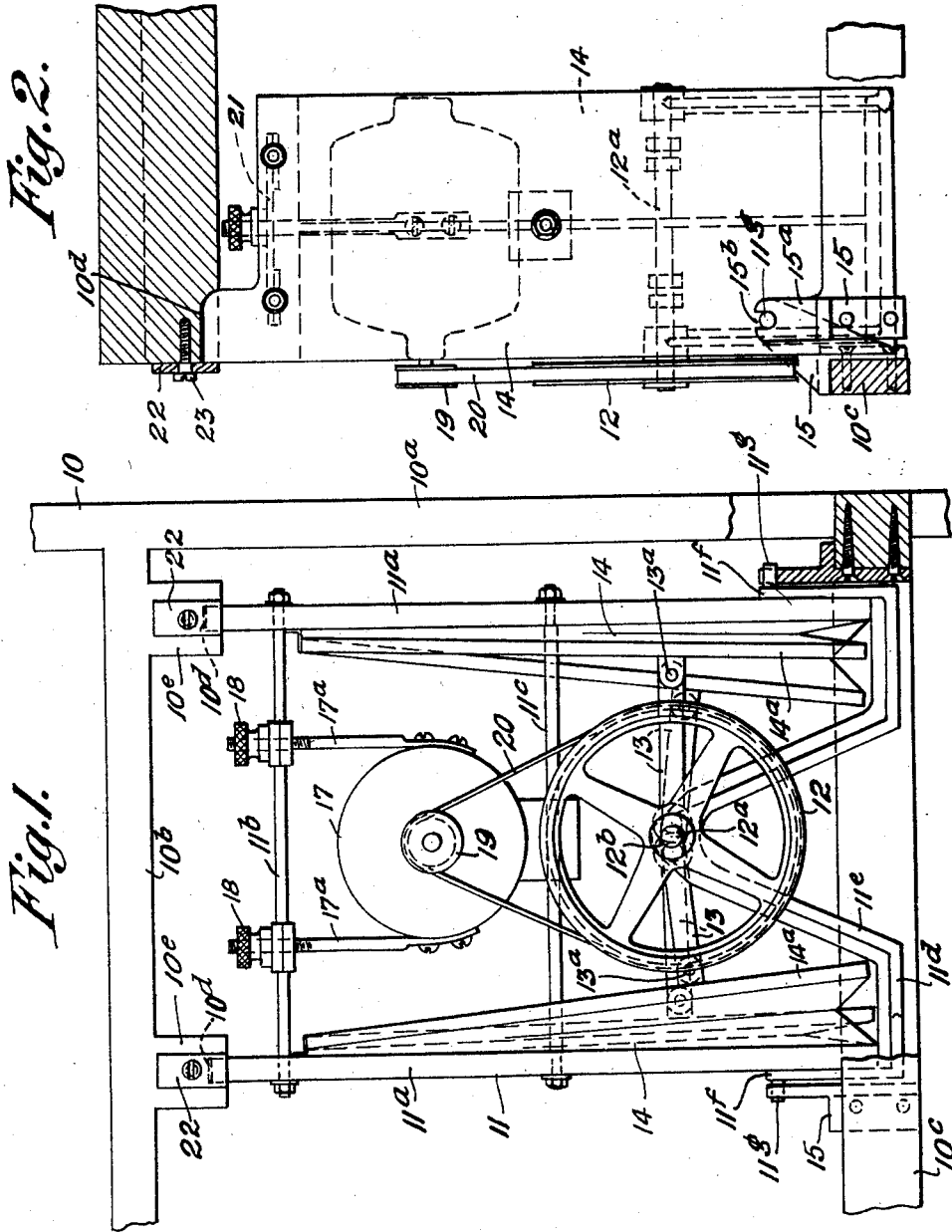


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 MOTOR MOUNTING FOR PLAYER PIANOS.
 APPLICATION FILED JULY 31, 1919.

1,385,819.

Patented July 26, 1921.



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UNITED STATES PATENT OFFICE.

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MOTOR-MOUNTING FOR PLAYER-PIANOS.

1,385,819.

Specification of Letters Patent.

Patented July 26, 1921.

Application filed July 31, 1919. Serial No. 314,525.

To all whom it may concern:

Be it known that I, CHARLES FREBORG, a citizen of the United States, residing at Kankakee, in the county of Kankakee and State of Illinois, have invented certain new and useful Improvements in Motor-Mountings for Player-Pianos, of which the following is a specification.

This invention relates to improvements in motor mountings for player pianos, and has for its object to provide a construction whereby the main exhausting pump and motor to drive the same may be swung together bodily into and out of operative position with respect to a player piano.

Other objects consist in providing such a mounting on which such swinging structure may be secured in operative position against accidental displacement.

Still another object consists in providing such mounting and adapting the same to a piano in such wise as to permit its ready bodily removal from the piano after being first swung out of operative position.

Still another object consists in the peculiar construction of the motor and pump mounting in the carrying frame.

These and other objects will be more fully set forth and described in the following specification and shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a portion of a player piano, showing my invention applied thereto; and

Fig. 2 is a side elevation of the same.

Like numerals refer to like elements throughout the drawings, in which—

10 designates generally a portion of a player piano structure comprising the upright post 10^a, horizontal upper cross bar 10^b, and horizontal base cross bar 10^c, sometimes termed the toe-rail. 11 indicates generally a frame comprising the uprights 11^a secured together by the cross rods 11^b and 11^c. A spider 11^d extends across between the uprights, and also serves to secure them together, said spider being provided with the upwardly projecting portion 11^e, in which is journaled the shaft 12^a and the rotating pulley 12. The shaft 12^a is provided with an eccentric crank 12^b, on which are journaled connecting rods 13. At the other ends these connecting rods are pivotally attached at 13^a to the movable walls 14^a of four bellows 14. It will be apparent that

rotation of the pulley 12 will alternately expand and collapse these bellows, the latter being utilized to provide the suction or vacuum necessary for the operation of the player piano.

The spider 11^d at its outer extremities is upturned, as indicated at 11^f, trunnions 11^g being provided at each of the extremities. Secured to the base cross bar 10^c are the brackets 15 provided with rearwardly extending portions 15^a slotted at 15^b to provide seats or bearings for the trunnions 11^g. An electric motor 17 in the construction shown is suspended by means of the flexible strap rods 17^a from cross supports 21, or the like—see Fig. 2—which extend around and between the cross rods 11^b. These strap rods are threaded at their upper extremities for engagement by knurled nuts 18, by which the position of the motor 17 may be vertically adjusted. The motor is provided with a drive pulley 19 and an endless belt 20 which runs around the pulley 19 and pulley 12 to communicate rotation of the motor pulley to the pulley 12, as will be obvious. It will also be obvious that adjustment of the nuts 18 will vary the tension in the belt 20 as desired.

The uprights 11^a of the frame 11 fit loosely into sockets 10^d in the horizontal cross bar 10^b when in operative position as I term it, *i. e.*, when the motor and pump are operably connected to the player mechanism. To secure the frame 11 in this position, I provide latches 22 pivotally attached to the cross bar 10^b by means of screws 23, or the like. Cross bars 10^b are provided with the downwardly extending lugs 10^e, to provide for the sockets 10^d, as shown in Fig. 1. When it is desired to inspect or repair the motor or pump, it is merely necessary to swing the latches 22 out of position, and swing the frame 11 forwardly, as viewed in Fig. 1, the pump and motor moving upwardly out from the piano structure about the trunnions 11^g. Should it be desirable to remove the motor and pump from the piano, the frame 11 may be swung outwardly, as just described, and then lifted upwardly so that the trunnions 11^g will be lifted out of the slots 15^b.

Due to the play between the tops of the uprights 11^a and the sockets 10^d, and the mounting of the trunnions in the vertical slots 15^b, any vibration of the pump, motor,

or frame will not be transmitted to the piano structure, a meritorious feature of my invention.

It will be obvious that my invention is susceptible of modifications and improvements, and I do not therefore wish to be restricted to the form shown beyond the scope of the appended claims.

What I claim is:

1. In combination, a piano structure comprising a casing, a frame locatable therein, an exhauster means, and a motor therefor carried by said frame, said frame being pivotally mounted to move into or out of said casing.

2. In combination, a piano structure comprising a casing, a frame locatable therein, an exhauster means, a motor therefor carried by said frame, said frame being pivotally mounted to move into or out of said casing, and means to secure said frame detachably in said casing.

3. In combination, a piano structure comprising upper and lower horizontal bars, a frame and a pump and motor carried thereby, said frame being pivotally mounted on said lower bar, socket members carried by said upper bar, said frame being movable into engagement therewith, and means to secure said frame detachably to said socket members.

4. In combination, a piano structure comprising an upper horizontal bar and a lower horizontal bar, a frame, and a pump and motor carried thereby, the lower bar being provided with bearings, said frame being provided with trunnions journaled in said bearings.

5. In combination, a piano structure comprising an upper horizontal bar and a lower horizontal bar, a frame, a pump and motor carried thereby, the lower bar being provided with bearings, said frame being provided with trunnions journaled in said bearings, said upper bar being socketed to receive said frame, and means to secure said frame to said socket.

6. In combination, a piano structure comprising an upper horizontal bar and a lower horizontal bar, a frame, a pump and motor carried thereby, the lower bar being provided with bearings, said frame being provided with trunnions journaled in said bearings, said upper bar being socketed to receive said frame, and means to secure said frame to said socket, said means comprising a pivoted latch member.

7. In mechanism of the class described, a pivoted frame, cross members carried by said frame, a motor, said motor being carried by said cross members and suspended therefrom, a pump member carried by said frame, and means operatively connecting said motor to said pump member, said means comprising an endless belt.

8. In mechanism of the class described, an exhauster, a frame comprising side members, cross rods extending therebetween, cross supports carried by said cross rods, a motor operatively attached to said exhauster, and means to support said motor comprising members adjustably secured to said cross supports.

In testimony whereof I have subscribed my name.

CHARLES FREBORG.