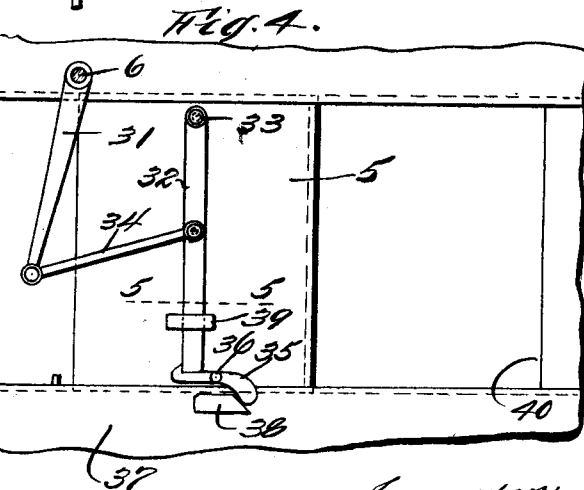
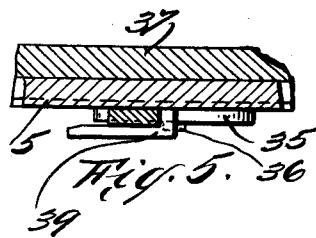
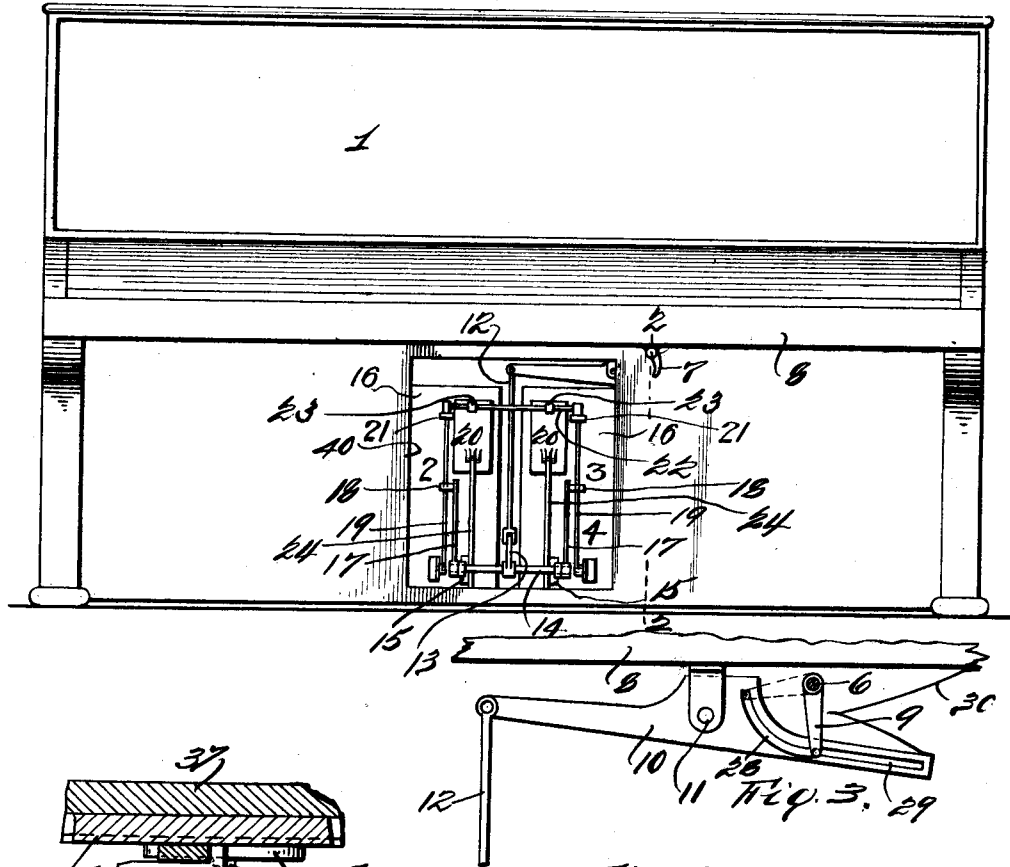


1,036,175.

Patented Aug. 20, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



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1,036,175.

Patented Aug. 20, 1912.

2 SHEETS—SHEET 2.

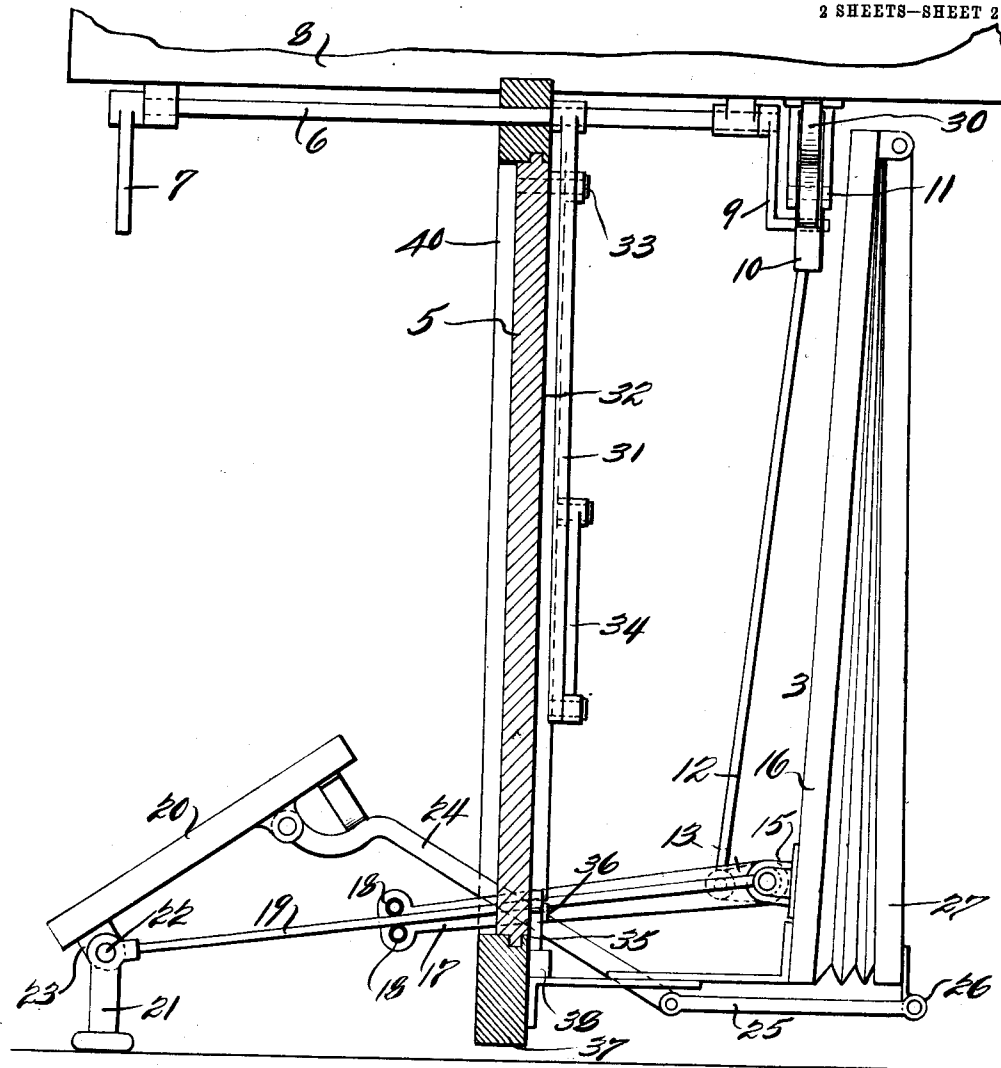


Fig. 2.

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# UNITED STATES PATENT OFFICE.

JOSEPH BAUER, OF BROOKLYN, NEW YORK.

## SELF-PLAYING PIANO.

1,036,175.

Specification of Letters Patent.

Patented Aug. 20, 1912.

Application filed August 10, 1911. Serial No. 643,269.

*To all whom it may concern:*

Be it known that I, JOSEPH BAUER, a citizen of the United States, residing at Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Self-Playing Pianos, of which the following is a full, clear, and exact description.

This invention relates to an improvement in pneumatic self playing pianos but more particularly to the pedal construction and means adapted to raise and lower the said pedals away from and into an operative position.

A further feature of my improvement is a door or cover which is designed to hide the pedal mechanism from view when the said pedals are not in use, the said door being automatically opened and closed by the mechanism which operates the pedals.

I will now proceed to describe my invention in detail, the novel features of which I will point out in the appended claims, reference being had to the accompanying drawings forming part hereof, wherein:

Figure 1 is a front view of a piano embodying my improvement. Fig. 2 is an enlarged vertical sectional view of a part of the lower portion of a piano, the section being taken on a line 2—2 in Fig. 1. Fig. 3 is an enlarged detail face view of the actuating lever which forms part of my improvement. Fig. 4 is an enlarged rear view of the door, and actuating mechanism therefor, and: Fig. 5 is an enlarged fragmentary sectional view, the section being taken on a line 5—5 in Fig. 4.

As my improved device is especially intended for pneumatic self playing pianos such a piano is herein indicated by the numeral 1, the keys of the piano being actuated by devices, not shown, the said devices being actuated by air from a pair of bellows 2 and 3. As is usual in this class of pianos each bellows 2 and 3 is actuated by a pedal mechanism 4.

My invention relates to the construction of this pedal mechanism and to a door 5 together with a door actuating mechanism, the said door being opened before the pedals are thrown into the operative position as shown in Fig. 2 and closed after the said pedals are thrown into the folded position shown in Fig. 1.

The means for closing and opening the door 5, as well as to actuate the pedal mechanism,

comprises firstly a rotatable rod 6 (Fig. 3) having secured at the outer end thereof a handle 7. The rod 6 is mounted upon the under side of the key-board 8 of the piano, the handle 7 being convenient to the player. As can be seen in Figs. 2 and 3 the inner end of the rod 6 carries an arm 9 which in turn rocks or actuates a beam lever 10 pivoted as at 11, to the key-board member 8. One end of the lever 10 has pivotally secured thereto a rod 12 the lower end of which is pivotally secured to an arm 13 (see Figs. 1 and 2) which in turn is carried by a rotatable shaft 14 pivotally mounted in brackets 15, one on each fixed member 16 of the two bellows. The shaft 14 is provided with arms 17 having pins 18 between which a rod 19, one for each pedal 20, passes. The outer end of each rod 19 is secured to standards 21, which in turn pivotally support a rod 22 to which the outer end of each pedal 20 is secured by means of brackets 23. Adjacent the inner end of each pedal 20 I pivotally secure a rod 24 the inner end of which is pivotally secured to a reach-bar 25. The inner end of each rod 25 is secured to a bracket 26 on the movable member 27 of each bellows.

In order that the arm 9 can operate the beam lever 10 I provide the said lever with a curved slot 28 and a communicating straight slot 29. The radius of the curved slot 28 is equal to the length of the arm 9, the radial point being coincident with the center of the shaft 6, whereby the said shaft 6 can oscillate without moving the lever 10. During the moving of the end of the lever 9 in the slot 28 the door 5 is closed or opened. When the door 5 is closed the arm 9 will occupy the position indicated by the dotted lines in Fig. 3, and when the door is open the said arm will occupy a position indicated by the full lines in Fig. 3. During the movement of the arm 9, from the position indicated by the full lines in Fig. 3, toward the right, the pedal mechanism, will be thrown to an operative position as shown in Fig. 2, due to the raising of the right end of the lever 10 which forces the rod 12 downwardly thereby rotating the shaft 14 and causing the arms 17 to move outwardly which movement will throw the rods 19 outwardly whereby the pedals will be moved to the aforesaid operative position. To counterbalance the weight of the pedal mechanism I provide a spring 30 as shown

in Fig. 3, to actuate the door 5 I provide the rod or shaft 6 with an arm 31 which is connected to a catch 32 pivoted at its upper end to the door 5 as at 33, by means of a link 34. The lower end of the catch 32 is adapted to engage a releasable latch 35 pivoted as at 36 to the door 5. Upon the bottom rail 37 of the piano frame I place a cam block 38 which is adapted to move the latch 35, away from the catch 32 at the proper time. The latch 35 normally holds the catch 32 against movement in one direction, while a stop 39 prevents the movement of the catch in the other direction, that is to say radical movement. When the door 5 is closed, to cover the opening 40 in the piano case thereby concealing the pedal mechanism, which will be folded from view, the arm 9 will be in the dotted position shown in Fig. 3.

Should I desire to use the pedals I would move the lever 7 to the right in Fig. 1, which would rotate the shaft 6 thereby swinging the arm 9 in the slot 28. When the shaft 6 is rotated the arm 31 will swing and pull the door 5 open, the end of the catch 32 being held by the latch 35. When the door 5 has been moved to the position shown in Fig. 4, or not quite open, the latch 35 will contact with the block 38. At about the time that the door has been moved wide open the latch 35 will have been moved away from the end of the catch 32, at which time the door 5 will cease moving. A continued rotation of the shaft 6 will tilt the beam-lever 10 thereby unfolding the pedal mechanism. During the unfolding of the pedal mechanism the catch 32 will swing on its pivot 33.

To fold the pedal mechanism, the arm 7 would be moved to the left, thereby causing the beam lever 10 to tilt back to its normal position thereby folding the pedal mechanism. At about the time that the pedal mechanism is folded the catch 32 will be caused to contact with the stop 39 on the door 5. A continued movement of the arm 9 will close the door. When the door 5 has been moved a short distance, the latch 35 will leave the block 38 at which time it will again engage the catch 32.

It will be evident from the above description, that the door 5 is first opened, then the pedal mechanism is unfolded, by a con-

tinuous rotary movement of the shaft or rod 6. A reverse movement on the part of the shaft 6 folds the pedal mechanism and then closes the door.

Having now described my invention, what I claim and desire to secure by Letters Patent is:

1. In combination with a piano, a foldable pedal mechanism, a movable covering therefor, operating means for said pedal mechanism and said covering, a catch carried by said covering, a link connecting said catch and said operating means, a latch carried by said covering normally engaging said catch, and means adapted to disengage said catch from said latch at a predetermined point during the movement of the operating means.

2. In combination with a piano, a foldable pedal mechanism, a movable covering therefor, operating means for said pedal mechanism and the covering therefor, a catch pivotally connected, at one end thereof, to said covering, a link connecting said catch and said operating means, a latch carried by said covering normally in engagement with said catch, and a block adapted to disengage said catch from said latch at a predetermined point during the movement of the said operating means.

3. In combination with a piano, a foldable pedal mechanism, a movable covering therefor, a pivotal beam lever carried by the frame of the piano, a rod connecting one end of said beam lever and said pedal mechanism, said beam lever being provided with a curved slot and a straight slot in communication therewith, a rotatable rod adjacent said beam lever, an arm carried by said rod adapted to engage the slots in said beam lever, a second arm carried by said rod, a releasable catch normally engaging said covering, a link connecting said catch and the second arm on said rod, and means adapted to release said catch when the arm, first named, on said rod leaves the curved slot in said beam lever.

Signed at New York city, N. Y. this 4th day of August, 1911.

JOSEPH BAUER.

Witnesses:

EDWARD A. JARVIS,  
FREDERICK BALL.

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