

**No. 663,552.**

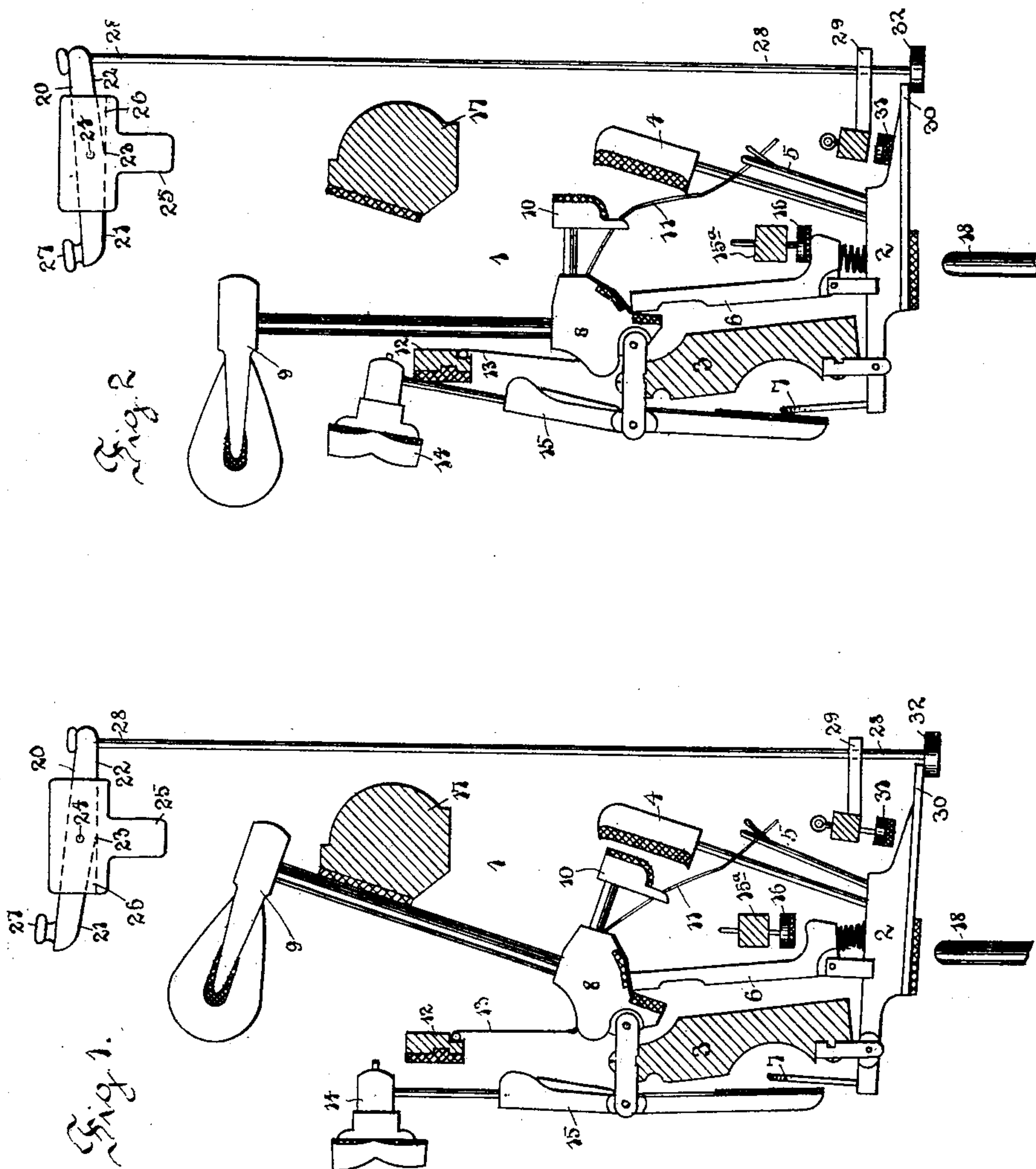
**Patented Dec. 11, 1900.**

**R. W. PAIN.**

## AUXILIARY OPERATING ATTACHMENT FOR PIANO ACTIONS.

(Application filed July 17, 1900.)

(No Model.)



Witnesses:-  
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# UNITED STATES PATENT OFFICE.

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## AUXILIARY OPERATING ATTACHMENT FOR PIANO-ACTIONS.

SPECIFICATION forming part of Letters Patent No. 663,552, dated December 11, 1900.

Application filed July 17, 1900. Serial No. 23,887. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT WILLIARD PAIN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Auxiliary Operating Attachments for Piano-Actions, of which the following is a specification.

My invention relates generally to pianos, and more particularly to automatic or self-playing pianos.

In the majority of cases self-playing pianos have besides the mechanical attachments for automatically operating same the ordinary means—viz., a keyboard for manual performance. In some instances, however, it has been found expedient to omit the keyboard altogether and to make the pianos solely self-playing—that is, the piano-actions can only be actuated by causing the specially-prepared pieces of music to pass over the corresponding means in the piano adapted to cooperate with same. From this it will readily be understood that when it is desired to tune the piano it is very awkward, in fact next to impossible, to sound each tone continuously or intermittently a great number of times in succession by means of the automatic attachments. Hence it becomes necessary in such cases to produce an independent means whereby each piano-action can be made to operate without having recourse to the self-playing attachments.

Accordingly the object of my invention is to produce an independently-operated means for actuating the piano-actions separately from the automatic attachments, and being intended for use only in the event of the piano being tuned or repaired it is located in the interior of the piano.

To this end the invention consists in the hereinafter-described combination of cooperative elements.

It is very evident that various changes may be made within the scope of the claims and without departing from the spirit of the invention; but what I consider the best means for carrying out the invention I have embodied in the construction shown in the accompanying drawings, in which—

Figure 1 is a sectional view showing my invention applied to a piano-action. Fig. 2 is a similar view showing the piano-action operated by my attachment.

Similar numerals of reference indicate corresponding parts in both views.

I shall describe a piano-action embodying my invention and afterward point out the novel features in the claim.

1 indicates a piano-action of any ordinary and suitable construction, comprising in this instance the jack-rocker 2, hinged on the center rail 3 and carrying the usual back-check 4 and bridle-wire 5, the jack 6, and the damper-spoon 7. To the center rail 3 is further hinged the usual hammer-butt 8, engaging the jack 6, carrying the hammer 9 and the hammer back-stop 10, connected by the bridle-tape 11 to the bridle-wire 5, while the butt 8 further engages with the hammer spring-rail 12 by means of the hammer-butt spring 13. The damper 14 is also hinged on the center rail 3 by means of the damper-lever 15, adapted to be actuated by the damper-spoon 7. Besides this, there is also the regulating-rail 15<sup>a</sup>, carrying the regulating-button 16 for tilting the jack at a certain point in its travel. When not in operation, the hammer rests on the hammer-rail 17, while an upward movement of the pin 18, operated by the automatic attachments of the piano, will by lifting the jack-rocker 2 set the piano-action in motion in a well-known manner and produce the desired tone. These elements above described and their function are so well known in the art that there is no need to dwell upon them further than to show their relation to my attachment and how they cooperate with it.

The auxiliary attachment is constructed as follows: Up above the hammer, so as to be easily accessible, there is pivoted a tilting arm 20, formed, preferably, with two lower slanting bearing portions 21 and 22, meeting in a central apex 23. The arm is pivoted by suitable means, such as a pin 24, to the longitudinal rail 25, which is provided with the transverse groove 26 for the reception of said arm. At one end the arm 20 carries a button or handle 27, by means of which it is tilted, while at the other end it has attached the vertical actuating-rod 28. This rod passes



down through the guide 29 out of the reach of the piano-action, so as not to interfere with the movement of same, and has attached at its lower end a horizontal bearing portion in the form of a button 32 for the purpose of co-acting with the extension 30 of the jack-rocker 2, so as to cause the same to partake of an upward movement, whereby the piano-action, as above explained, is operated, the jack-rocker being limited in its upward movement by the stop 31. It will thus be seen that by the simple manipulation of the tilting arm the jack-rocker is caused to act in the usual manner, an upward movement being imparted to the same and the desired tone sounded.

It will of course be understood that it is necessary to provide each piano-action with a separate attachment.

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

In a piano-action, the combination with the

jack-rocker of same carrying a horizontal projection, of an independently movable, auxiliary operating attachment in juxtaposition to same, comprising a horizontal arm pivoted at its central portion and provided with an operating-handle at one end, a vertical actuating-rod attached with its upper end to the said operating-handle, a guide for guiding the vertical actuating-rod, a horizontal bearing portion formed on the lower end of the vertical actuating-rod, the said bearing portion being adapted to impart an upward movement to the said jack-rocker when actuated by the manipulation of the operating-handle, substantially as described.

Signed at New York, in the county of New York and State of New York, this 2d day of July, A. D. 1900.

ROBERT WILLIARD PAIN.

Witnesses:

OWEN WARD,  
W. BENJAMIN.