

No. 785,393.

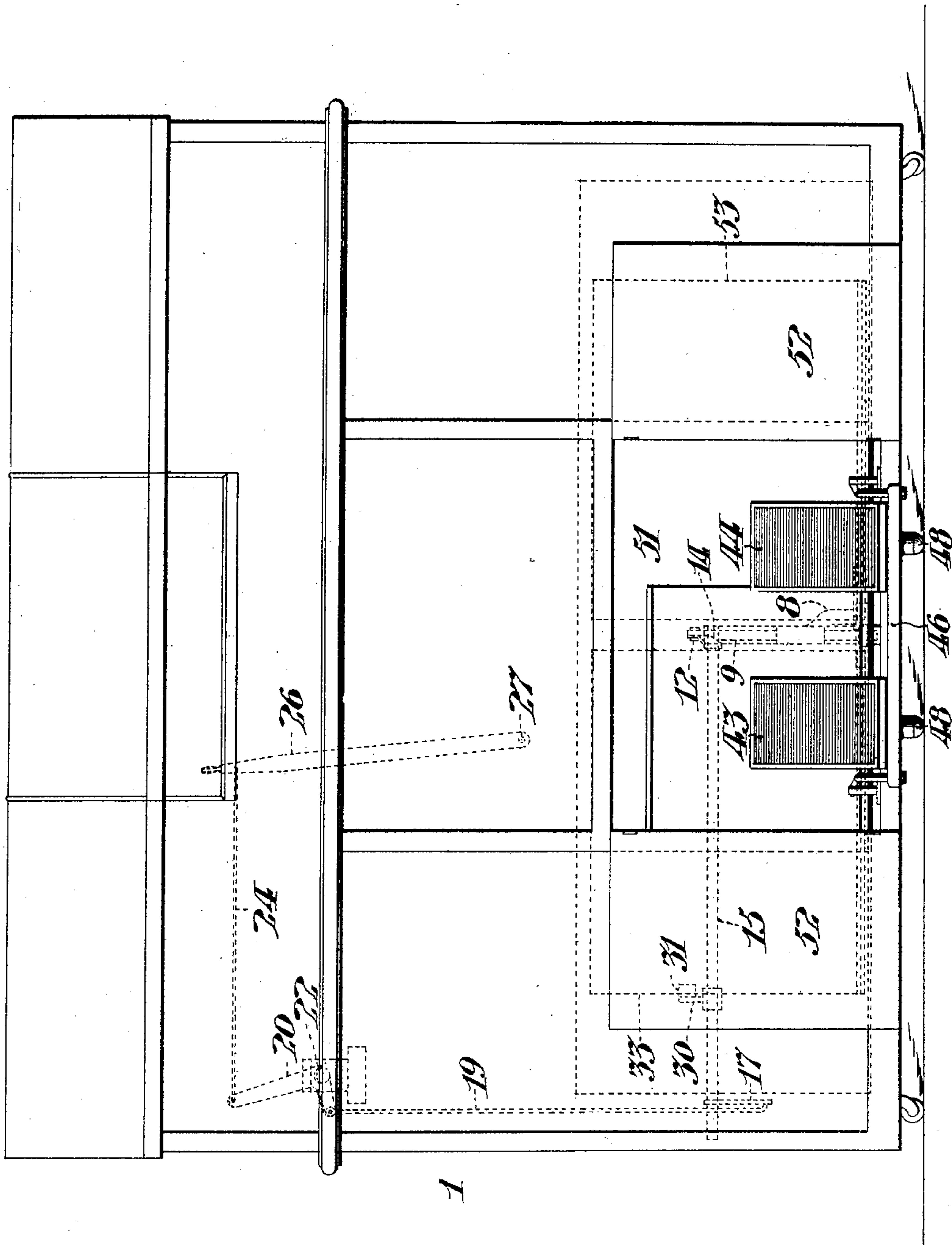
PATENTED MAR. 21, 1905.

P. WUEST, JR.
MECHANICAL MUSICAL INSTRUMENT.

APPLICATION FILED JULY 20, 1904.

3 SHEETS—SHEET 1.

FIG. 1.



WITNESSES:

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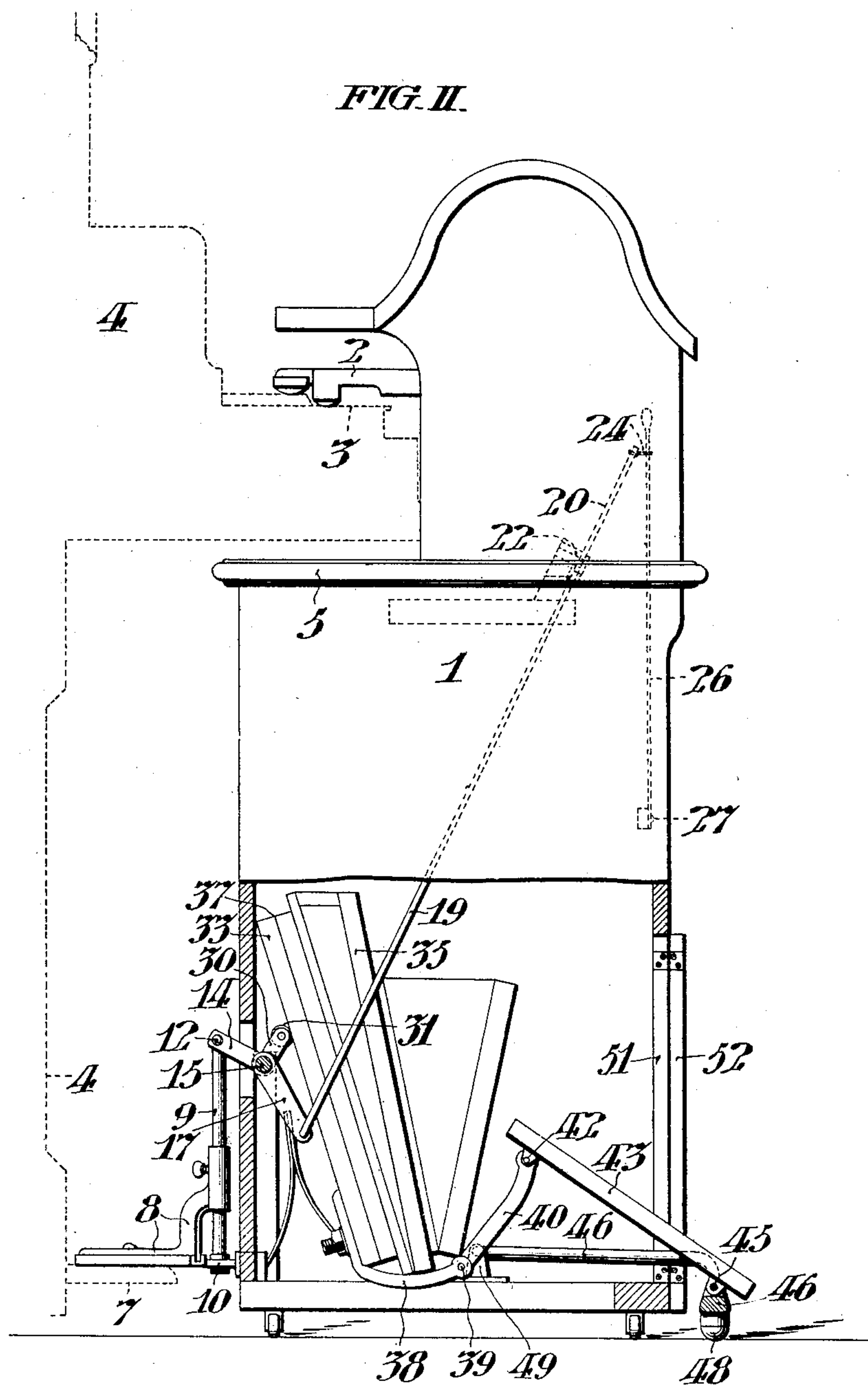
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

FIG. III.

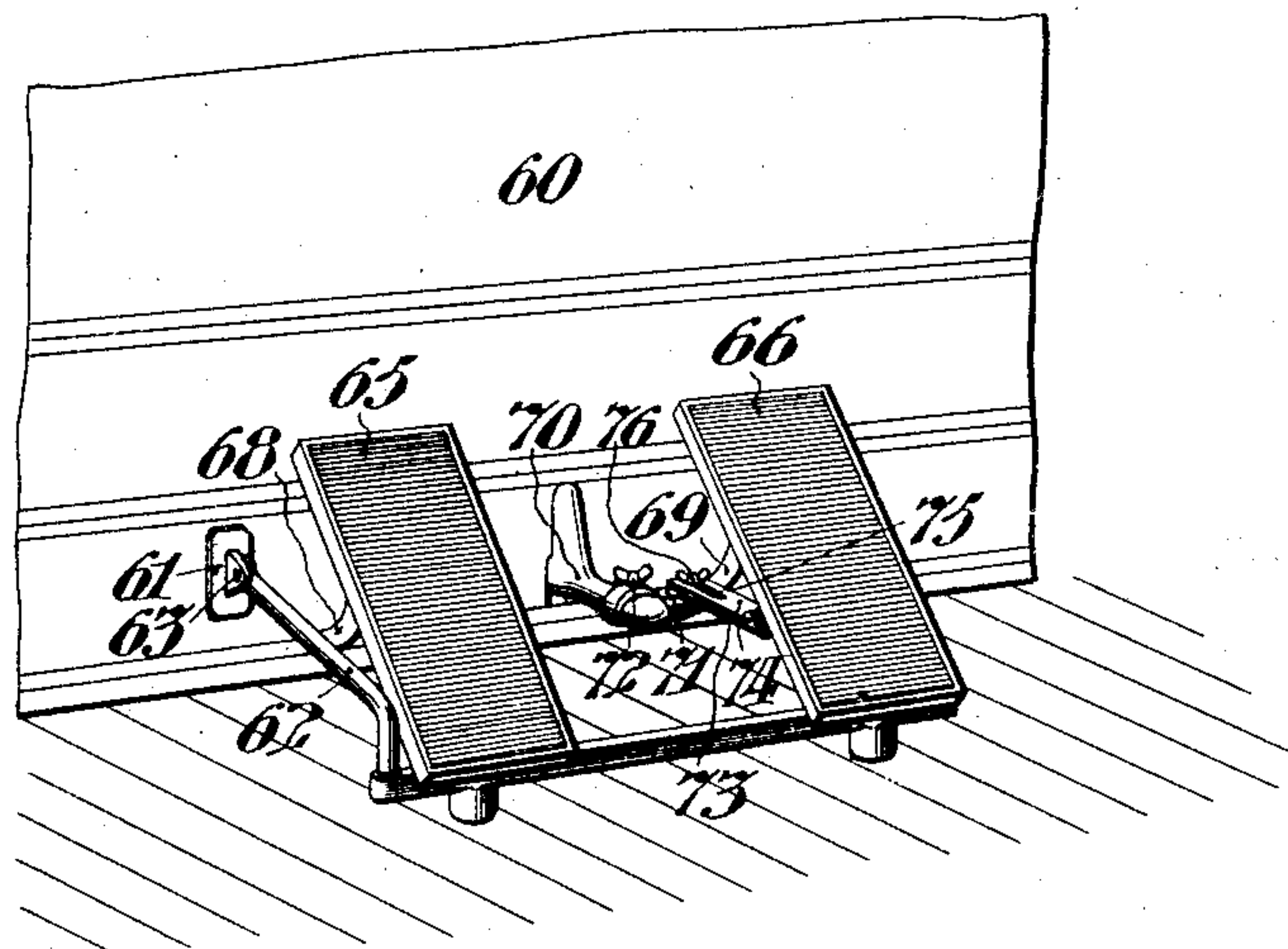
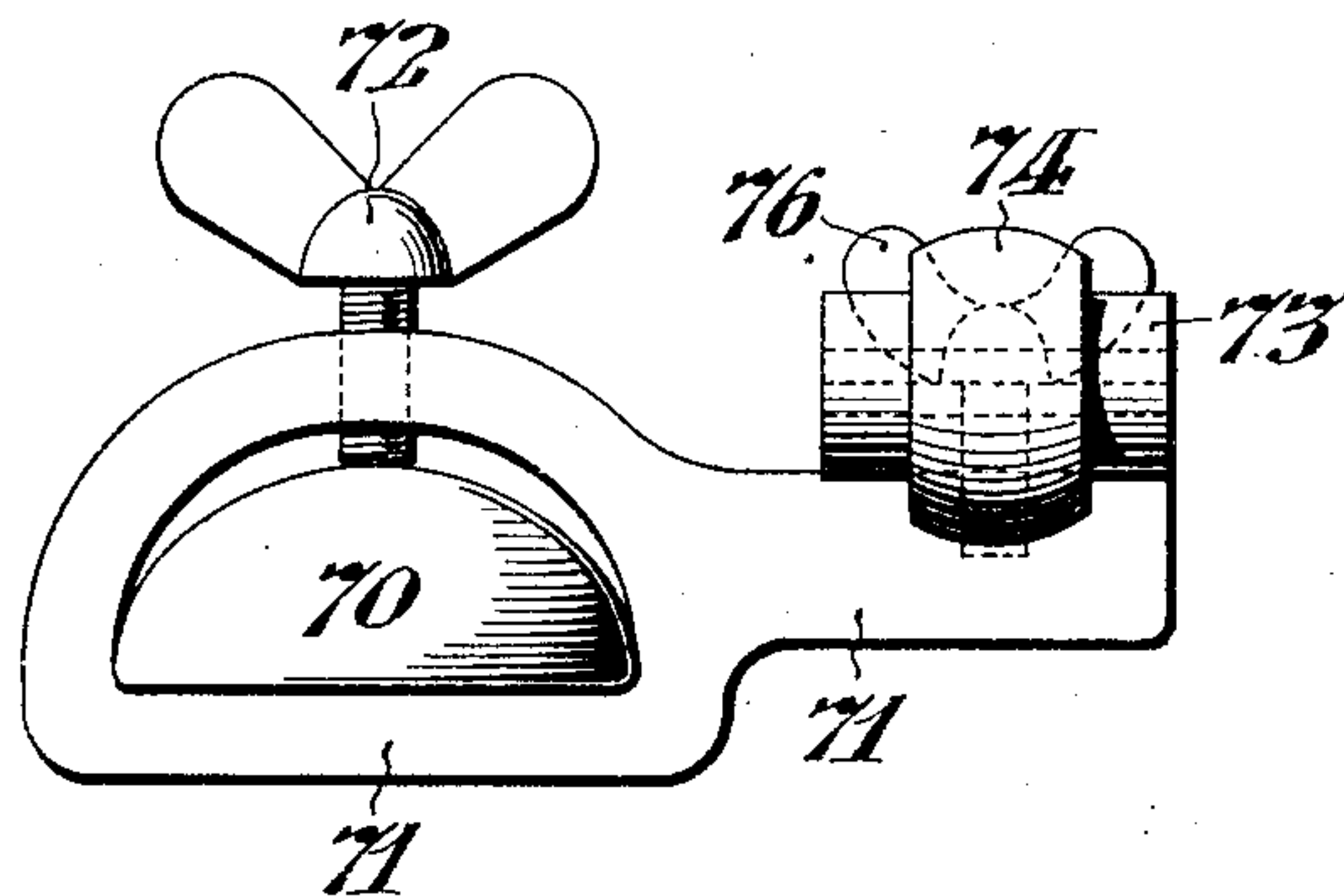


FIG. IV.



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UNITED STATES PATENT OFFICE.

PHILIP WUEST, JR., OF PHILADELPHIA, PENNSYLVANIA.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 785,393, dated March 21, 1905.

Application filed July 20, 1904. Serial No. 217,345.

To all whom it may concern:

Be it known that I, PHILIP WUEST, Jr., of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Mechanical Musical Instruments, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates particularly to instruments provided with automatic playing mechanism comprising a series of levers in operative relation to sounding devices, such as the strings of a piano, arranged to be actuated in any predetermined sequence by means of independent pneumatic mechanism controlled by a web of perforated paper which is progressed with respect to a pneumatic tracker-bar provided with a series of apertures corresponding with the series of levers.

It is the object of my invention to provide means to operate the pedals of a piano or similar instrument, particularly the loud pedal, by connecting the same with the pumping mechanism employed to maintain the pneumatic pressure or partial vacuum required for the automatic playing mechanism. Such pumping mechanism usually comprises two pedals independently connected with respective bellows, and, as hereinafter described, I find it convenient to operate the piano-pedal by connection with one of said pumping-pedals independently of the other.

My invention comprises the various novel features of construction and arrangement hereinafter more definitely specified.

In the drawings, Figure I is a front elevation of a piano-player embodying a convenient form of my invention. Fig. II is a left-hand end view of the instrument shown in Fig. I, a portion of the casing being broken away to show the interior construction. Fig. III is a perspective view of a portion of the front of a piano provided with automatic playing mechanism within its casing and embodying a convenient form of my invention. Fig. IV is a detail view of the member attached to the loud pedal of the piano in Fig. III.

Referring to the form of my invention shown in Figs. I and II, 1 indicates the casing inclosing a pneumatic playing mechanism comprising a series of finger-levers 2, arranged to im-

pinge upon the digitals 3 of a piano 4 or similar instrument. Said finger-levers 2 are operated by independent pneumatic motor and valve mechanisms of ordinary construction arranged within the casing 1 below the table 5 thereof, said operation being controlled by a web of perforated paper in the usual manner. The loud pedal 7 of the piano 4 may be depressed by the adjustable member 8 on the plunger 9, which is arranged to be vertically reciprocated in the bearing 10, secured on the back of the casing 1. The upper end of said plunger 9 is connected by the pivot 12 to the lever-arm 14 on the rock-shaft 15, having the arm 17 connected by the link 19 with the bell-crank lever 20, mounted to oscillate on the fulcrum 22 in the casing 1. As shown in Fig. I, the upper arm of said lever 20 is connected by the link 24 with the manually-operative lever 26, whose fulcrum 27 is supported by the casing 1. Said rock-shaft 15 has the arm 30, carrying the roller 31, in operative relation with the leaf 33 of the pneumatic bellows 35 of the automatic playing mechanisms. Said leaf 33 is fulcrumed at its upper edge 37 and is provided at its lower edge with the bracket 38, connected by the pivot 39 with the link 40, connected by the pivot 42 with the pumping-pedal 43. The pumping-pedals 43 and 44 are connected by pivots 45 with the frame 46, which in the operative position shown has its feet 48 resting on the floor. However, said frame 46 is mounted for oscillation on the brackets 49 in the casing 1, so that it may be upturned, with the pedals 43 and 44, to idle position within said casing through the doorway 51 and be inclosed by the doors 52.

It is to be understood that with the parts adjusted as shown in Fig. II when the pumping-pedal 43 is depressed the member 8, which is in operative relation with the piano-pedal 7, is caused to depress the latter by the leaf 33 encountering the roller 31 on the lever-arm 30 and when said pumping-pedal 43 is permitted to rise to its normal position (shown in Fig. II) the piano-pedal 7 is restored to its normal position shown by the usual counter-balance-spring with which it is provided within the casing of the piano 4. The pedal 44 (shown in Fig. I) being operatively connect-

ed with the bellows 53 by a link and bracket, similar to the link 40 and bracket 38 above described, a suitable pressure or partial vacuum may be maintained for the operation of the automatic playing mechanism by actuating said pedal 44, while the pedal 43 remains idle, the latter being only operated when it is desired to operate the pedal 7. However, it may be noted that the member 8 may be adjusted higher on the plunger 9, so that the pedal 7 is only operated when said pedal 43 is depressed to the limit of its movement.

In the form of my invention shown in Figs. III and IV the automatic playing mechanism is within the piano-casing 60, having the brackets 61, in which the pedal-frame 62 is supported on pivots 63. The pumping-pedals 65 and 66 are pivotally supported on said frame 62, like the pedals 43 and 44, above described, and are respectively provided with link connections 68 and 69, extending to the bellows of the automatic playing mechanism within the casing 60. The loud pedal 70 of the piano is conveniently provided with the adjustable and reversible member 71, which is detachably engaged therewith by the set-screw 72. The arm 73 of said member 71 is conveniently provided with the roller 74 to encounter the pedal 66 and comprises the slot 75, through which it is connected to the member 70 by the set-screw 76, so that the extent and angular position of said arm 73 may be varied and so that it may be swung into inoperative position when desired. Of course such a member 71 may be secured on the soft pedal of the piano in operative relation with the pedal 66.

It is to be understood that I do not desire to limit myself to the precise details of construction and arrangement herein described, as various modifications may be made therein without departing from the essential features of my invention.

I claim—

1. In a mechanical musical instrument, the combination with automatic playing mechanism, comprising pumping mechanism; of a

member arranged to operatively engage the pedal of a piano or similar instrument; and, means operatively connecting said pumping mechanism with said pedal, substantially as set forth.

2. In a mechanical musical instrument, the combination with automatic playing mechanism, comprising a pumping-pedal; of a member arranged to operatively engage the pedal of a piano or similar instrument; a pneumatic bellows arranged to operate said piano-pedal by said member; and, means operatively connecting said bellows with said pumping-pedal, substantially as set forth.

3. In a mechanical musical instrument, the combination with an automatic playing mechanism, comprising pumping mechanism; of a member arranged to operatively engage the pedal of a piano or similar instrument; and, means operatively connecting said pumping mechanism with said pedal, comprising a bellows-leaf and a lever arranged to be operated by said leaf, substantially as set forth.

4. In a mechanical musical instrument, the combination with automatic playing mechanism, comprising a pumping-pedal; of a member arranged to operatively engage the pedal of a piano or similar instrument; a hand-lever arranged to operate said piano-pedal by said member; and, means connecting said pumping-pedal with said member, arranged to operate the latter independently of said hand-lever, substantially as set forth.

5. In a piano, the combination with automatic playing mechanism, comprising a pumping-pedal supported by the piano-casing; of a member supported by the loud pedal of the piano, in operative relation with said pumping-pedal, substantially as set forth.

In testimony whereof I have hereunto signed my name, at Philadelphia, Pennsylvania, this 18th day of July, 1904.

PHILIP WUEST, JR.

Witnesses:

ARTHUR E. PAIGE,
ANNA F. GETZFREAD.

Correction in Letters Patent No. 785,393.

It is hereby certified that in Letters Patent No. 785,393, granted March 21, 1905, upon the application of Philip Wuest, jr., of Philadelphia, Pennsylvania, for an improvement in "Mechanical Musical Instruments," an error appears in the printed specification requiring correction, as follows: In line 36, page 2, the number "66" should read 65; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 4th day of April, A. D., 1905.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.