J. P. CAULFIELD.

KEY FRAME FOR PIANOS.

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952,509.

Patented Mar. 22, 1910.

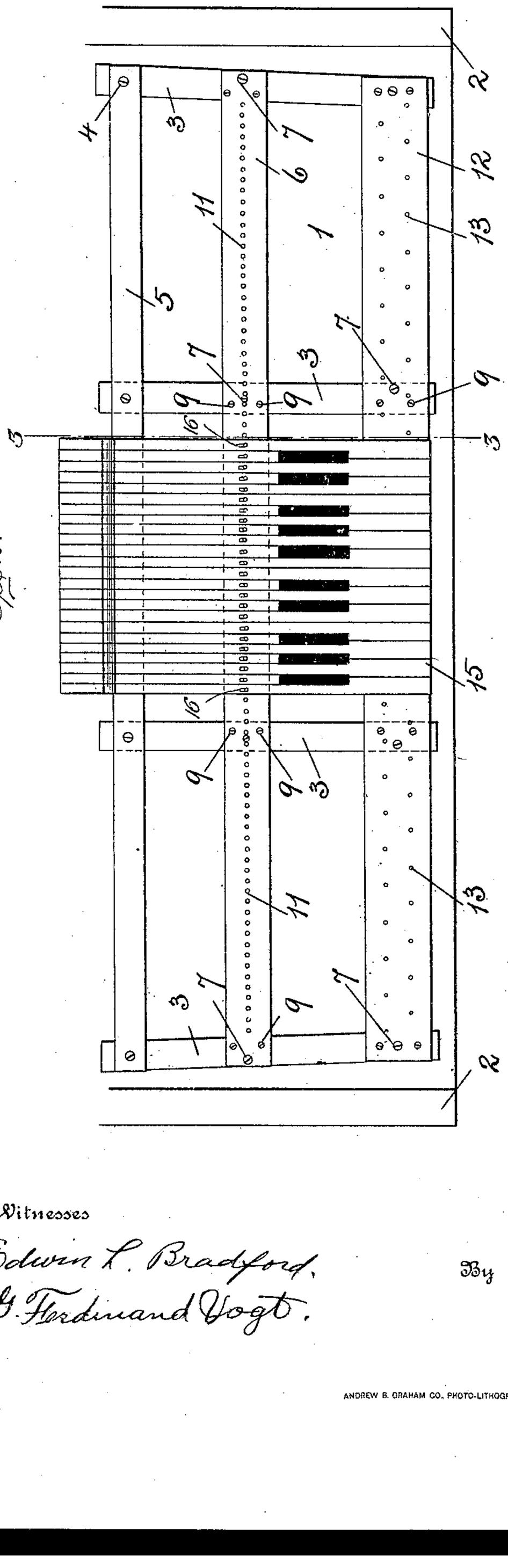

Fig. 1.

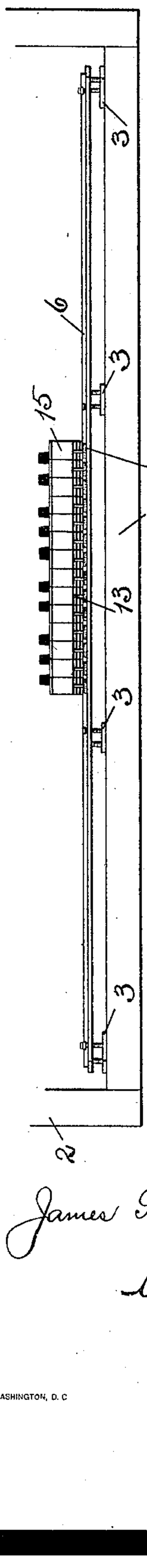

Fig. 2.

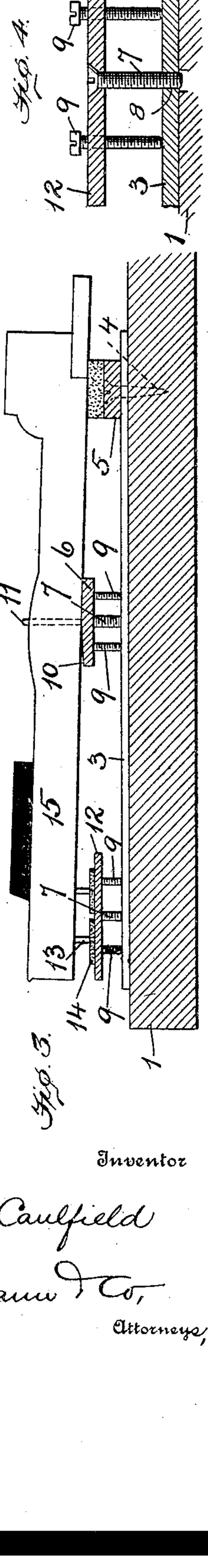

Fig. 4.

Fig. 3.

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KEY-FRAME FOR PIANOS.

952,509. Specification of Letters Patent. Patented Mar. 22, 1910.

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To all whom it may concern:

Be it known that I, JAMES P. CAULFIELD, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Key-Frames for Pianos, of which the following is a specification.

This invention relates to improvements in key-frames for pianos and has for its object to provide a frame of improved construction that will be free of all liability to warp or twist; that will require less space or room and which may be readily adjusted with respect to the action and the key bottom.

The invention is illustrated in the accompanying drawing, in which,—

Figure 1, shows a plan view of the key frame resting upon the key bottom and also shows some of the keys mounted thereon. Fig. 2, shows a front elevation of the same. Fig. 3, is a cross-sectional view through the key bottom and key frame,—the section being taken on the line 3—3 of Fig. 1, and Fig. 4, is a cross-section on an enlarged scale through the key-frame and illustrates the adjusting screws.

In the drawing the numeral, 1, designates the wood key bottom of the piano with the key blocks, 2, at opposite ends thereof and on which bottom the key frame is supported.

The key frame comprises a plurality of flat metal strips, 3, which rest flat upon the top surface of the key bottom. In the present instance four of these metal strips are employed but obviously the number may vary. At their rear ends the strips, 3, support a metal rail, 5, which extends from one end of the key frame to the other, as clearly seen in Fig. 1, and screws, 4, extend through the said rail and also through the strip to secure the two down on the key bottom. Between the ends, the flat strips support an elevated horizontal metal balance rail, 6, and said rail is supported so as to be adjusted with respect to said strips so that it may be raised or lowered above the same. In the present instance the devices employed to effect this adjustment comprise a central screw, 7, which passes freely through the rail and the lower end of which screws into a threaded opening similar to the opening, 8, shown in Fig. 4 while at opposite sides of said screw the rail is provided with set screws, 9, which screw through said bar and whose lower ends merely contact with the upper surface of the strip, 3. It will thus be seen that by turning the central screws so as to elevate them and then turning the set-screws so as to move them down through the rail that the latter will thereby be elevated with respect to the flat metal strips and thus effect a vertical movement of the rail with respect to the key bottom and the strips thereon. By reference to Fig. 3 it will be seen that the upper surface of the rail, 6, has a beveled front edge, 10, and that between the opposite longitudinal edges said rail is provided with vertical pins, 11, for a purpose presently to be described. At the front ends, the flat metal strips are further provided with central screws, 7, and side set-screws, 9, for only supporting a front metal rail, 12. This metal rail is also provided with upwardly-projecting pins, 13, and suitable cushions in the present instance having the form of washers, 14, are placed over the pins so as to rest upon the upper side of the front rail, 12, as shown in Figs. 2 and 3. The keys, 15, are provided with the usual slots, 16, midway between their ends and through which the pins, 11, project so as to pivotally sustain the keys on the center rail, 6, of the metal key frame.

It is obvious that the rails, 6, and 12, of the key frame may be raised or lowered independently of each other so as to adjust them properly with respect to the key bottom and that when adjusted the parts all being of metal will not be affected by variations in the temperature or by dampness and that if at any time adjustment of the rails is desirable the same can be made readily and without removal of all the keys and key frame.

By means of the construction described the space above the key-bottom ordinarily required for the frames may be much reduced.

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

1. A key-frame for pianos comprising a plurality of metal strips having screw-threaded openings between their ends, a central metal balance rail extending crosswise of and above the strips and having smooth openings and threaded openings therein, screws extending through the smooth openings of the balance rail and entering the threaded openings in the strips beneath

and screws passing through the threaded openings of the rail and engaging the strips to effect an adjustment of the bar.

2. A key-frame for pianos comprising a plurality of metal strips each having a screw-threaded opening adjacent its outer end and another screw-threaded opening substantially midway between its ends; a front rail extending crosswise of the strips and over the threaded openings at the outer ends of said strips; a balance rail extending crosswise of and midway between the ends of the strips; and adjusting screws extending through said rails and engaging the strips beneath them.

3. A key-frame for pianos comprising a plurality of metal strips for attachment to the key bottom of a piano and each having screw-threaded openings; a front rail extending crosswise of the strip ends and having threaded and smooth openings adjacent each other; adjusting screws passing through the threaded openings of the rail and sustaining the latter in an elevated position; screws passing through the smooth openings of the rail and entering the threaded openings of the strips beneath, a central balance rail also extending crosswise of the strips, and means for adjustably sustaining said balance rail.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES P. CAULFIELD.

Witnesses:

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