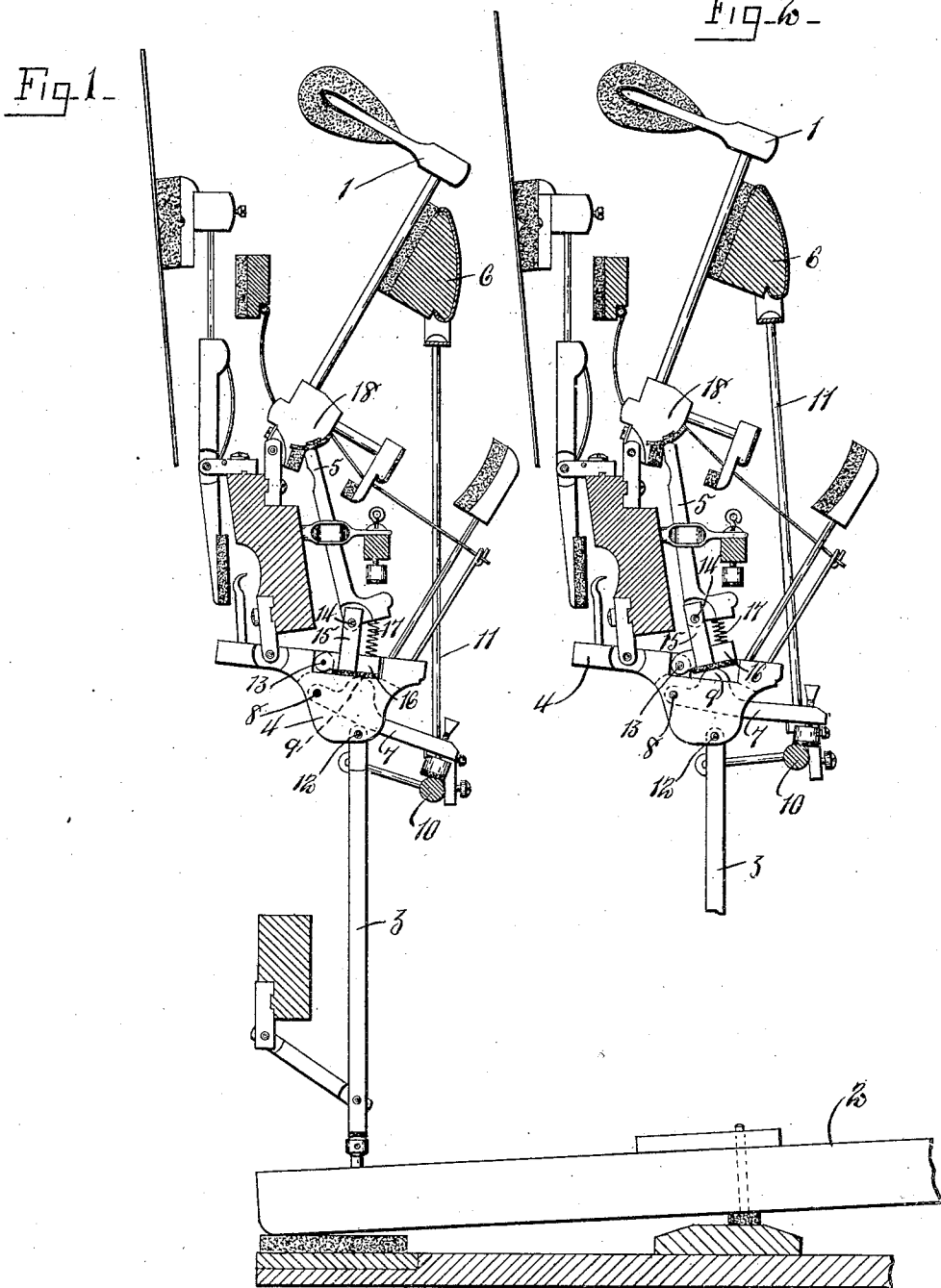


W. C. VOUGH.
 PIANISSIMO DEVICE FOR PIANO ACTIONS.
 APPLICATION FILED JAN. 27, 1908.

952,550.

Patented Mar. 22, 1910.



WITNESSES:
Chas. Hyung.
S. Davis.

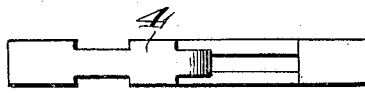


Fig. 3.

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WILLIAM C. VOUGH, OF WATERLOO, NEW YORK.

PIANISSIMO DEVICE FOR PIANO-ACTIONS.

952,550.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed January 27, 1908. Serial No. 412,896.

To all whom it may concern:

Be it known that I, WILLIAM C. VOUGH, of Waterloo, in the county of Seneca and State of New York, have invented a certain new and useful Pianissimo Device for Piano-Actions, of which the following is a specification.

My invention has for its object the production of a pianissimo device for piano-actions which is particularly simple in construction and effective in result; and to this end it consists in the combinations, constructions and arrangements hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is an elevation of this piano-action, the parts being shown in their normal position, and adjacent portions of the piano being also shown. Fig. 2 is a view of parts seen in Fig. 1 illustrating the position thereof when the soft pedal is depressed. Fig. 3 is an edge view of the detached wippen.

This piano-action includes a hammer, a key, power-transmitting connections between the hammer and the key comprising a plurality of parts which have movement relatively to each other when being operated, means for varying the starting position of the hammer to change the length of the stroke thereof, and means for adjusting the power-transmitting connections lengthwise when the means for changing the length of the stroke of the hammer is operated, so as to prevent the formation of gaps or spaces between the parts of the power-transmitting connections at any time during the operating of the hammer, and to reduce the motion transmitted to the hammer from the key through the power-transmitting connections when the stroke of the hammer is shortened.

1 is the hammer, and 2 the key. The power-transmitting parts between the hammer and the key include an abstract 3, a wippen 4, and a jack 5.

6 is a hammer-rest which is operated by the soft pedal of the piano to vary the starting position of the hammer and thereby change the length of the stroke of the hammer.

The means for adjusting the power-transmitting connections lengthwise when the hammer-rest 6 is shifted, comprises an element 7 pivoted to the wippen 4 and nor-

mally out of position to transmit any motion when the key is actuated, but movable into such position when the hammer-rest 6 is shifted. Preferably, said element normally is located between the edges of the wippen nearest the contiguous parts of the power-transmitting connections, is pivoted at one end at 8 to the wippen 4, between the pivot for the wippen and the pivot connecting the wippen and the abstract, and is provided with means, as an integral projection 9, intermediate of its ends having a rounded edge which slidably engages another of the parts of the power-transmitting connections, when said element 7 is moved on its pivot beyond one edge of the wippen into operative position. The free end of said element is engaged by a bar 10 connected to the hammer-rest by a link 11, so as to move with the hammer-rest.

Preferably, the abstract 3 is pivoted at 12 directly to the wippen 4, and the jack 5 is carried by an angular member or lever which is pivoted at 13 to the wippen between the pivot for the wippen and the pivot 12, the jack being pivoted at 14 to one arm 15 of the angular member or lever, and the other arm 16 thereof being located in a recess in the wippen and normally bearing on the bottom of the recess so that when the key is operated the opposing normally engaged faces of the wippen and member will coact to cause said member to move with the wippen as one body. A spring 17 is interposed between the jack and angular member. When said element 7 is moved into operative position it moves beyond the engaging face of the wippen at the bottom of the recess in said wippen, and engages the opposing face of the arm 16, and moves the angular member on its pivot 13 away from the wippen, thereby raising the jack so that there is no space between the end of the jack and the butt 18 of the hammer. During the movement of the element 7 into its operative position, the wippen remains stationary. When the key is depressed after the element 7 is in operative position the abstract acts directly upon the wippen and the element 7 serves to reduce the motion transmitted to the jack from the key.

What I claim is:—

1. In a piano-action, a hammer, a key, power-transmitting connections between the hammer and the key comprising a plurality of parts, means for varying the starting po-

sition of the hammer to change the length of the stroke thereof, and means for adjusting the power-transmitting connections lengthwise when the first-mentioned means is operated, the latter means comprising an element pivoted to one of the power-transmitting parts and having a face for slidably engaging another of said parts, said element being normally out of position to transmit motion from one part to another when the key is operated, and being connected to the first-mentioned means and movable thereby for adjusting the power-transmitting connections lengthwise, substantially as and for the purpose described.

2. In a piano-action, a hammer, a key, power-transmitting parts between the hammer and the key including a wippen, an abstract connected to the wippen and a jack connected to the wippen, means for varying the starting position of the hammer to change the length of the stroke thereof, and an element for adjusting the power-transmitting parts lengthwise, said element being pivoted to the wippen and disconnected from the abstract and the jack, and normally out of position to transmit motion from one of the power-transmitting parts to another when the key is operated, and being connected to said means and movable thereby into position to adjust the power-transmitting connections lengthwise, substantially as and for the purpose set forth.

3. In a piano-action, a hammer, a key, power-transmitting connections between the hammer and the key comprising a wippen, an abstract pivoted to the wippen, a jack, and a member interposed between the wippen and the jack and pivoted to the wippen and the jack, an element pivoted to the wippen and slidably engaging said member, and means for varying the starting position of the hammer to change the length of the stroke thereof, said means being connected to said element, substantially as and for the purpose specified.

4. In a piano-action, a hammer, a key, power-transmitting connections between the hammer and the key comprising a wippen, an abstract pivoted to the wippen, a jack, and a member interposed between the wippen and the jack and pivotally connected to the wippen and the jack, an element pivoted to the wippen and normally located between the edges of the wippen nearest to the abstract and to said member, and movable beyond the edge nearest to said member for moving said member and the jack relatively to the wippen, and means for varying the starting position of the hammer to change the length of the stroke thereof, said means being connected to said element, substantially as and for the purpose described.

5. In a piano-action, a hammer, a key, power-transmitting connections between the

hammer and the key comprising a wippen, an abstract pivoted to the wippen, a jack, and a member interposed between the wippen and jack and pivotally connected to the wippen and the jack, an element pivoted at one end to the wippen and having means intermediate of its ends for engaging said member, said element being normally out of position to move said member when the key is operated, and means for varying the starting position of the hammer to change the length of the stroke thereof, the latter means being connected to the free end of said element for moving said element on its pivot into position to transmit motion to said member when the key is operated, substantially as and for the purpose set forth.

6. In a piano-action, a hammer, a key, power-transmitting means between the hammer and the key comprising a pivoted wippen, an abstract pivoted to the wippen, and a part movable by the wippen relatively to the wippen, an element pivoted to the wippen between the pivot for said wippen and the pivot connecting the wippen and a part movable by the wippen relatively to the wippen and serving to move relatively to the wippen said part movable by the wippen, and means for varying the starting position of the hammer to change the length of the stroke thereof, the second-mentioned means being connected to said element for moving the same, substantially as and for the purpose set forth.

7. In a piano-action, a hammer, a key, power-transmitting means between the hammer and the key comprising a pivoted wippen, an abstract pivoted to the wippen, and a driven part pivoted to the wippen between the pivot for said wippen and the pivot connecting the wippen and the abstract, opposing faces of the wippen and the driven part normally engaging each other to transmit motion from the wippen to the driven part, an element pivoted to the wippen between the pivot for said wippen and the pivot connecting the wippen and the abstract, said element being movable relatively to the wippen and serving to move the driven part relatively to the wippen and thereby separate the normally engaged faces of the wippen and the driven part, and means for varying the starting position of the hammer to change the length of the stroke thereof, the second-mentioned means being connected to said element for moving the same, substantially as and for the purpose described.

8. In a piano-action, a hammer, a key, power-transmitting means between the hammer and the key comprising a pivoted wippen, an abstract pivoted to the wippen, and a driven part pivoted to the wippen between the pivot for said wippen and the pivot connecting the wippen and the ab-

5 stract, opposing faces of the wippen and the
driven part normally engaging each other
to transmit motion from the wippen to the
driven part, an element pivoted at one end
10 to the wippen between the pivot for the
wippen and the pivot connecting the wippen
and the abstract and provided with a pro-
jecting portion intermediate of its ends
formed with a rounding edge slidably en-
15 gaging the driven part for rocking the same
on its pivot and thereby separating the nor-
mally engaged faces of the wippen and the
driven part, and means for varying the
starting position of the hammer to change
20 the length of the stroke thereof, the second-
mentioned means being connected to the
other end of said element for moving the
same, substantially as and for the purpose
specified.

25 9. In a piano-action, a hammer, a key,
power-transmitting connections between the
hammer and the key comprising a wippen,
an abstract pivoted to the wippen, an angu-
lar member pivoted to the wippen and hav-
ing one arm thereof normally bearing on

the wippen, a jack pivoted to the other arm
of said member, and a spring interposed be-
tween said member and the jack, an element
for adjusting the power-transmitting con-
30 nections lengthwise, said element being piv-
oted to the wippen and normally out of po-
sition to transmit motion to said member
when the key is operated, means for vary-
ing the starting position of the hammer to
change the length of the stroke thereof, and
35 connections between said means and said
element for causing said element to move
the angular member on its pivot and cor-
respondingly move the jack, substantially
as and for the purpose specified. 40

In testimony whereof, I have hereunto
signed my name in the presence of two at-
testing witnesses, at Waterloo, in the county
of Seneca, in the State of New York, this
23rd day of March, 1907.

WILLIAM C. VOUGH.

Witnesses:

JOHN E. BECKER,
CHAS. G. REID.