

G. P. BRAND.
 PEDAL MECHANISM.
 APPLICATION FILED APR. 7, 1909.

978,837.

Patented Dec. 20, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

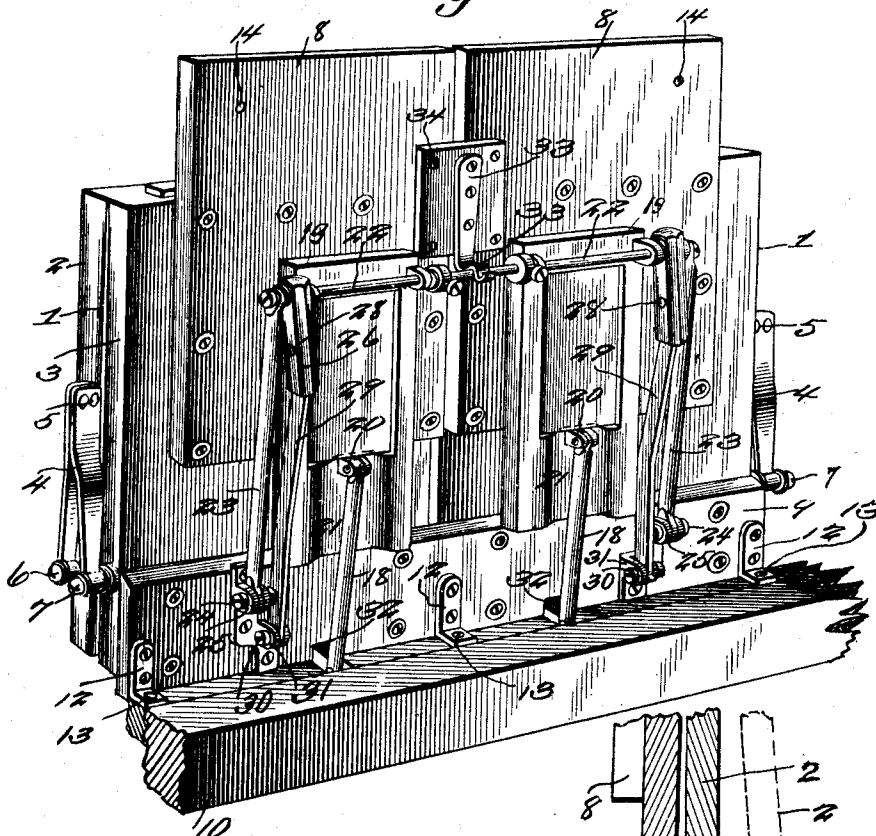
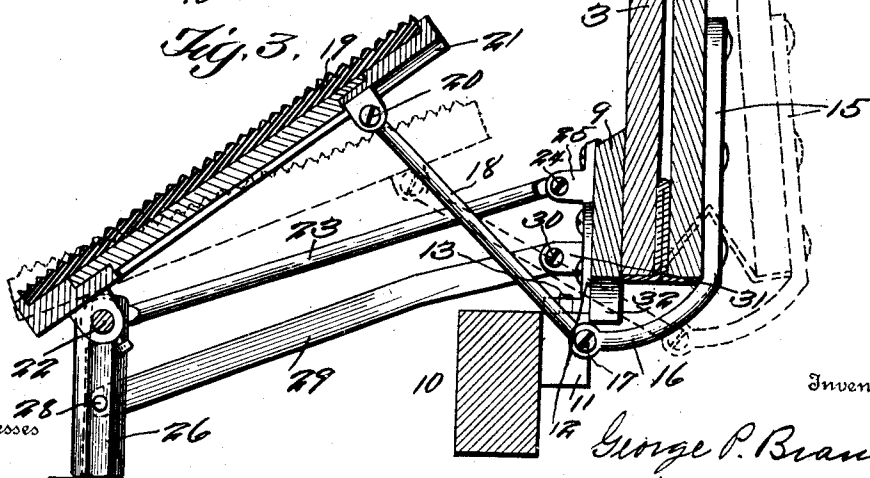


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 2.

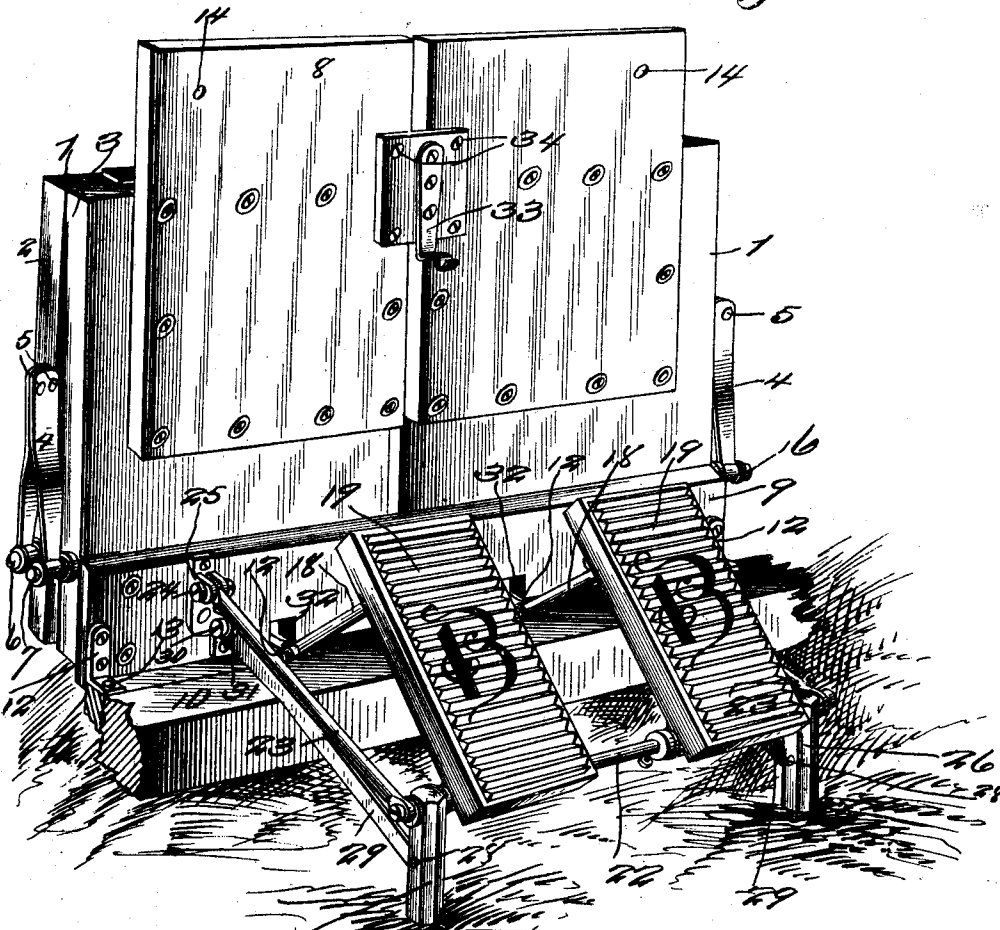
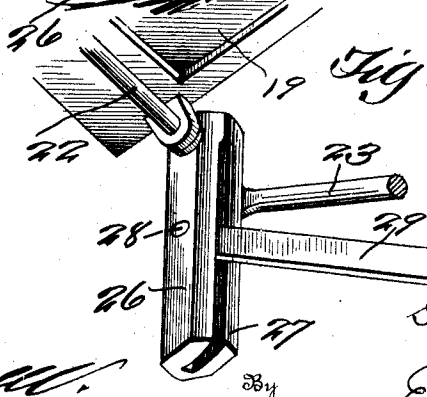


Fig. 4.



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PEDAL MECHANISM.

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To all whom it may concern:

Be it known that I, GEORGE P. BRAND, a citizen of the United States of America, and resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Pedal Mechanism, of which the following is a specification.

This invention relates to certain new and useful improvements in pedal mechanism and more particularly to pedal mechanism designed for use in mechanical musical instruments.

It has for its objects among others to provide improved pedal mechanism wherein the pedals are adapted to fold snugly against the board or support carrying the pumps or exhausters so as to effect economy of space. I provide a leg or foot adapted to fold automatically as the pedals are folded, the pedal being provided with a depression to receive the rod which is connected with the movable member of the exhauster so as to allow of the folding of the pedals close to the support of the exhausters. I slot the leg or foot to receive one of the members by which it is pivotally connected to the exhauster-support, a separate pivotal connection being provided between the leg or foot and said support, whereby, as the pedals are moved into their closed or folded position, the leg or foot is folded and the parts all brought into such close relation to each other as to occupy a minimum of space.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved pedal mechanism with the parts shown in their folded position. Fig. 2 is a perspective view of the same showing the parts in their distended position ready for use. Fig. 3 is an enlarged sectional detail, the section being a vertical one taken substantially through the center of one of the pedals. Fig. 4 is a bottom perspective view showing the folding foot, the same being on an enlarged scale.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings, 1 designates

the exhausters or pumps, of ordinary construction except as may be hereinafter specified. 2 is the movable member and 3 the stationary member thereof.

4 is the spring joined at its upper end, as at 5, the lower ends of its branches being connected respectively to the lateral members, as screws or the like 6 and 7, projecting respectively from the movable and stationary members of the pneumatics or exhausters. This spring serves to close the exhauster and hold the parts in the position in which they are indicated in full lines in Fig. 3.

8 are the conductor boards secured to the stationary members of the exhausters in any suitable manner.

9 is the base board securing the lower ends of the stationary members of the exhausters in fixed position relatively to each other and to the base board.

10 designates the bottom rail of an ordinary piano within which the mechanism forming the subject-matter of this application is to be applied.

11 is a bar affixed to the inner face of the rail 10 in any suitable or well-known manner and to which bar 11 the base board 9 is secured in any suitable manner, as by the angle irons 12, the horizontal portions of which rest upon the top of the bar 11 and are apertured to receive the vertical pins 13 rising from the bar 11. By simply lifting the base board 9 sufficiently to clear the horizontal members of the angle irons from the pins 13, the mechanism may be disengaged from the rail. It is to be understood that the conductor boards 8 when placed in the piano are secured at their upper ends in any suitable manner, as by bolts passed through the holes 14, to some fixed part.

Secured to the movable member of each exhauster is an arm 15, the lower end of which is curved downwardly and forwardly as seen at 16, and to the forward end thereof is pivotally connected as at 17 one end of a link 18, the other end of which is pivotally connected with the under side of the pedal 19, as at 20. The under face of the pedal is formed with a depression 21 to receive the link 18 when the pedals are folded as shown in Fig. 1, so as to economize space and allow the pedals to fold closer against the exhauster mechanism, as seen in Fig. 1. The pedals turn upon the rod 22 as a pivot, the one rod serving as the pivot for the two

pedals. To each end of this rod is rigidly connected an arm 23, the opposite end of each arm being pivotally connected as at 24 to a casting or the like 25 secured to the base board 9 as seen clearly in Figs. 1, 2 and 3.

Pivotaly mounted on the rod 22 near each end is a leg or foot 26 so as to turn on said rod, this leg or foot is longitudinally slotted upon its rear face as seen at 27 in Fig. 4, and within each slot is pivotally connected as at 28 a second arm 29, the opposite ends of said arms being pivotally connected as at 30 with a lug 31 on the casting 25 as seen clearly in Figs. 1, and 3.

The base board 9 is provided with a recess or notch 32 as seen in Figs. 1, 2 and 3, to allow of the necessary movement of the link 18, as indicated by dotted lines in Fig. 3.

With the parts constructed and arranged substantially as hereinbefore described, the operation is substantially as follows:—when in use the parts are as shown in Fig. 3, and also in Fig. 2, the feet resting upon the floor; pressure upon the pedals moves the parts from the position in which they are shown in full lines in Fig. 3 to that which they occupy in dotted lines. When pressure is removed

from the pedals the springs 4 return the parts back to the full line position. When not in use the pedals are folded up into the position in which they are shown in Fig. 1, where they are held by any suitable means as the spring catch 33 secured to a block 34 affixed to the conductor boards 8 as seen in Figs. 1 and 2, or by other suitable means. This catch may however be dispensed with.

As the parts are folded the leg or foot pieces 26 automatically change their position with relation to the foot pedals, being in a vertical position as shown so as to economize space, and as the parts are turned from their folded position into that seen in Fig. 3 the foot pieces automatically drop into position to stand vertically upon the floor as seen in the latter view. When the parts are in their folded position the contact of the pedals with the conductor boards 8 keeps the parts with the pivots 20 out of line with the line through the pivots 17 and 24 and 22, the said pivots 20 being thus thrown automatically out of line just before the parts reach their closed position against the conductor boards. The parts remain in this relative position when they are thrown down until the links 18 strike the adjacent surface of the rail 10, then with a slight touch with the foot of the operator on the

pedals the heels of the pedals are caused to drop and the toes then go up and the parts assume the position seen in full lines in Fig. 3, the foot pieces automatically dropping into position to contact with the floor to properly support the parts in operative

position. It is to be noticed that the foot pieces maintain a vertical position throughout the movement from the folded to the unfolded position, and vice versa.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

It is deemed important that the leg be slotted, so that there shall be provided a stop for the arm 29 to prevent folding of the leg inward as initial movement is given to the pedal to bring it into its operative position.

What is claimed as new is:—

1. A folding pedal embodying a foldable leg, means pivotally connected at one end to said leg, a piano base board to which the other ends are pivoted, an exhauster, said means being independent of each other and disconnected from each other, and a pedal pivotally connected with said leg and directly with said exhauster.

2. A folding pedal embodying a foldable leg, means pivotally connected at one end to said leg, a piano base board to which the other ends are pivoted, an exhauster, said means being independent of each other and disconnected from each other, and a pedal pivotally connected with said leg and directly with said exhauster, the connection between the pedal and exhauster being foldable against the pedal.

3. A folding pedal, a leg pivoted thereto, a piano base board, an exhauster, arms out of engagement with each other and independently pivoted to said leg and base board, and means pivoted at one end to the pedal and at the other directly to the exhauster at a point below the said base board.

4. A folding pedal, a leg pivoted thereto, a piano base board, an exhauster, arms out of engagement with each other and independently pivoted to said leg and base board, and means pivoted at one end to the pedal and at the other directly to the exhauster at a point below the said base board and to the rear of the pivotal connections of said arms with the base board.

5. In a folding pedal mechanism, a foldable leg, separate means pivotally connected with the leg and disconnected from each other, a fixed support with which said means are also pivotally connected, a pedal formed with a depression upon its under face extending to the end thereof and a link pivotally connecting the pedal support and receivable in said depression.

6. In a folding pedal mechanism, a pedal, a fixed support, a leg provided with a longitudinal slot open at its lower end upon its rear face, a rod movable with the pedal on which said leg is mounted to turn, an arm connecting said rod with said fixed support, and an independent arm pivotally mounted in said slot and movable toward the open end thereof and connected with said

fixed support, an exhauster, and a rod pivotally connecting the same with the upper end of the pedal.

7. In a folding pedal mechanism, a foot pedal provided upon its under face with a longitudinal depression open at one end, independently pivoted means for supporting the pedal, a fixed support with which said means are also pivotally connected and a link pivotally connected with the pedal and foldable within said depression.

8. A pedal, a pivotal mounting therefor, an exhauster, an arm pivoted at one end to said pedal and at the other directly to said exhauster, parallel means disconnected from each other and pivotally mounted independent of each other and movable with the pedal, permitting of automatic turning of the pedal to fold in into a vertical position, and a pivotally mounted leg at the outer end of the pedal and connected with said parallel means for supporting the pedal when in its lowest position.

9. A fixed support, a folding pedal, means pivotally connected with the inner end of said pedal and with said fixed support, a leg pivotally connected with the outer end of said pedal, and pivotal connections, independent of each other, between said leg and support permitting the pedal to be turned into a vertical position with its acting face toward the piano mechanism, the pivots of the independent connections with said support being in front of the rear pivot of the means on the inner end of the pedal.

10. In a folding pedal mechanism, a fixed support, a pedal, a pivotal connection with the upper end of said pedal, an exhauster pivotally connected with said pivotal connection, independent connections between the outer end of said pedal and said fixed support permitting upward folding of the pedal and an inversion of its position by downward pressure upon the upper end of the pedal, the pivots of said connections with

said support being in front of the pivot of said pivotal connection.

11. The combination with a baseboard, and the bellows of a pedal, means pivotally connecting the inner end thereof with the bellows substantially in vertical alinement with said baseboard, a leg pivotally mounted on the outer end of the pedal and independent substantially parallel means pivotally connecting said leg with said baseboard, the pivotal connections of said parallel means with the baseboard being forward of the pivot of the first-named means.

12. The combination with a baseboard, and the bellows of a pedal, means pivotally connected at the outer end with the upper end of the pedal and at the other end to a support on the bellows, a leg pivotally connected with the lower end of the pedal, and independent substantially parallel means pivotally connecting the said leg with said baseboard, the pivotal connections of said parallel means with the baseboard being in advance of the pivotal connection of the means with said bellows.

13. The combination with a baseboard, and the bellows of a pivotally mounted pedal, a leg pivotally connected with the baseboard by independent separately pivoted substantially parallel means, and pivotally mounted means pivotally connected with the inner end of the pedal and with the bellows at the rear of the said independent parallel means, said pedal being thus mounted to first fold downwardly and then upwardly into a plane substantially parallel with the baseboard with its tread toward said baseboard.

Signed by me at Washington, D. C., this 30th day of March 1909.

GEORGE P. BRAND.

Witnesses:

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JOHN SCRIVENER.