No. 756,755. PATENTED APR. 5, 1904.

A. E. WHITEHEAD.

ADJUSTABLE PEDAL FOR MECHANICAL PIANO PLAYERS.

APPLICATION FILED SEPT. 8, 1903.

NO MODEL.

FIG. 1.

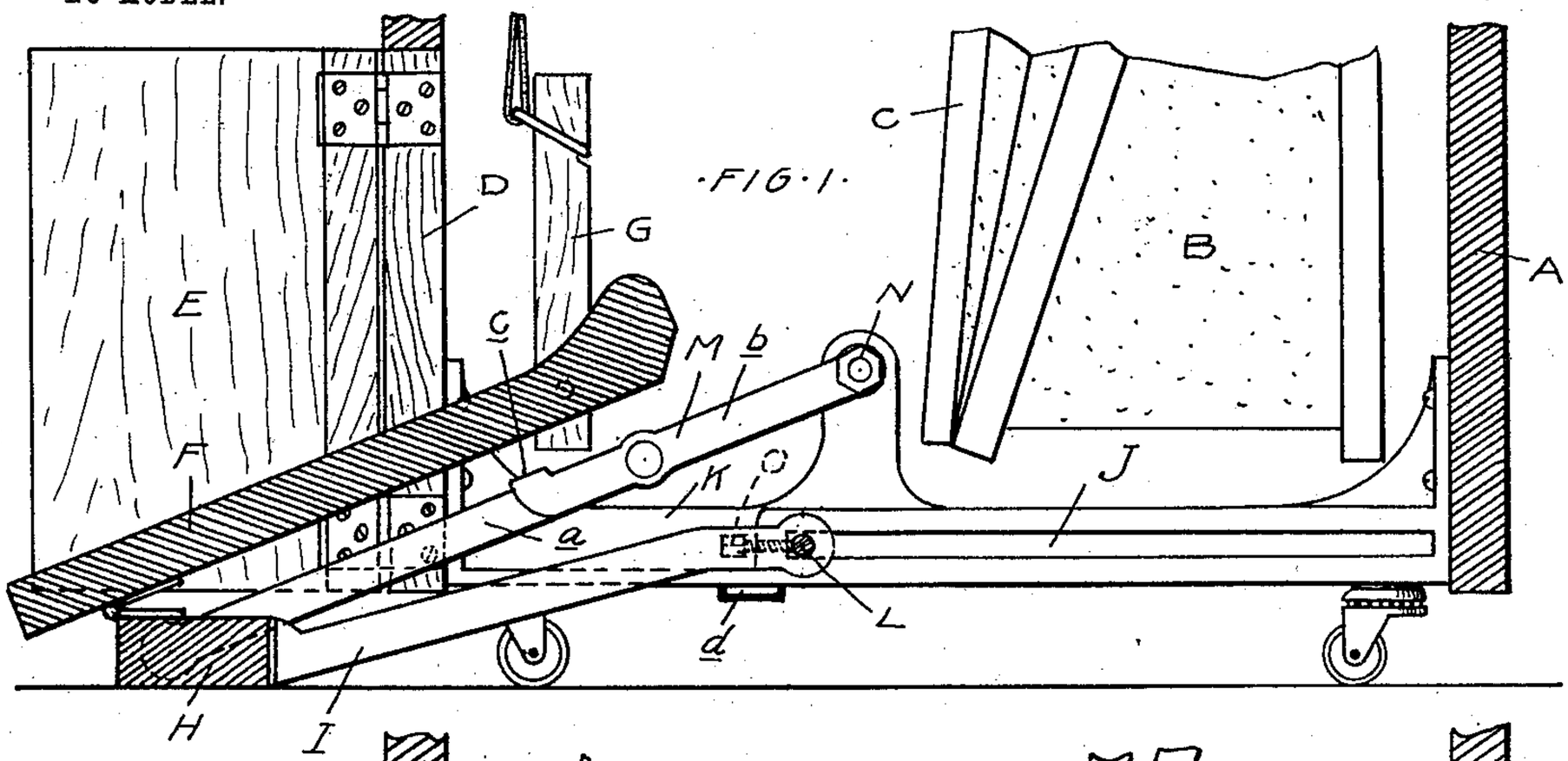


FIG. 2.

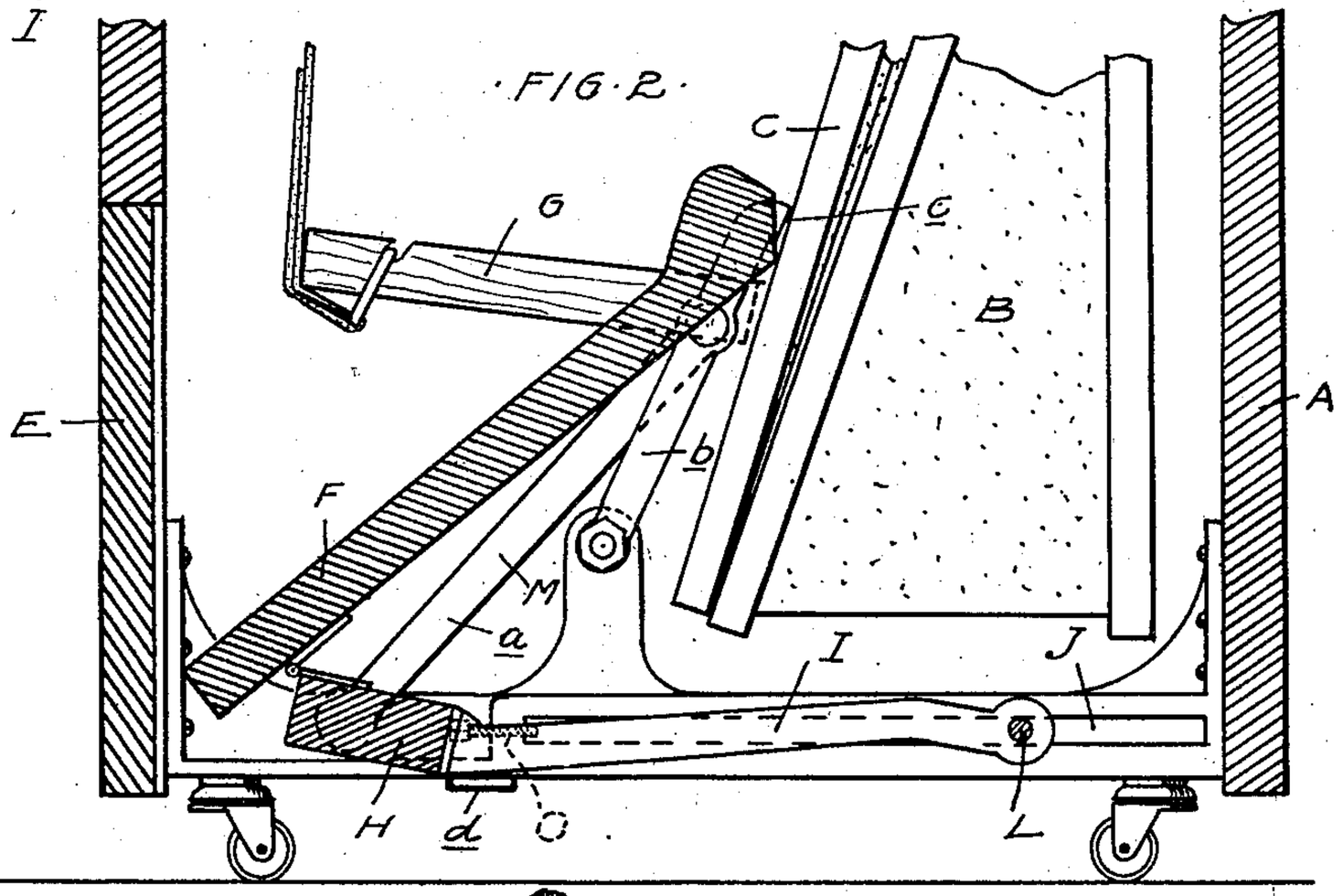
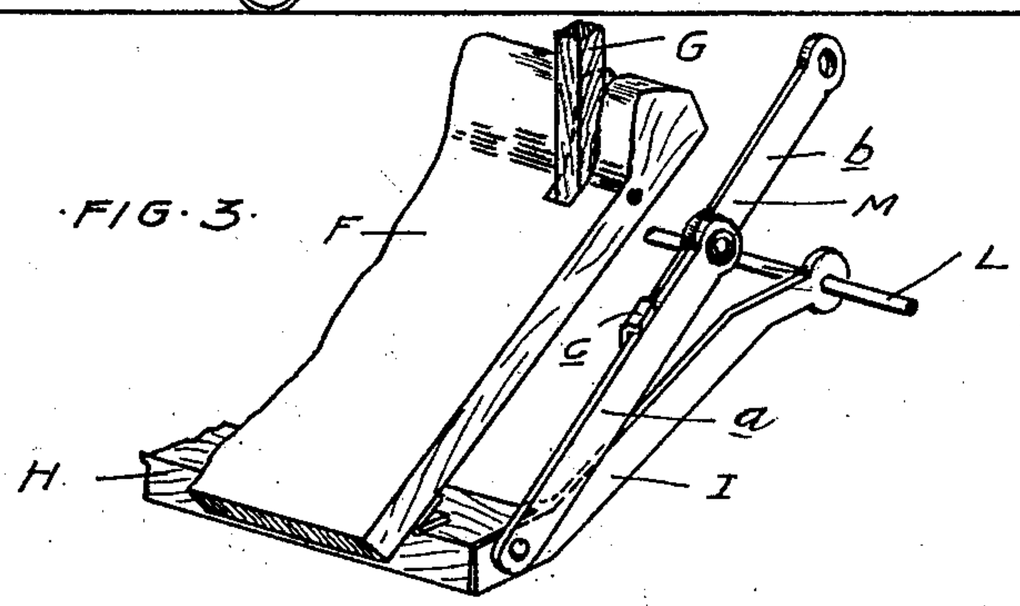


FIG. 3.



WITNESSES

Geo. H. Graves.
Jas. P. Barry

INVENTOR
AURA E. WHITEHEAD.
BY James Whittemore
ATT'Y

No. 756,755. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

AURA E. WHITEHEAD, OF DETROIT, MICHIGAN, ASSIGNOR TO THE FARRAND ORGAN COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

ADJUSTABLE PEDAL FOR MECHANICAL PIANO-PLAYERS.

SPECIFICATION forming part of Letters Patent No. 756,755, dated April 5, 1904.

Application filed September 8, 1903. Serial No. 172,402. (No model.)

To all whom it may concern:

Be it known that I, AURA E. WHITEHEAD, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Adjustable Pedals for Mechanical Piano-Players, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to mechanical players for musical instruments, and more particularly to the construction of pedals for operating the pumping-bellows.

It is the object of the invention to obtain a construction in which the pedals are arranged outside of the case of the instrument when in use and when not in use may be moved inward, so as to be inclosed within the case.

The invention consists in the construction comprising a retractable fulcrum member to which the pedals are secured; further, in the means whereby said fulcrum may be adjusted laterally from its outer position to a position where the pedals are entirely within the case; further, in the locking means for holding said fulcrum rigid in the operating position of the pedals, and, further, in the peculiar construction, arrangement, and combination of parts, as hereinafter set forth.

In the drawings, Figure 1 is a cross-section through the case of a mechanical player to which my improvement is applied and showing the pedals in position for operation. Fig. 2 is a similar view with the pedals retracted within the case. Fig. 3 is a perspective view of a portion of the pedal-adjusting mechanism.

A is the case inclosing the operating mechanism of the mechanical player, of any suitable construction.

B is a store-bellows within the case, and C is the pumping-bellows.

Centrally of the front of the case is formed an opening D, through which the pedals may be adjusted in or out of the case. This opening is preferably provided with doors E, which are hinged at opposite sides of the opening and close adjacent to each other at the center. The opening D is of sufficient size to not only permit of the movement of the pedals in or out of the case, but also to provide clearance for the operator's feet in a normal position of the pedals, this latter being, with the toe portion of the pedal, inside of the case.

The pedals F may be of any suitable construction in which the inner end of each pedal is attached to the link connection G for operating the pumping-bellows and the outer lower end of the pedal is hinged or pivoted to a fulcrum member. The links G are provided with any suitable flexible operating connection (not shown) to the bellows C.

It is the primary object of my invention to provide means for adjusting the fulcrum member H, to which the pedals are hinged, into or out of the case. It is necessary, however, that the adjustable connections be such that the fulcrum in its outer operating position is held rigid in relation to the case. It is also desirable that the adjustable connections should be capable of quick adjustment in or out of the case and locked without the use of screws or other clamping devices. In the construction shown the fulcrum member H is in the form of a bar extending longitudinally of the case and of sufficient length to pivotally support both of the pedals. To the opposite ends of this fulcrum-bar are attached the link members I, which in the normal operating position of the pedals extend inward and are inclined upward from the bar H, being supported at their inner ends in guide-bearings J. These guide-bearings are preferably formed on a cross-bar K, which is secured at its opposite ends to the front and rear walls of the case, as shown in Fig. 1. The bearings J in the construction shown are formed by a longitudinal slot in the bar K of sufficient length to permit of the required lateral movement of the fulcrum-bar H.

L is a bar extending between the links, I at the inner ends thereof, and projecting beyond said links into engagement with the slotted bearings J.

With the construction thus far described the bar H may be moved in or out of the case by sliding the bar L in the slotted guides J.

For holding the bar H locked in its outer position when the pedals are operated I preferably provide a break-joint rod M, which is pivoted at its outer end to the bar H and at its inner end is pivotally connected with a stationary bearing N, the latter being preferably formed by an upwardly-extending lug on the cross-bar K. Two of these rods M are preferably employed on opposite sides of the pedal, and each is formed in two sections *a* and *b*, which are pivotally connected at their adjacent ends and are provided with a locking-stop which prevents folding of the sections in one direction, while permitting them to fold in the opposite direction. As shown, this stop is formed by a projection *c* on the section *b*, which overlaps the edge of the section *a*.

With the construction just described the fulcrum-bar H will be held in its outer position whenever the rod M is straightened, as it then forms a rigid link extending between the bearing N, which is stationary on the case, and the bar H. The fulcrum-bar may, however, be easily adjusted inward, and by "breaking" the joint of the rod M and folding it upward into the position shown in Fig. 2 this will draw the bar H inward, and the bar L will slide along the guides J to permit of the inward movement.

For the operating position of the pedals it is desirable to have the fulcrum-bar resting directly upon the floor; but when the pedals are retracted the bar must be lifted from the floor, so as to permit of freely moving the case upon its casters. For this purpose the cross-bar K is preferably provided with a lug *d*, which projects beneath the links I. The inner ends of these links are preferably bent so as to clear the lug *d* when the bar is in its outer position; but when said bar is moved inward the links I will ride upon the lugs *d* and will lift the bar H, together with the pedals attached thereto, into the position shown in Fig. 2.

It is usual to provide mechanical players with an adjustment by which the case or the action therein may be raised or lowered to adjust the key-strikers to the keys of the musical instrument. In the construction shown this adjustment is not illustrated; but the construction of the adjusting mechanisms for the pedals is such that the fulcrum-bar H in its inner position is raised so as to be above the bottom edge of the case. Thus in the lowest position of the case the retracted pedal mechanism will be raised from the floor.

To limit the outward movement of the links I, an adjustable stop O is provided on the cross-bar K, which extends into the path of the rod L. This, as shown, comprises a screw engaging a threaded bearing in the bar K and extending into the slotted bearings J. The object of this adjustable stop is to prevent oscillation of the fulcrum-bar during the operation of the pedals. This is accomplished by reason of the fact that the links I limit the upward movement of the fulcrum-bar when the break-joint rod M is straightened out. The movement of the links is in turn limited by the stops O, so that if said stops are adjusted to prevent upward movement of the fulcrum when the latter is resting on the floor and the jointed rod M is straightened then the parts will be held firm from oscillation. If the cross-bars K within the case were always the same distance above the floor, the adjustable stops O could be dispensed with and the movement of the links limited by the outer ends of the slotted bearings J. This is not, however, the case, as the adjustment of the instrument for pianos of different height keyboard will change the relation of the cross-bars to the floor, and it is therefore necessary to adjust the stops O so as to limit the movement of the links at the proper point.

What I claim as my invention is—

1. The combination with a case containing a pumping-bellows, of a pedal for actuating said bellows, and a fulcrum for said pedal adjustable into and out from said case.

2. The combination with a case, and a pumping-bellows, contained therein, of a pedal for actuating said bellows, a fulcrum for said pedal adjustable into and out from said case, and means for locking said fulcrum in its outer position in rigid relation to said case.

3. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said bellows, a fulcrum for said pedal, and a folding link connecting said fulcrum with a bearing fixed within the case, whereby said fulcrum may be adjusted from an operating position outside the case to a position where the pedal is retracted within the case.

4. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said bellows, a fulcrum for said pedal adjustable into and out from said case, and means for supporting said fulcrum and pedal in the inner position of adjustment out of contact with the floor.

5. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said bellows, a fulcrum-bar for said pedal, folding links connected to opposite ends of said fulcrum-bar, and at their inner ends connected to bearings fixed within the case, said bearings being located to hold said fulcrum-bar outside the case in the extended position of said links, and to retract said bar, and the pedal within the case when said links are folded.

6. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said bellows, a fulcrum for said pedal, a bearing within the case, a folding link connecting said fulcrum with said bearing, and adapted in its extended position to hold the fulcrum without the case, and in its folded

position to retract it within the case, and a brace for said fulcrum in its outer position.

7. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said pumping-bellows, a fulcrum for said pedal, a fixed bearing within the case, a folding link connecting said fulcrum with said bearing, and adapted to hold said fulcrum without the case in the extended position of the link, and retract it within the case in the folded position of said link, and a brace connected to said fulcrum and having a transverse slidable connection within said case.

8. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said pumping-bellows, a bar extending across said case from front to rear, a fulcrum for said pedal, a folding link connecting said fulcrum with a pivotal bearing on said bar, a brace connected to said fulcrum and having its inner end slidably connected to said bar whereby when the said first link is folded the latter link will slide within the case.

9. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said bellows, a fulcrum for said pedal, and an upwardly-breaking jointed link connecting said fulcrum with a bearing fixed within the case, and adapted when folded to retract said fulcrum within the case.

10. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said bellows, and a fulcrum for said pedal, a bearing within the case, a folding link connecting said fulcrum with said bearing, a brace connected to said fulcrum, and slidably connected within the case, and a bearing upon which the brace is adapted to ride in its inward movement to raise said fulcrum from contact with the floor.

11. The combination with a case and a pumping-bellows contained therein, of a pedal for actuating said bellows, a fulcrum for said pedal, a bar fixed within the case, a folding link connecting said fulcrum with said bar, a brace connected with said fulcrum, and slidably connected at its inner end within the case, a bearing on which said brace is adapted to ride in its inward movement, and an adjustable stop for limiting the outward movement of said link.

12. The combination with a case and pumping-bellows contained therein, of a pedal for actuating said bellows, a fulcrum for said pedal, a cross-bar K within the case, a folding link M connecting said fulcrum with a pivotal bearing on said cross-bar, the guide J extending longitudinally of said cross-bar, and the brace I connected to said fulcrum, and at its inner end slidingly engaging said guide J for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

AURA E. WHITEHEAD.

Witnesses:
JAS. P. BARRY,
H. C. SMITH.