

P. WUEST, JR.
 TEMPO CONTROLLING MECHANISM FOR PIANO PLAYERS.
 APPLICATION FILED FEB. 28, 1912.

1,037,098.

Patented Aug. 27, 1912.

2 SHEETS—SHEET 1.

FIG. I

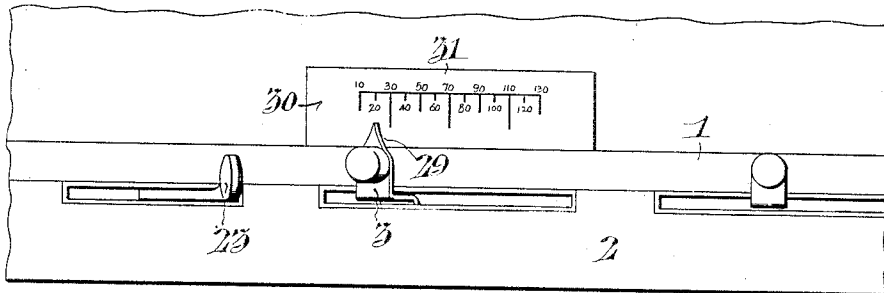


FIG. II

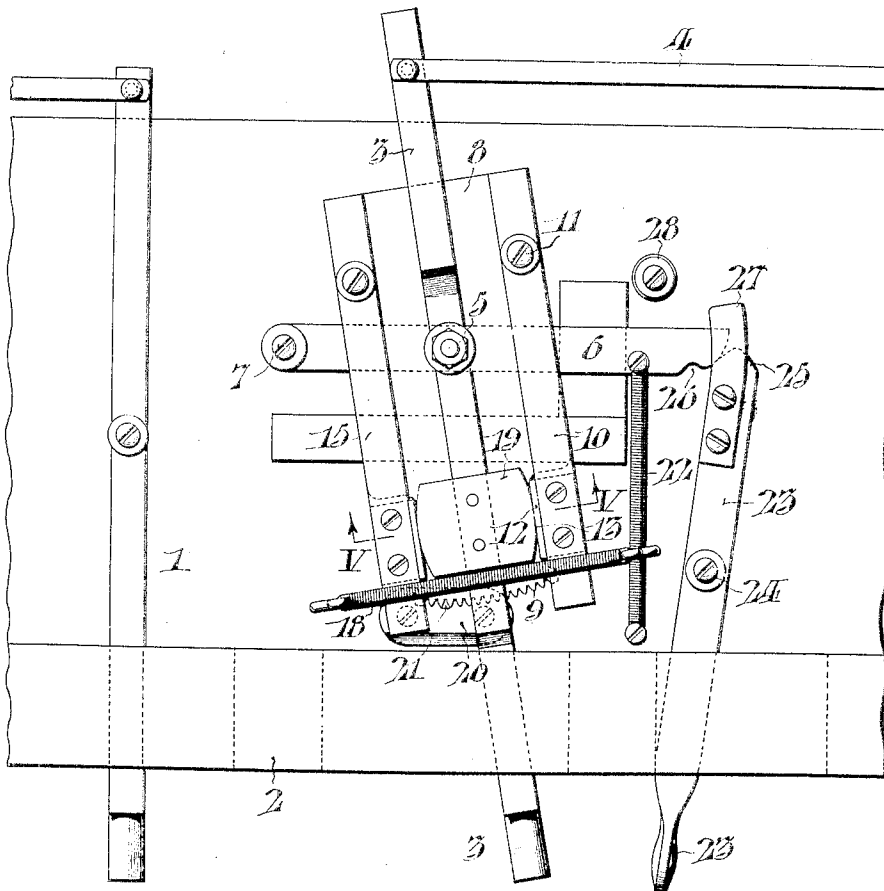
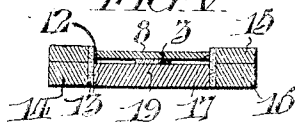


FIG. V



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2 SHEETS—SHEET 2.

FIG. III.

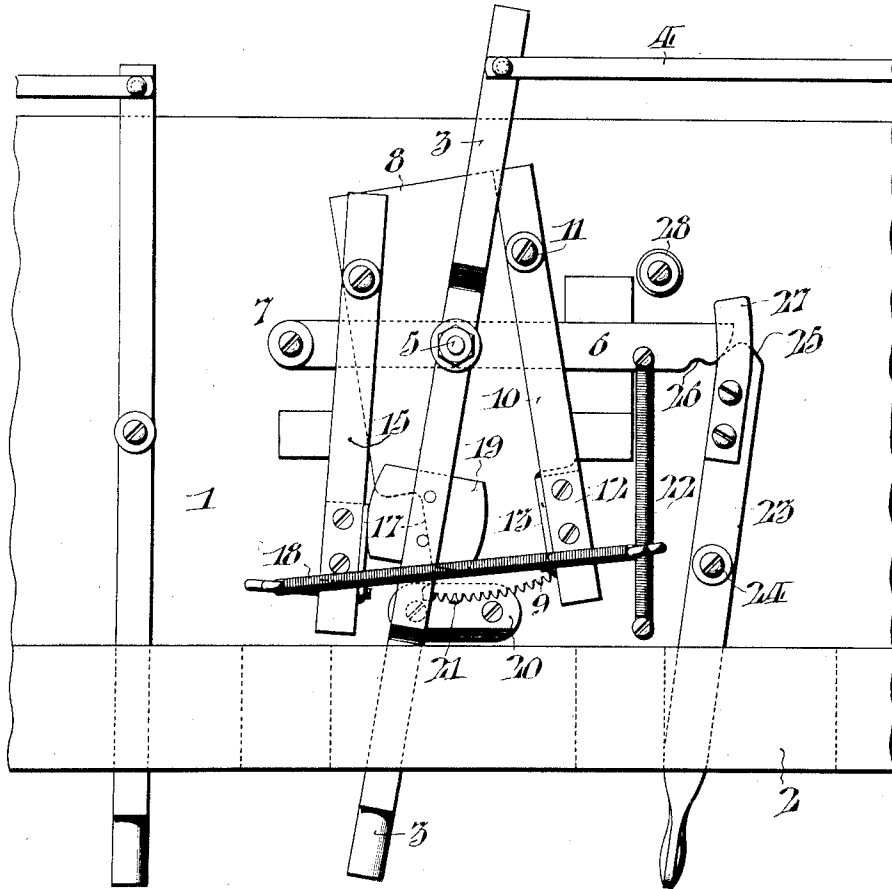
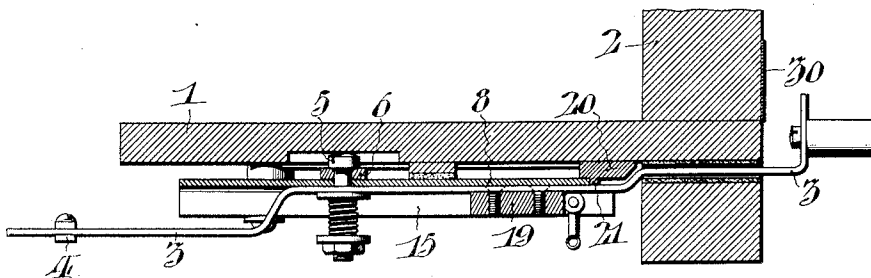


FIG. IV.



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UNITED STATES PATENT OFFICE.

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TEMPO-CONTROLLING MECHANISM FOR PIANO-PLAYERS.

1,037,098.

Specification of Letters Patent.

Patented Aug. 27, 1912.

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To all whom it may concern:

Be it known that I, PHILIP WUEST, JR., a citizen of the United States, and a resident of Woodbury, in the county of Gloucester and State of New Jersey, have invented a new and useful Improvement in Tempo-Controlling Mechanism for Piano-Players, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The invention relates more particularly to the lever mechanism for varying the speed of the playing mechanism.

An object of the invention is to provide a controlling lever of the above character, with an indicator and a cooperating scale which is formed with graduations, corresponding with the metronomic indications on the music roll.

A further object of the invention is to provide means whereby the tempo lever may be set at any desired metronomic indication.

A still further object of the invention is to provide a setting mechanism of the above character, which will allow the tempo lever to be moved at will to accelerate or retard the tempo, but when released, it will again assume the position to which it was set by the auxiliary lever.

These and other objects will in part be obvious, and will in part be hereinafter more fully disclosed.

In the drawings which show by way of illustration one embodiment of the invention, Figure I, is a detail in front elevation of a key-board ledge with my improvements applied thereto. Fig. II, is a bottom plan view of the same. Fig. III, is a view similar to Fig. II, showing the tempo lever shifted from set position. Fig. IV, is a transverse sectional view along the edge of the tempo lever. Fig. V, is a sectional view on the line V, V, of Fig. II.

A tempo controlling lever is, broadly speaking, well known in the art, and I have therefore, merely shown the mechanism which is associated with the same, it being understood that the self-playing mechanism is controlled by this lever in the usual manner.

In the drawings, the key-board ledge or shelf 1, is formed with a front ledge 2, through which are formed suitable openings for the controlling levers. The tempo-con-

trolling lever 3, is pivoted at its inner end to a rod 4, which is connected to the tempo mechanism. This lever 3, is connected by a pivot bolt 5, to an arm 6, which in turn is pivoted at 7, to the key-board shelf. A setting plate 8, is freely pivoted on the pivot bolt 5, and is formed with a toothed sector 9, at its forward end. A limiting arm 10, is pivoted at 11, to the setting plate, and is formed with a buffer 12. This limiting arm is normally parallel with the side edge of the setting plate. The forward end of the setting plate is cut away to form a shoulder 13. The limiting arm 10, is provided with a block 14, which is adapted to engage the shoulder 13. A second limiting arm 15, is pivoted at the other side of the setting plate, and is also provided with a block 16, which engages the shoulder 17, at the other side of the setting plate. Each of the limiting arms is provided with brackets and a coil spring 18, joins the brackets. This coil spring normally holds the limiting arms against the shoulders above referred to. The tempo lever 3, carries a block 19, which engages the pads carried by the limiting arms, as clearly shown in Fig. II.

A plate 20, is secured to the keyboard ledge and comprises a detent 21, which is adapted to engage the toothed sector at the forward end of the setting plate. The arm 6, when swung about its pivotal point 7, will bodily shift the setting plate toward or from the front of the keyboard shelf. A spring 22, normally forces the arm 6, toward the front of the key-board shelf, and holds the toothed sector in engagement with the detent 21. When the arm 6, is moved in a direction away from the front of the keyboard shelf, this stop plate is withdrawn from the detent and said stop plate may then be freely swung about its pivotal support on the arm 6. When however, said toothed sector is in engagement with the detent, the setting plate 6, is fixed and cannot turn about said pivot bolt. If the setting plate is out of engagement with the detent, said plate will swing with the tempo lever, as the limiting arms will be held spring-pressed against the shoulders on the setting plate, and will cause the plate to swing with the lever, through the engagement between the limiting arms and the block 19. When this tempo lever is shifted to the desired position where it is to be set,

the arm 6, is allowed to move toward the key-board shelf and the detent will engage the toothed sector and hold the setting plate in this fixed set position.

5 When it is desired to shift the tempo lever to accelerate or retard the tempo, even with the setting plate fixed in a desired set position, the limiting arms will yield to allow the tempo lever to be swung, as clearly
10 shown in Fig. III. This shifting of the tempo lever moves the limiting arm 15, away from the shoulder on the setting plate, and as soon as the tempo lever is released, the spring 18, will at once return the same
15 to the normal set position. Said tempo lever may be swung in the opposite direction, and will be returned to set position in a like manner.

As a means for swinging the arm 6, to
20 release the setting plate, I have provided a finger-lever 23, which is pivoted at 24, to the key-board shelf, and is formed at its inner end with a cam-shaped surface 25, which is adapted to coöperate with the
25 notch 26, on the end of the arm 6. A plate 27, is attached to the finger lever 23, and overlaps the end of the arm 6, so as to hold the end of the arm and the finger-lever in proper coöperative engagement. The
30 swinging of the finger lever 23, will cause the cam faces 25, to engage the notch 26, and the arm 6, to swing away from the front of the key-board shelf. A stop 28, limits the inward movement of the arm 6.
35 Upon the releasing of the finger lever, the spring 22, will at once return the arm 6, so as to lock the setting plate, as above noted. The tempo lever 3, and the setting
40 finger lever 23, both project through openings in the front ledge of the key-board shelf, as is common in this type of instrument.

The tempo lever may be formed with an indicating finger 29. A scale may be
45 mounted on the front ledge of the key-board, having graduations 31, corresponding with the metronomic indications on the music roll. The operator may thereby readily manipulate the tempo lever so as to
50 bring the indicating finger into registry with the scale graduations indicated on the music roll, and thereby secure the tempo indicated on the music roll.

It is obvious that minor changes in the
55 details of construction and arrangement of parts may be made, without departing from the spirit of my invention as set forth in the appended claims.

Having thus described my invention, I
60 claim:

1. A tempo controlling mechanism including an operating lever for the tempo mechanism, means for supporting said lever, a setting plate, yielding limiting arms carried by the setting plate and adapted to

engage the operating lever whereby said lever is yieldingly held in predetermined relation to the setting plate, means for holding said plate in set position, and means independent of the operating lever for releasing said setting plate. 70

2. A tempo controlling mechanism including an operating lever for the tempo mechanism, means for pivotally supporting said lever, means whereby said lever may be set at any desired tempo including a setting plate, means for holding said plate in set position, a finger lever for releasing said plate whereby it may be shifted to other positions, and yielding devices carried by
80 said setting plate and adapted to engage said tempo lever whereby said tempo lever is yieldingly held in predetermined relation to the setting plate.

3. A tempo controlling mechanism including an operating lever for the tempo mechanism, means for supporting said lever, a setting plate, means for holding said plate in set position, a finger lever for releasing said plate whereby it may be shifted
90 to other positions, and yielding limiting arms carried by said setting plate, and adapted to engage said operating lever, whereby said lever is yieldingly held in predetermined relation to the setting plate. 95

4. A tempo controlling mechanism including an operating lever for the tempo mechanism, means for supporting said lever, a setting plate, means for holding said plate in set position, a finger lever for releasing said plate whereby it may be shifted
100 to other positions, arms carried by the setting plate at opposite sides of the center thereof, means for yieldingly pressing said arms toward each other, stops for limiting the movement of said arms, a device carried by said operating lever, and adapted to be engaged by said arms, whereby said operating lever is yieldingly held in predetermined relation to the setting plate. 110

5. A tempo controlling mechanism including an operating lever for the tempo mechanism, a pivotally supported arm on which said tempo lever is fulcrumed, a setting plate pivotally secured to the fulcrum
115 of the lever, means for yieldingly holding said tempo lever in predetermined relation to the setting plate, said setting plate having a toothed sector thereon, a fixed detent adapted to engage said sector, a spring engaging said arm for holding the toothed sector in engagement with the detent, and a finger lever for shifting the arm to withdraw the setting plate from engagement
125 with the detent, whereby said setting plate may be shifted with the tempo lever. 125

6. A tempo controlling mechanism including an operating lever for the tempo mechanism, a pivoted arm on which said lever is fulcrumed, a setting plate pivoted
130

to swing about said fulcrum, limiting arms
pivotally supported by the setting plate and
yieldingly pressed toward each other, a
block carried by the tempo lever and adapt-
5 ed to engage said limiting arms, said set-
ting plate having a toothed sector formed
at one end thereof, a fixed detent adapted
to engage said sector, a spring connected
with said swinging arm for normally hold-
10 ing the toothed sector in engagement with
the detent, and a finger lever having a cam

end thereon for engaging a notch in the
swinging arm and moving the setting plate
from engagement with the fixed detent.

In testimony whereof, I have hereunto 15
signed my name at Philadelphia, Pennsyl-
vania, this twenty-seventh day of February
1912.

PHILIP WUEST, JR.

Witnesses:

PRESTON F. RICE,
JAMES H. BELL.