No. 745,509. PATENTED DEC. 1, 1903.

R. G. O. MÜLLER.

ADJUSTING DEVICE FOR PIANO KEY FRAMES.

APPLICATION FILED JULY 13, 1903.

NO MODEL.

Fig. 1

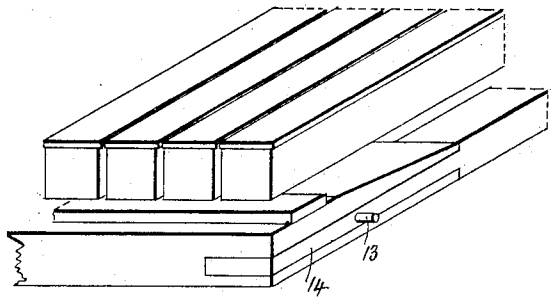


Fig. 2

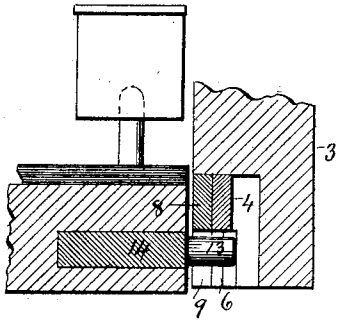


Fig. 3

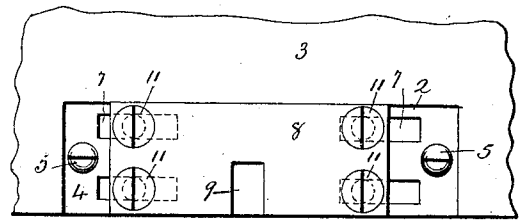


Fig. 5

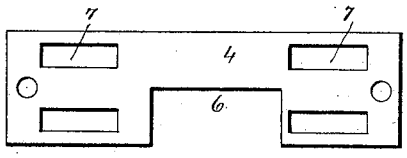


Fig. 4

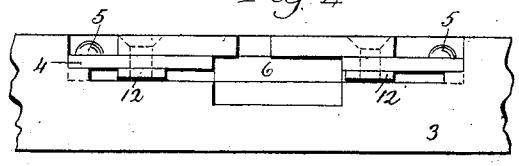
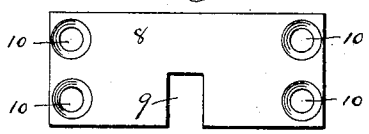


Fig. 6



Witnesses.
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No. 745,509. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

ROBERT G. O. MÜLLER, OF NEW HAVEN, CONNECTICUT.

ADJUSTING DEVICE FOR PIANO KEY-FRAMES.

SPECIFICATION forming part of Letters Patent No. 745,509, dated December 1, 1903.

Application filed July 13, 1903. Serial No. 165,227. (No model.)

To all whom it may concern:

Be it known that I, ROBERT G. O. MÜLLER, a subject of the Emperor of Germany, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Adjusting Devices for Piano Key-Frames; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken perspective view of the right-hand end of the keyboard of a piano; Fig. 2, a broken view, in vertical section, through the right-hand end of the key-block; Fig. 3, a broken view, in inside elevation, of the key-block, showing the fixed and adjustable bearing-plates; Fig. 4, an edge view of the same; Fig. 5, a detached view of the fixed bearing-plate; Fig. 6, a corresponding view of the adjustable bearing-plate.

My invention relates to an improvement in grand pianos, and more particularly to devices for adjusting their key-frames, so as to secure to a nicety the stroke of the hammers at the right point on the strings required for the production of the tone desired, the object being to produce for this purpose a simple and effective device constructed with particular reference to convenience and ease of operation and accuracy of adjustment.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In carrying out my invention as herein shown I form an oblong rectangular recess 2 in the inner face of the right-hand key-block 3, which is otherwise of the usual construction. In this key-block I locate a fixed bearing-plate 4, which is secured in place by screws 5 5 passing through its ends and which has a large central clearance-opening 6 and two pairs of longitudinally-arranged clearance-slots 7, located on opposite sides thereof. The said bearing-plate 4 provides a bearing for a shorter longitudinally-adjustable bearing-plate 8, having a central pin-receiving slot 9 and furnished at each end with two screw-holes 10 for the reception of screws 11, which pass through the plate and through the slots 7 aforesaid and receive clamping-nuts 12, bearing against the inner face of the fixed plate and providing for holding the adjustable plate in any desired position with respect thereto. The said slot 9 receives the usual pin 13, located in the end of the key-frame or front rail 14 and which projects into the said clearance-opening 6, which is long enough to clear the pin in any shifting of the adjustable plate, in the slot 9 of which the pin is moved endwise in the usual manner in using the loud and soft pedals of the piano. The opposite or left-hand end of the front rail or key-frame is provided with a pin corresponding to the pin 13 and entering a slot corresponding to the slot 9 in a plate located in the left-hand key-block and corresponding in a general way to the plate 8, but not made longitudinally adjustable, for the reason that it is not necessary to provide for those delicate adjustments with reference to the bass notes that it is with reference to the treble notes.

In setting up a piano it is almost invariably necessary to shift the right-hand end of the key-frame or front rail back and forth, more or less, in order to secure just the right stroke of the keys upon the strings required for the finest results. Heretofore in making these adjustments it has been necessary to cut the key-block, more or less, so as to permit the bearing-plate to be shifted, which has required to some extent the mutilation of the piano structure. I avoid all this by my improvement, which enables the key-frame to be very delicately adjusted with very little trouble and without cutting any part of the woodwork.

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

1. In an adjusting device for grand-piano key-frames, the combination with a piano key-frame, of a piano key-block having a recess formed in its inner face, a pin mounted in the said frame and adapted to enter the said recess, a fixed bearing-plate located in the said recess and adapted to give clearance to the said pin, an adjustable bearing-plate applied directly to the fixed bearing-plate and afford-

ing a bearing for the said pin, and screws passing from the adjustable bearing-plate into the fixed bearing-plate and providing for the adjustment of the adjustable bearing-plate upon the fixed bearing-plate as required to bring the fixed key-frame into the right position.

2. In an adjusting device for piano key-frames, the combination with a piano key-block having a recess, of a fixed bearing-plate located therein and furnished with a clearance-opening and with slots, of an adjustable bearing-plate having a pin-receiving slot, screws for securing the adjustable plate to the fixed plate through the slots of which they pass, a key-frame or front rail, and a pin mounted therein and having bearing and endwise play in the said pin-receiving slot of the adjustable plate.

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

ROBERT G. O. MÜLLER.

Witnesses:

FREDERIC C. EARLE,

CLARA L. WEED.