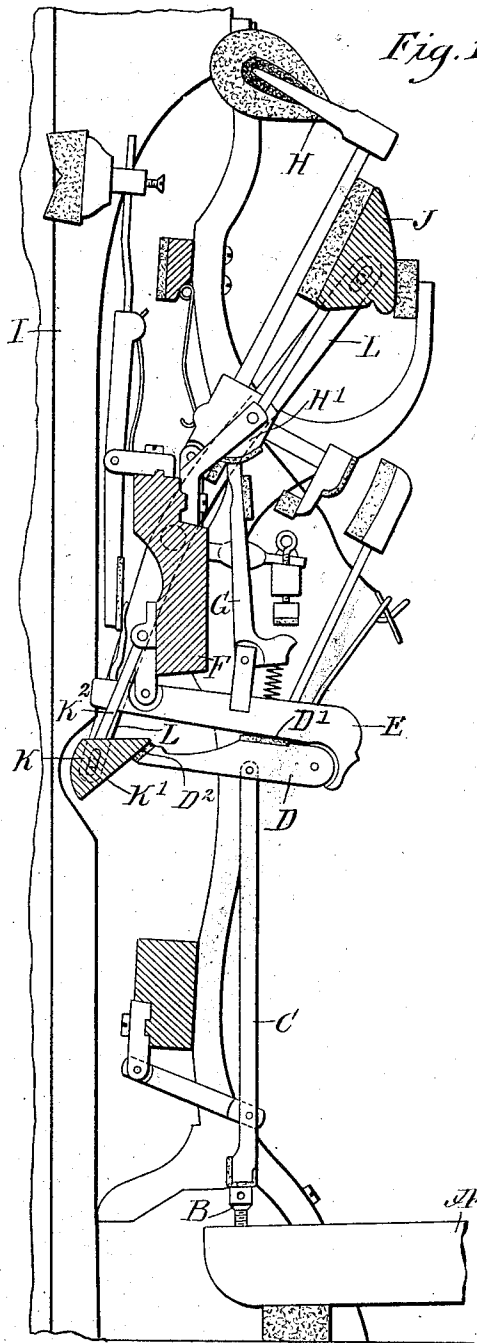


No. 845,565.

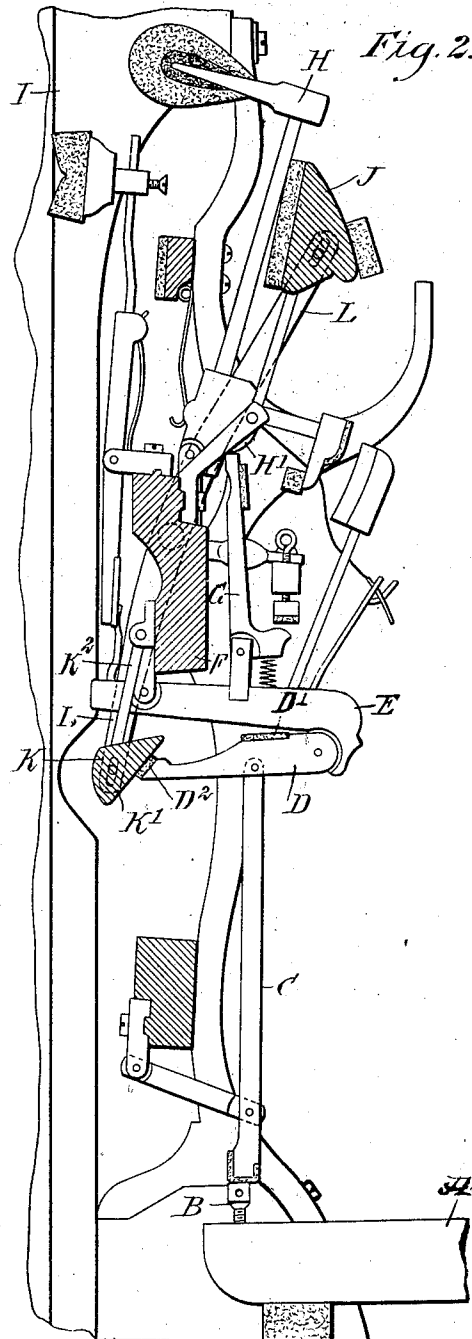
PATENTED FEB. 26, 1907.

H. METZGER.
PIANISSIMO DEVICE.
APPLICATION FILED JUNE 20, 1906.



WITNESSES

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HENRY METZGER, OF CASTLETON, NEW YORK.

PIANISSIMO DEVICE.

No. 845,565.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed June 20, 1906. Serial No. 322,557.

To all whom it may concern:

Be it known that I, HENRY METZGER, a citizen of the United States, and a resident of Castleton, in the county of Rensselaer and State of New York, have invented new and Improved Pianissimo Devices, of which the following is a full, clear, and exact description.

The invention relates to upright pianos; and its object is to provide a new and improved piano-action arranged to take up all lost motion between the jack and the hammer-butt when the soft pedal is used.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a cross-section of the improvement, showing the parts in position when the soft pedal is off; and Fig. 2 is a like view of the same, showing the parts in position when the soft pedal is on.

It is well known that when the soft pedal is pressed in ordinary pianos and the hammer-rest rail is swung rearwardly then the hammer-butt moves away from the upper end of the jack, and when the key is subsequently pressed and the jack is raised, it moves a distance inactively before reengaging the hammer-butt and imparting movement to the hammer. To compensate or overcome this inaction or lost motion of the jack is the object of the invention, presently to be described in detail.

Each key A of the piano-action engages by the capstan B the extension C, pivotally connected at its upper end with a lever D, also pivotally connected with the wippen E, fulcrumed on the fixed center rail F. The wippen E carries the jack G, engaging the butt H' of the hammer H, adapted to sound the string I and normally resting on the hammer-rest rail J, capable of being thrown into a half-stroke position upon pressing the soft pedal in the usual manner. The lever D normally rests flat against the under side of the wippen E, (see Fig. 1,) and its free end abuts against the beveled face K' of an auxiliary rail K, pivotally connected by arms K² to the center rail F. The ends of the auxiliary rail K are pivotally connected with the

lower ends of levers L, fulcrumed between their ends on the center rail F, and pivotally connected at their upper ends with the hammer-rail J. Now when the hammer-rail J is swung rearward into a half-stroke position on pressing the soft pedal then a forward swinging motion is given to the auxiliary rail K', (see Fig. 2,) whereby the latter imparts a swinging motion to the lever D, now turning on the extension C as the fulcrum, so that an upward-swinging motion is given to the wippen E to keep the upper end of the jack G in engagement with the hammer-butt H'. When the key A is now pressed, the extension C imparts a swinging motion to the lever D, the latter now turning on the beveled face K' of the auxiliary rail K as the fulcrum, whereby the wippen E is swung upward and the jack G imparts a swinging motion to the hammer H to sound the corresponding string I. It will be noticed that when the auxiliary rail K is swung forward, as above described and shown in Fig. 2, the lever D assumes an angular position relative to the wippen E as the first end of the lever D moves downward, and the other end, which is pivotally connected with the wippen E, rises to keep the upper end of the jack G in engagement with the hammer-butt H', and hence all lost motion between the said jack G and the hammer-butt H' is avoided when the soft pedal is pressed. The lever D is preferably provided with felts D' and D² for engagement with the wippen E and the face K', as will be readily understood by reference to the drawings, to avoid undue noise and vibration.

From the foregoing it will be seen that the compensating device shown and described is actuated from the hammer-rail J and connects with the extension C and the wippen E to insure contact or engagement of the upper end of the jack G with the butt H' of the hammer H.

The device is very simple and durable in construction, composed of comparatively few parts, and not liable easily to get out of order.

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

1. A pianissimo device comprising a hammer, a hammer-rest rail, a center rail, an auxiliary rail, an extension, a wippen, a lever fulcrumed on the extension and having one end engaging the auxiliary rail and the other

and pivoted to the wippen, a jack connected
with the wippen and engaging the hammer,
and a lever fulcrumed on the center rail and
having slotted ends pivotally connected
5 with the hammer-rest rail, and the auxiliary
rail, respectively, whereby the movement of
the hammer-rest rail is imparted to the aux-
iliary rail whereby to vary the extent of lon-
gitudinal movement of the jack.

10 2. In a pianissimo-action the combination
with a hammer-rest rail, a center rail, an
auxiliary rail, an extension, a wippen, a lever
fulcrumed on the extension and having one
end engaging the auxiliary rail and the other
15 end pivoted to the wippen, a jack connected

with the wippen and engaging the hammer,
and a lever fulcrumed on the center rail and
having its ends pivotally connected with the
hammer-rest rail and the auxiliary rail, re-
spectively whereby the movement of the 20
hammer-rest rail is imparted to the auxiliary
rail to vary the extent of longitudinal move-
ment thereof.

In testimony whereof I have signed my
name to this specification in the presence of 25
two subscribing witnesses.

HENRY METZGER.

Witnesses:

GEORGE T. CHANDLER,
JOHN A. METZGER.