

J. GALLEAZZI.
OCTAVE COUPLER.
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1,059,139.

Patented Apr. 15, 1913.

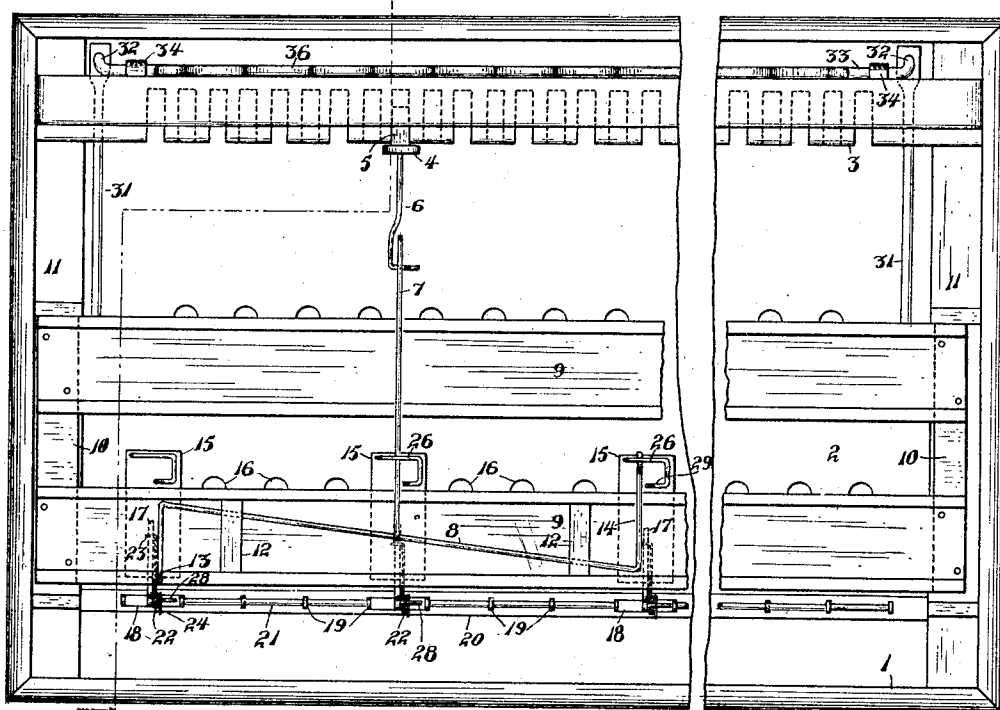


Fig. 1.

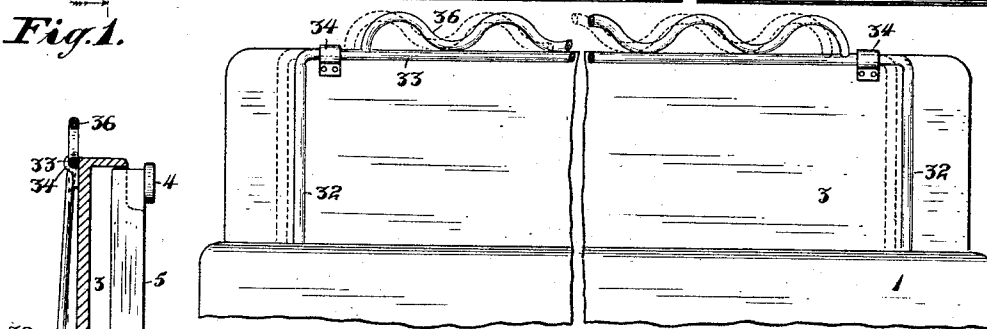
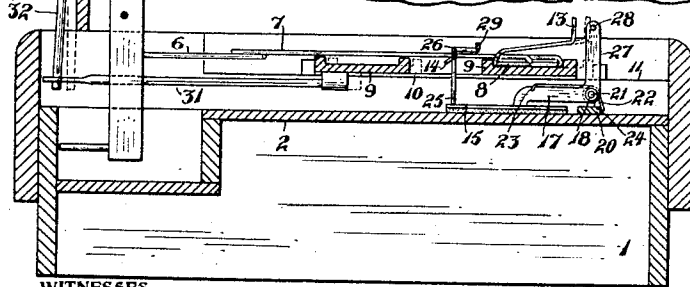


Fig. 2.



WITNESSES

Fig. 3.

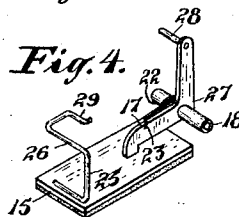


Fig. 4.

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OCTAVE-COUPLER.

1,059,139.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH GALLEAZZI, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Octave-Couplers, of which the following is a specification.

The present invention relates to octave couplers for accordions and the like, the object of the invention being to provide simple, inexpensive, and effective mechanism for coupling the valve-operating devices of accordions, whereby, at the will of the player, by depressing any key of the accordion, the note corresponding to the depressed key is played either alone, or in unison with the octave above, or in unison with the octave below, or in unison with both octaves.

For simplicity and clearness of illustration I have in the drawing shown only one key, the valve of the main note corresponding thereto, and the valves of the notes an octave above and below the same, together with the operating mechanism it being understood that the same mechanism is repeated where permitted by the limits of the instrument for each of the notes of the accordion.

In the accompanying drawing, Figure 1 is a broken plan view of the sounding board of an accordion equipped with my improvement; Fig. 2 is a broken rear view of the key bed; Fig. 3 is a transverse section of the sounding board and key board; Fig. 4 is a detail perspective view of one of the valves.

Referring to the drawing, 1 indicates the frame of an accordion, having secured thereto the sounding board 2 and the key bed 3.

4 indicates a key of the accordion, attached to a key lever 5, pivoted in said key bed in the usual manner. From said key lever extends over the sounding board an arm 6, the outer end of which is bent and passes under an arm 7 secured to a shaft 8. Said shaft is contained in one of two channelways 9, extending longitudinally of the accordion over the sounding board, and secured at their ends to transverse plates 10,

said plates and channelways thus forming a rigid frame. Said plates are movable, by means hereinafter described, on supports 11 on the sounding board. The shaft 8 extends obliquely in said channelway, so that its ends are closely adjacent to opposite sides of the channelway. It will be understood that the shafts 8 for the several keys completely fill said channelway, and cannot move longitudinally or transversely therein, being permitted a rotary movement only. They are retained in said channelways by suitable transverse holders 12 extending between the tops of the walls of said channelways. Each shaft 8, at either side of the arm 7, extends through a longitudinal distance equal to that between the valves of an octave, so that, it being understood that the arm 8 is over, or adjacent to, the valve corresponding to the key depressed, the ends of the shaft will be over or adjacent to, the valves of the octaves respectively above and below it. The end corresponding to the valve an octave above is bent upwardly to form an arm 13, while the end corresponding to that an octave below is bent forwardly to form an arm 14.

15 indicates the valves, which close reed openings 16 in the sounding board. Each valve is secured to the end of an arm 17 of a bell crank lever 27 secured to a tube 18 between apertured standards 19 on a plate 20 secured to the sounding board, a pivot rod 21 passing through all of said tubes. A piece of spring wire 22 is bent around each tube, and its forward end is bent to form a yoke 23 which rests upon the upper edge of the arm 17, while its rear end presses against an angular vertical portion 24 of the plate 20, and, by said pressure, resiliently holds the valve down upon the sounding board.

From the forward or free edge of each valve extends upwardly a standard 25, so bent as to form an operating arm 26 beneath which passes the arm 7, so that, upon the depression of any key, the corresponding valve 15 is raised by the rocking upward of said arm 7. In the position of the channelways in which only the proper note for each key is to be played, the arm 14 at the lower end

of the shaft 8 is too short to engage this arm 26 and raise the same upon the rocking of the shaft 8, and therefore the octave below is not sounded, but, upon moving, by means
 5 presently to be described, the channelways toward the key board into the position shown in Fig. 1, said arm 14 is moved into such a position that its outer end can engage the arm 26 and thus the lower octave
 10 is sounded. In the first-named position of the channelways, in which only a single note is to be sounded for each key, the upwardly projecting arm 13, at the upper end of the shaft 8, is in such a position that, when the
 15 shaft 8 is rocked, it just avoids engaging a lateral extension 28 from the upwardly extending arm 27 of the bell crank lever, and therefore does not actuate said bell crank lever to open the valve of the octave above.
 20 But, when the channelways are moved, by means to be presently described, in the direction away from the key board, then said vertical arm is in such a position that, when the shaft 8 is rocked, it engages the lateral
 25 extension 28 and opens the valve to sound the octave above. When both the upper and the lower octaves of a note, as well as the note itself, are to be sounded, the channelways are moved longitudinally in the di-
 30 rection toward the lower end of the key board, as well as laterally away from the key board, and, in this position, the arm 13 continues to engage the lateral extension 28, while the arm 14 passes under an extension
 35 29 of the arm 26, and thus, by the rocking movement of the shaft 8, the valves both of the octave above, of the octave below, and of the original note, are raised. To produce these movements there are connected to the
 40 under sides of the channelway nearer to the key board, so as to move laterally and longitudinally with said channel ways arms 31, through the outer ends of which pass arms
 45 a rock shaft 33, which can be both rocked and moved longitudinally in bearings 34 in the back of the key bed, and which has connected thereto a suitable handle 36 extending above the key bed. By pressing
 50 said handle inwardly to its limiting position the lower ends of the arms 32 are moved outwardly, and the octave below is sounded. By pressing said handle outwardly to its limiting position, the lower ends of said
 55 arms 32 are moved inwardly, and the octave above is sounded. By performing this latter operation, and at the same time pressing said handle toward the lower end of the key board, both octaves are sounded. By mov-
 60 ing said handle in the direction toward the upper end of the key board and restoring it to the intermediate lateral position, neither octave is sounded.

I claim:—

1. The combination of a key bed, operat- 65
 ing keys, valves, a rock shaft for each key extending in the same general direction as the key bed, an arm extending from each end of said rock shaft, each valve being pro- 70
 vided with means for operating the same, and means for moving said shaft laterally to and from the key bed and also longitudinally, in a direction parallel with the key 75
 bed, the arm at one end of the shaft being arranged, in one lateral position of the shaft, to engage the valve-operating means of an adjacent valve, the arm at the other 80
 end of the shaft being arranged, in another lateral position of the shaft, to engage valve-operating means of an adjacent valve, and in a third lateral position neither of said 85
 arms engaging the valve-operating means of the corresponding valve, said shaft having means extending from the central portion thereof and arranged in said latter position 90
 to engage and actuate the valve-operating means of an adjacent valve, and means operative in any one of said positions for rocking said shaft by the operation of the corresponding key.

2. The combination of a key bed, operat-
 ing keys, valves, a rock shaft for each key extending in the same general direction as the key bed, an arm extending from each end of said rock shaft, each valve being pro- 95
 vided with means for operating the same, and means for moving said shaft laterally to and from the key bed and also longitudinally, in a direction parallel with the key bed, the 100
 arm at one end of the shaft being arranged, in one lateral position of the shaft, to engage the valve-operating means of an adjacent valve, the arm at the other end of the shaft being arranged, in another lateral position 105
 of the shaft, to engage valve-operating means of an adjacent valve, said arm, when said shaft is moved longitudinally, but not laterally from the first-named position, being also arranged to engage and actuate valve- 110
 operating means of said latter valve, and in a third lateral position neither of said arms engaging the valve-operating means of the corresponding valve, said shaft having 115
 means extending from the central portion thereof and arranged in said latter position to engage and actuate the valve-operating means of an adjacent valve, and means operative in any one of said positions for rocking said shaft by the operation of the 120
 corresponding key.

3. In combination with a key bed, a bearing secured thereon, a shaft movable longitudinally, and also adapted to turn, in said bearings, arms extending from said shaft, a support operatively connected with said 125
 arms to move transversely and longitudi-

nally therewith, longitudinally extending
rock shafts supported by said support,
valves for controlling air-passages of a musi-
cal instrument, and a plurality of extensions
5 from each rock shaft arranged and located
to actuate individual valves.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing
witnesses.

JOSEPH GALLEAZZI.

Witnesses:

FRANCIS M. WRIGHT,

D. B. RICHARDS.

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