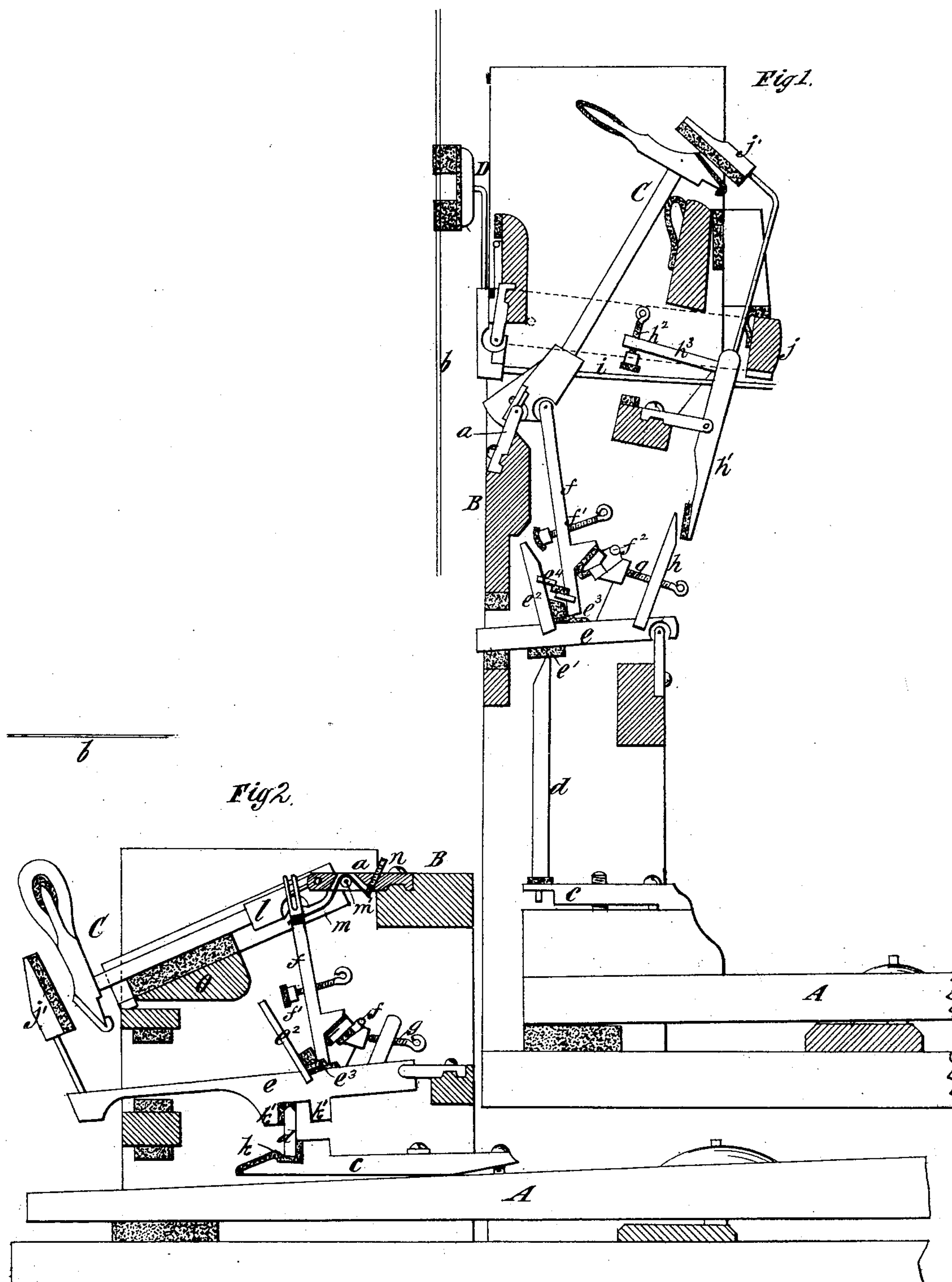


(No Model.)

G. PHILIPP.
PIANO ACTION.

No. 253,421.

Patented Feb. 7, 1882.



Witnesses

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GOTTLÖB PHILIPP, OF FORST-IN-THE-LAUSITZ, GERMANY.

PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 253,421, dated February 7, 1882.

Application filed November 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, GOTTLÖB PHILIPP, of Forst-in-the-Lausitz, Germany, have invented a new and useful Improvement in Actions for
5 Pianos, of which the following is a specification.

The invention consists in a novel construction of a combined check and repeating device.

10 It also consists in a novel means for regulating and actuating the damper from the front of an upright-piano action.

The invention also consists in a novel means of working a check so that it will act rapidly and directly at the end of the blow of the hammer, and which is hereinafter fully explained.
15

The invention also consists in a novel arrangement of a spring in a horizontal piano-forte action which serves to counteract the gravity of the hammer and jack, and a screw
20 for adjusting the spring to regulate its tension.

In the accompanying drawings, Figure 1 represents my improvements applied to an upright-piano-forte action, and Fig. 2 represents the improvements applied to a horizontal-piano-forte action.
25

Similar letters of reference designate corresponding parts in both the figures.

Referring first to Fig. 1, A designates the key, B designates the hammer-rail, to which
30 the hammers C are secured by hammer-flanges *a*, and *b* designates the string.

Upon the key A is secured the jack bottom or piece *c*, and *d* designates a jack which operates on a pivoted lever, *e*. The upper end
35 of the jack *d* fits against or in a cushion, *e'*, on the under side of the lever *e*, and the lower end of the jack is provided with a pin which enters a lined or cushioned slot or hole in the end of the jack-bottom *c*. The jack *d* is therefore readily
40 removable, and is adapted to work with the least amount of friction.

The hammer C is operated from the lever *e* by a jack or hopper, *f*; and *e*² designates an upright bar or piece fixed in the lever *e* and
45 adapted to bear against a cushioned screw, *f'*, in the jack or hopper *f*. At or near the termination of the blow of the hammer the bar or piece *e*² bears upon the screw *f'* and insures precision and force in the blow of the hammer.
50 In the downward movement of the lever *e* the bar *e*² moves rapidly away from the screw *f'* to

allow the mechanism to act freely in letting off the hammer.

In front of the jack *f* is a spring, *f*², and when the lever *e* recedes or moves downward this
55 spring *f*² presses the jack *f* into its original position and keeps it there. This mechanism adapts itself perfectly to the requirements of the playing, and causes the jack or hopper *f* to repeat even in rapid performance. When
60 the key A recedes, even very slightly, while the playing is slow, the said mechanism will effect the repetition very quietly, so that no rapping or violent concussion can take place at the lower end of the jack or hopper *f*, where
65 it rests on the cushion *e*³ on the lever *e*. A coupling, *e*⁴, between the bar or piece *e*² and the jack or hopper *f* prevents the too sudden separation of the bar or piece *e*² from the said jack or hopper. This repeating action is regulated by the screw *g*, and as the friction of
70 the parts above described is reduced to a minimum and there is no possibility of the movable parts being separated from each other, the necessity for subsequent regulation is altogether avoided. The lever *e* also carries an
75 upright bar or piece, *h*, and when it is raised the said bar or piece presses the jack *h'* backward, and thereby causes the screw *h*², which is inserted through an arm, *h*³, on said jack, to
80 act on the wire lever *i* for withdrawing the damper D. The regulation of the damper is effected by turning the screw *h*². The forte-stop *j*, which is actuated from the pedal, simply presses on the wire lever *i* and causes the
85 damper to be lifted or moved away from the string. The inclined end of the bar or piece *h* and of the jack or piece *h'* causes the latter to move slowly at first and then rapidly, and thus the check-piece *j'*, fixed on the piece *h'*,
90 moves rapidly and catches the hammer when it is released.

Referring now to Fig. 2, A designates the key, B the hammer-rail, C the hammer, *a* the hammer-flange, and *b* the string, as before
95 described. The jack-bottom *c* differs from the one shown in Fig. 1, in that it has a lined notch, *k*, and the lever *e* is similar to the one shown in Fig. 1, but differs from that in having lugs
100 *k'* on its under side. The jack *d* fits removably in the notch *k* and between the lugs *k'*. The jack *d* is unconnected with the jack-bot-

