

980,554.

Fig. 1.

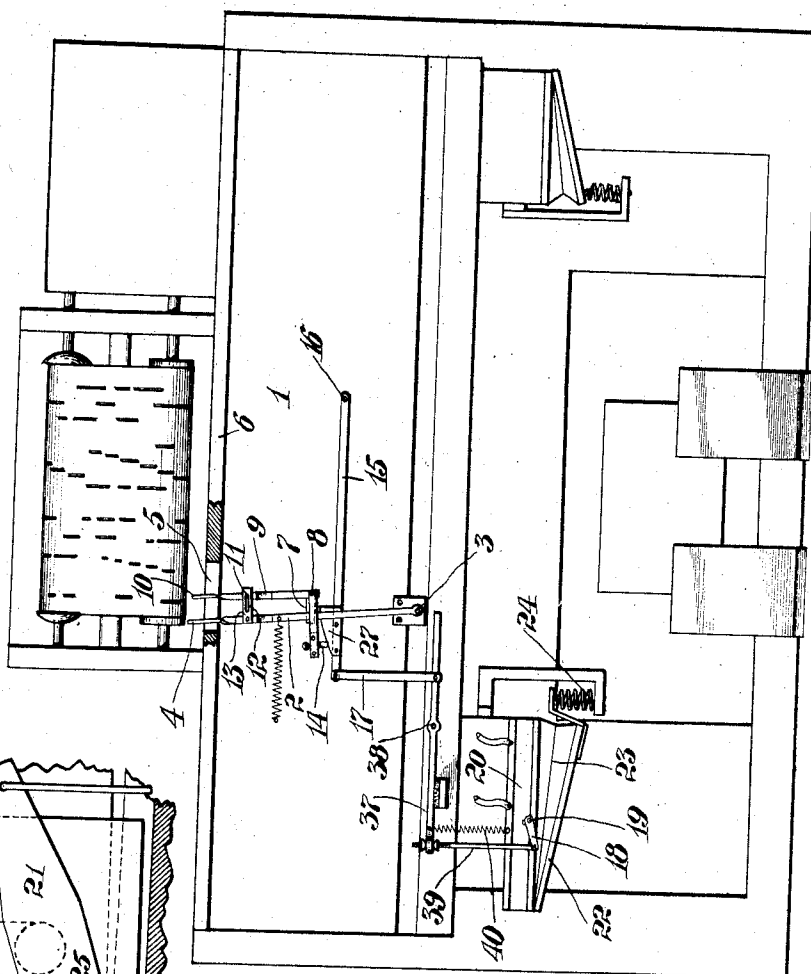


Fig. 2.

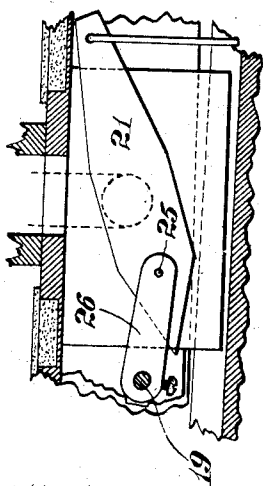
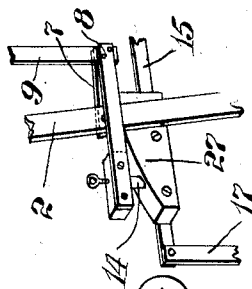


Fig. 3.



Attest:
Comptroller
Raymond Richardson

by *D. W. Pain* Inventor:
Osbert F. Truitt his Atty.

UNITED STATES PATENT OFFICE.

ROBERT W. PAIN, OF NEW YORK, N. Y.

CONTROLLING DEVICE FOR PIANO-PLAYING ATTACHMENTS.

980,554.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed June 28, 1910. Serial No. 569,306.

To all whom it may concern:

Be it known that I, ROBERT W. PAIN, a citizen of the United States, and a resident of New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Controlling Devices for Piano-Playing Attachments, of which the following is a specification.

This invention relates to improvements in controlling devices for piano playing attachments and the object of my invention is to provide a new and improved instrument of this kind which is provided with the usual lever to be moved by the left hand for the purpose of applying the forte pedal mechanism of the piano and with an additional lever carried by said forte lever which additional lever, when desired, serves for operating the mechanisms which controls the tension of the air which operates the playing mechanism, thus enabling the operator to shift the forte pedal lever and by means of the same hand also to control, when desired, the means to regulate the tension of the air, all of which is simple in construction, compact and effective and reliable in use.

In the accompanying drawings in which like letters of reference indicate like parts in all the figures: Figure 1 is an elevation of part of the mechanism of a piano player device showing my improvements. Figs. 2 and 3 are detail views.

The piano player mechanism 1 which may be of any desired type is provided with a lever 2 pivoted at 3 to swing in the vertical plane, the upper handle end 4 of this lever projecting through the vertical slot 5 in the bottom 6 of the music box.

By means of the lever 2 a suitable mechanism for depressing or operating the forte pedal mechanism is actuated but as this is very well known and forms no part of the present invention it need not be described. The lever 2 is provided with a rigid laterally projecting arm 7 to which at 8 an L shaped lever 9 is pivoted, the upper handle end 10 of which also projects through the slot 5 in the bottom of the music box and said L shaped lever 9 is guided in its movement by a pin 11 projecting from said L shaped lever 9 through the longitudinal slot 12 in the rigid arm 13 secured on the lever 2. On the free end of the lower shorter arm of the L shaped lever 9, an adjustable

button 14 is mounted which projects from the bottom surface of said lever for a purpose to be set forth hereinafter. A lever 15 is pivoted at 16 to the front wall of the player mechanism, inside of the casing, and at its free end is connected by a downwardly extending link 17 with one end of a lever 37 pivoted at 38 and connected by a rod 39 with an arm 18 of a rock shaft 19 extending through the casing 20 containing the valve 21 which controls the passage of air from the player mechanism to the main wind chest in the well known manner, which valve at one end is connected with the movable board 22 of the bellows 23 which is held in open position by a spring 24. The fulcrum of this valve 21 is formed by a pin 25 on the free end of the arm 26 of the shaft 19 within the casing 20. This valve 21 is opened and closed by the bellows 23 which closes the valve to a greater extent as the tension increases and opens it when the tension decreases and is provided to maintain a normal tension in the player wind chest. By changing the fulcrum this normal tension can be varied and as the arm 26 is swung down the fulcrum of the valve 21 is also lowered and the normal opening of the passage controlled by the valve 21 is increased and thus louder playing is produced. A spring 40 serves for pulling downward that end of the lever 37 connected with the rod 39.

The lever 15 carries the cam block 27 directly below the horizontal arm of the L shaped lever 9 and upon which cam block 27 the lower end of the button 14 can act when the combined levers 2 and 9 are swung to the right. The upper surface of this cam block is curved on a segmental line having its center at the pivotal point 3 of the lever 2, so that as the lever 2 is swung to the right the button 14 slides over the upper cam edge of the block 27 without acting upon the same, thus permitting of applying the forte pedal device without in any way changing the position of the lever 15. However, when the handle end of the lever 9 is pressed toward the handle end of the lever 2 the button 14 is lowered and if now the lever 2 with the lever 9 in the position just described are swung to the right the button 14 acting on the cam edge of the cam block 27 depresses the same more or less according to the distance that the handle end of the lever 2 has been moved toward the handle end of the lever 9 and thereby the

fulcrum of the valve 21 is lowered and a corresponding increase in loudness of playing is produced as more air is now permitted to pass from the action wind chest 5 to the main wind chest.

Having described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a pneumatic player attachment for 10 key musical instruments, the combination with a manual lever for actuating the forte pedal, and a valve for adjusting the air tension in the playing mechanism, of a lever 15 pivoted on said forte lever and mechanical means for transmitting motion from said additional lever to the above mentioned valve, substantially as set forth.

2. In a pneumatic player attachment for 20 key musical instruments, the combination with a manual lever for actuating the forte pedal, and a valve in said mechanism, for controlling the tension of the air in the playing mechanism, of a pivoted rod connected with said valve for adjusting the 25 same, and a supplemental handle lever pivoted to the manual lever for action upon the rod connected with said valve, substantially as set forth.

3. In a pneumatic player attachment for 30 key musical instruments, the combination with a manual lever for operating the forte pedal mechanism, and a valve for controlling the tension air in the playing mechanism, of a pivoted rod connected to said valve, a 35 cam plate on said rod, the cam edge of which is on a radius extending from the pivot of the manual lever, a supplemental lever pivoted to the manual lever and mounted to act on the said cam plate, substantially as 40 set forth.

4. In a pneumatic player attachment for key musical instruments, the combination with a pivoted manual lever for actuating the pedal mechanism, and a music box provided in its bottom with a slot through 45 which the handle end of said lever projects, of a valve for controlling the air tension in the player mechanism, a pivoted rod connected with said valve, a supplemental lever carried by the said manual lever, and having 50 its upper end also extending through the slot in the bottom of the music box adjacent to the handle end of the manual lever, and a cam plate on said rod, on which cam plate the supplemental lever can act, substantially 55 as set forth.

5. In a pneumatic player attachment for key musical instruments, the combination with a pivoted manual lever for actuating the pedal mechanism, and a music box provided in its bottom with a slot through 60 which the handle end of said lever projects, of a valve for controlling the air tension in the player mechanism, a pivoted rod connected with said valve, an L shaped supplemental lever pivoted to the manual lever, 65 and having its upper end also extending through the slot in the bottom of the music box adjacent to the handle end of the manual lever, and a cam plate on said rod, on which 70 cam plate the supplemental lever can act, substantially as set forth.

Signed at New York, in the county of New York, and State of New York, this 21st day of June A. D. 1910.

ROBERT W. PAIN.

Witnesses:

OSCAR F. GUNZ,
R. G. BREEN.