may be used in application of this system of controls, and modified forms and positions of tempo and cut-out boxes, etc., and yet be subject to. 20

What I claim as my invention:

1. In a player piano: a keybed or table, 25
 control handles at the front of said keybed, shafts extended rearwardly from said handles beyond said keybed and having upwardly extended arms at their rear ends and rearward of said keybed, and connections 30
 extended from said rear arms transversely of the piano and lying rearwardly of said keybed; and horizontal braces to said piano rearward of said keybed, and horizontal bellows pumpers positioned below 35
 said braces, adjacent thereto, and having a space between said braces and pumpers, said connections lying transversely of the piano in horizontal plane in the said space between the said braces and pumpers.

2. In a player piano: a keybed or table, 40
 control handles at the front of said keybed, shafts extended rearwardly from said handles beyond said keybed and having upwardly extended arms at their rear ends and rearward of said keybed, and connections 45
 extended from said rear arms transversely of the piano and lying rearwardly of said keybed; and horizontal braces to said piano rearward of said keybed, and horizontal bellows pumpers positioned below 50
 said braces, adjacent thereto, and having a space between said braces and pumpers, said connections lying in horizontal plane in the said space between the said braces and pumpers. 55

3. A player piano having horizontally disposed braces, horizontal bellows pumpers positioned below said braces, adjacent thereto, and having a space between said braces 60
 and pumpers, and control connections lying transversely of the piano in horizontal plane in the said space between the said braces and pumpers.

4. A player piano having horizontally 65
 disposed braces, horizontal bellows pumpers

positioned below said braces, adjacent thereto, and having a space between said braces and pumpers, and control connections lying in horizontal plane in the said space between the said braces and pumpers. 70

5. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles to the rear of said keybed, and connections extended from the rear ends of said 75
 shafts transversely of the piano, and additional longitudinal connections extended rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, said connections being disposed in substantially horizontal positions. 80

6. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles beyond the rear of said keybed, and connections extended from the rear ends of said shafts transversely of the piano and lying rearwardly of said keybed, and additional longitudinal connections extended 90
 rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, said connections being disposed in substantially horizontal positions. 95

7. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles to the rear of said keybed and having upwardly extended arms at their rear ends, 100
 and connections extended from said rear arms transversely of the piano, and additional longitudinal connections extended rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, said connections being disposed in substantially horizontal positions. 105

8. In a player piano: a keybed or table, control handles at the front of said keybed, 110
 shafts extended rearwardly from said handles beyond said keybed and having upwardly extended arms at their rear ends and rearward of said keybed, and connections extended from said rear arms transversely of the piano and lying rearwardly 115
 of said keybed, and additional longitudinal connections extended rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, said connections being disposed in substantially horizontal positions. 120

9. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles to the rear of said keybed, and connections extended from the rear ends of said shafts transversely of the piano, and additional longitudinal connections extended 125
 rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, said connections being disposed in substantially horizontal positions. 130

connections that are distant from their attachment to said shafts, and additional transverse connections attached to the rear ends of the additional longitudinal connections; said connections being disposed in substantially horizontal positions.

10. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles beyond the rear of said keybed, and connections extended from the rear ends of said shafts transversely of the piano and lying rearwardly of said keybed, and additional longitudinal connections extended rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, and additional transverse connections attached to the rear ends of the additional longitudinal connections, said connections being disposed in substantially horizontal positions.

11. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles to the rear of said keybed and having upwardly extended arms at their rear ends, and connections extended from said rear arms transversely of the piano, and additional longitudinal connections extended rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, and additional transverse connections attached to the rear ends of the additional longitudinal connections, said connections being disposed in substantially horizontal positions.

12. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles beyond said keybed and having upwardly extended arms at their rear ends and rearward of said keybed, and connections extended from said rear arms transversely of the piano and lying rearwardly of said keybed, and additional longitudinal connections extended rearwardly from the ends of said transverse connections that are distant from their attachment to said shafts, and additional transverse connections attached to the rear ends of the additional longitudinal connections, said connections being disposed in substantially horizontal positions.

13. In a player piano: a wrest-plank, a horizontal soundboard, and a bearing-rail along the under part of the front part of said soundboard, a control arm at the front of said wrest-plank, and a shaft extended rearwardly from said arm immediately under said wrest-plank and soundboard, and a notch in said bearing-rail through which said shaft passes.

14. In a player piano: a piano action having breaks in its scale, a wrest-plank, a horizontal soundboard, and a bearing-rail along the under part of the front part of said

soundboard, a control arm at the front of said wrest-plank, and a shaft extended rearwardly from said arm immediately under said wrest-plank and soundboard, and a notch in said bearing-rail through which said shaft passes, said shaft being at a break position of the scale where there is an extra space between the hammers of the piano action.

15. In a player piano: a wrest-plank, a horizontal soundboard, and a bearing-rail along the under part of the front part of said soundboard, and a shaft extended rearwardly from the front of and immediately under said wrest-plank and soundboard, and a notch in said bearing-rail through which said shaft passes.

16. In a player piano: a wrest-plank, a horizontal soundboard, and a bearing-rail along the under part of the front part of said soundboard, and a shaft extended rearwardly from the front of and immediately under said wrest-plank and soundboard, and a notch in said bearing-rail through which said shaft passes, said shaft being at a break position of the scale where there is an extra space between the hammers of the piano action.

17. In a player piano: a piano action having breaks in its scale, a wrest-plank, a horizontal soundboard, and a bearing-rail along the under part of the front part of said soundboard, a control arm at the front of said wrest-plank, and a shaft extended rearwardly from said arm immediately under said wrest-plank and soundboard.

18. In a player piano: a piano action having breaks in its scale, a wrest-plank, a horizontal soundboard, and a bearing-rail along the under part of the front part of said soundboard, and a shaft extended rearwardly from the front of and immediately under said wrest-plank and soundboard, said shaft being at a break position of the scale where there is an extra space between the hammers of the piano action.

19. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles to the rear of said keybed and having upwardly extended arms at their rear ends; a horizontal soundboard and a horizontal wrest-plank above said keybed, an upper shaft extended rearwardly from the front of said wrest-plank and immediately under said wrest-plank and soundboard, and an arm extended downwardly from the rear of said upper shaft adjacent the rear of said keybed.

20. In a player piano: a keybed or table, control handles at the front of said keybed, shafts extended rearwardly from said handles to the rear of said keybed and having upwardly extended arms at their rear ends; a horizontal soundboard and a horizontal

wrest-plank above said keybed, an upper shaft extended rearwardly from the front of said wrest-plank and immediately under said wrest-plank and soundboard, a cross-rail adjacent the front of said soundboard and the rear of said keybed, and an arm extended down from said upper shaft rearward of said cross-rail.

21. In a player piano: a horizontal soundboard and a horizontal wrest-plank forward of and in substantially the same plane as said sound-board, a shaft extended rearwardly from the front of said wrest-plank and immediately below said wrest-plank and soundboard.

22. In a player piano: a horizontal soundboard and a bearing-rail under its front edge, a horizontal wrest-plank forward of and in substantially the same plane as said soundboard, a shaft extended rearwardly from the front of said wrest-plank and immediately under said wrest-plank and soundboard, and a notch in said bearing-rail through which said shaft passes.

23. In a player piano: a piano action having breaks in its scale, a horizontal soundboard and a horizontal wrest-plank forward of and in substantially the same plane as said sound-board, a shaft extended rearwardly from the front of said wrest-plank and immediately below said wrest-plank and soundboard, said shaft being at a break position of the scale where there is an extra space between the hammers of the piano action.

24. In a player piano: a piano action having breaks in its scale, a horizontal soundboard and a bearing-rail under its front edge, a horizontal wrest-plank forward of and in substantially the same plane as said soundboard, a shaft extended rearwardly

from the front of said wrest-plank and immediately under said wrest-plank and soundboard, and a notch in said bearing-rail through which said shaft passes, said shaft being at a break position of the scale where there is an extra space between the hammers of the piano action.

25. In a player piano: a horizontal soundboard and a horizontal wrest-plank forward of and in substantially the same plane as said soundboard, a shaft extended rearwardly from the front of said wrest-plank and immediately below said wrest-plank and soundboard, and an arm extended downwardly from the rear of said shaft.

26. In a player piano: a rock-shaft longitudinal thereof having a control connection at its front part, a reroll valve device in position transverse to the rear part of said shaft, and a connection transversely disposed from the rear of said shaft to said reroll valve device, and an arm attached to said shaft intermediate its length and a cut-out box and valve adjacent said arm, and a connection means from said arm to said cut-out valve.

27. In a horizontal player piano: a reroll control means adjacent the front of said piano, a reroll valve device in the rearward part of the case, connection means from said control means to said reroll valve device, a cut-out valve intermediate the positions of the control means and reroll valve device, and actuating means intermediate the length of the connection means and connected to said cut-out valve.

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