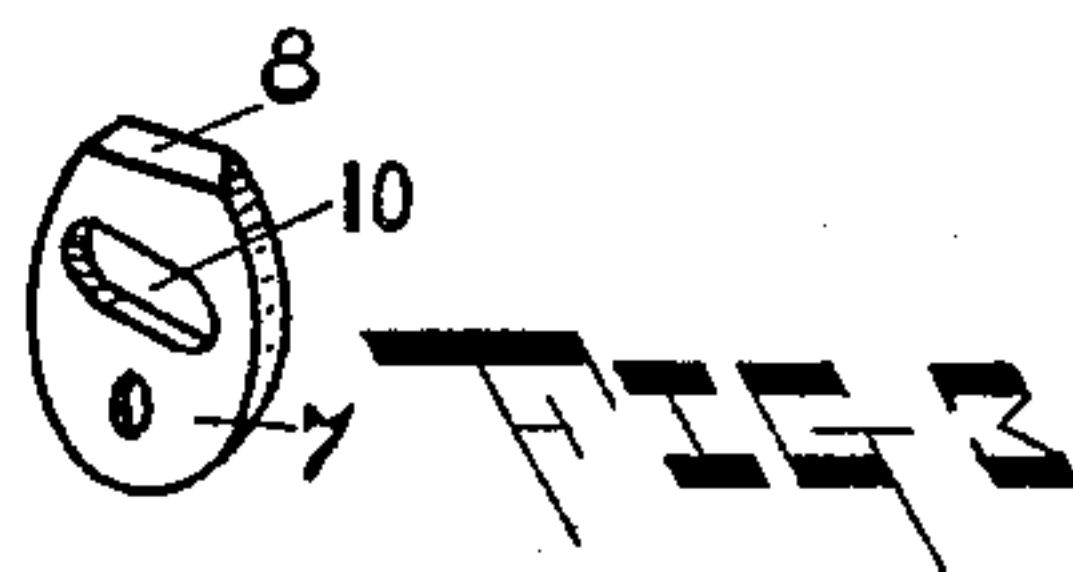
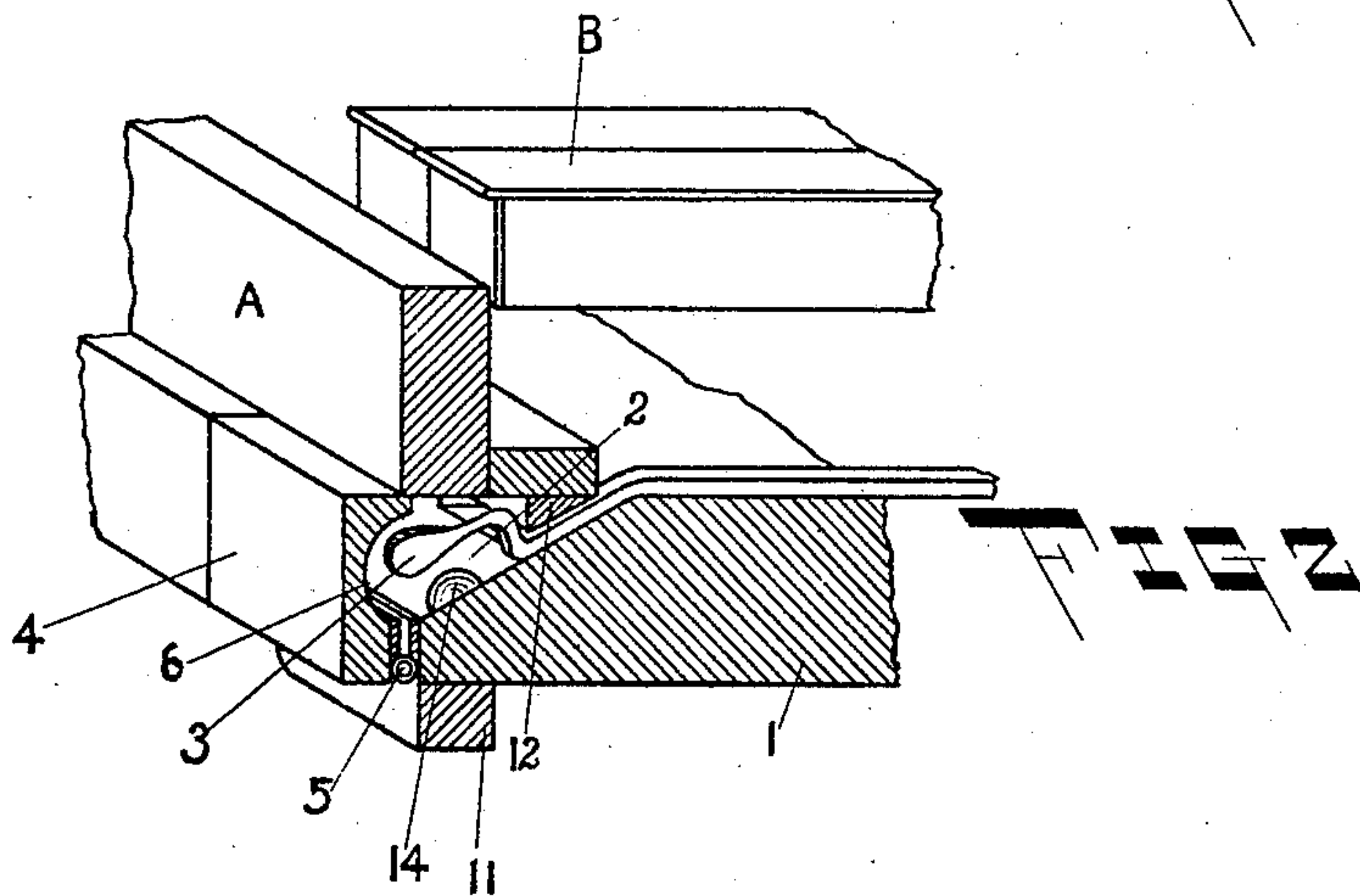
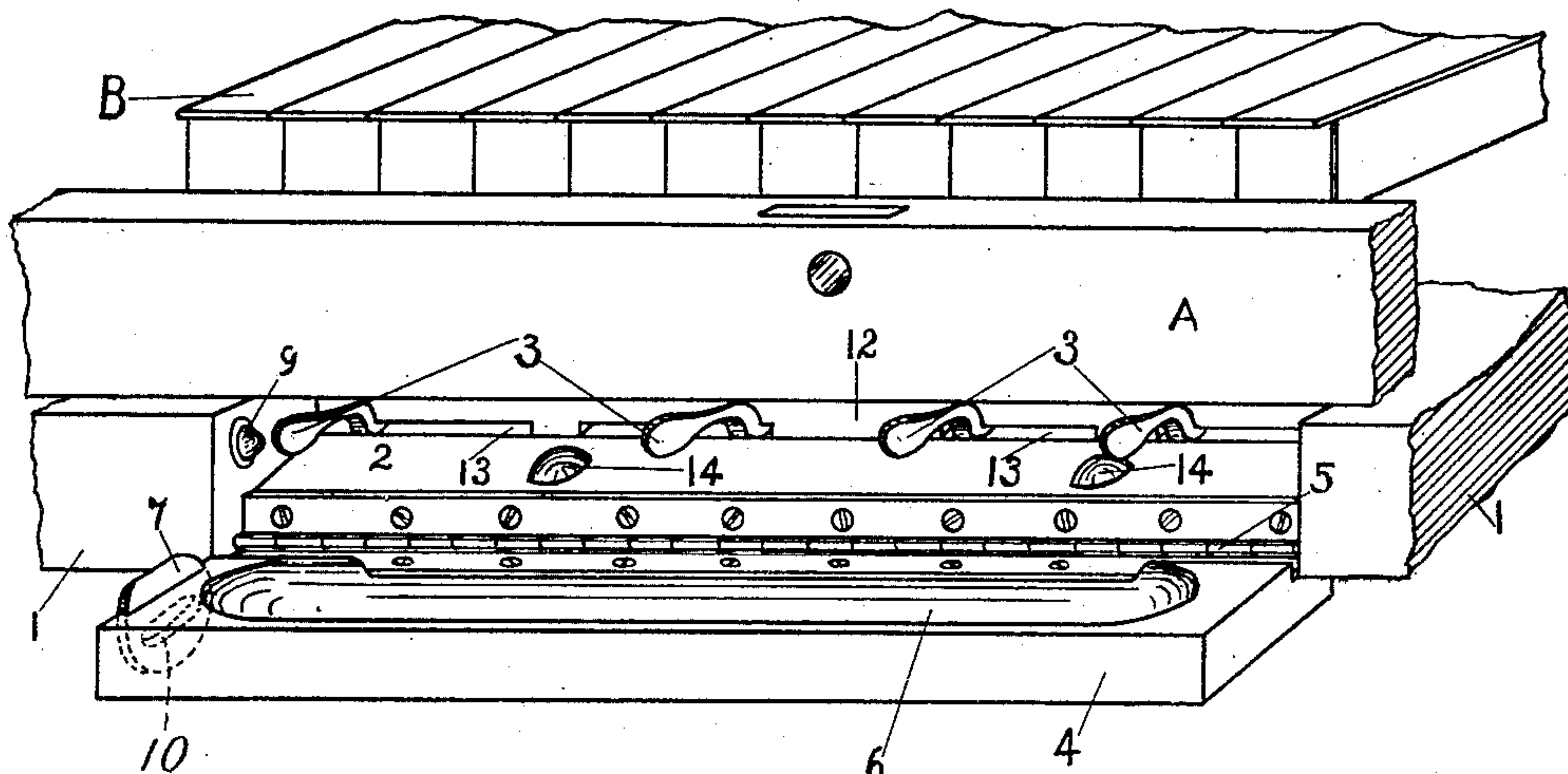


J. NEWMAN.  
KEY RAIL DEVICE FOR MECHANICAL PIANO PLAYERS.  
APPLICATION FILED MAR. 11, 1908.

907,861.

Patented Dec. 29, 1908.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## KEY-RAIL DEVICE FOR MECHANICAL PIANO-PLAYERS.

No. 907,861.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed March 11, 1908. Serial No. 420,498.

*To all whom it may concern:*

Be it known that I, JOHN NEWMAN, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Key-Rail Devices for Mechanical Piano-Players; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to finger concealing means for pianos containing mechanical piano players located within the piano casing.

It is desirable that pianos of this class be so arranged that when the keys are manually operated, the attachments controlling the mechanical player be concealed from view.

One object of my invention is to provide means for concealing the fingers controlling the tone modifiers, the tempo and the rewinding mechanism of the mechanical player. It has been the custom to mount these fingers in the key slip of a piano, which necessitates cutting away and weakening the key slip. The closing and opening of a piano cover, the outer edge of which when the cover is closed, rests on such weakened key slip; the stress and strain brought to bear on the key slip and temperature changes all operate to cause the key slip to crack or bind against the keys and render the key action hard and uneven.

Another object of my invention is to so locate the fingers that these disadvantages are avoided.

To these and other ends, my invention consists in certain novel features and combinations, such as will be more fully described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my invention applied to a piano; Fig. 2 is a cross-sectional perspective; and Fig. 3 is a detail perspective of the locking plate.

(A) indicates the key slip and (B) (B) the keys.

(1) indicates the key bottom beneath the key slip.

In applying my invention to a piano, I leave the key slip undisturbed. I chamber out or recess the key bottom, as at (2), or in any other suitable manner to receive the free

ends of the fingers (3), two of which operate the tone modifiers, and the remaining two of which control the tempo and the rewinding mechanism respectively. A bar (12) cut away as at (13) limits the movements of the keys and I preferably provide the studs (14) on the inclined bottom of the chamber (2), which studs serve as abutments, against which the fingers of the operator rest and toward which the fingers (3) are drawn. I provide a door (4) hinged, as at (5), along its inner lower edge to the outer recessed edge of the key bottom (1). The inner face of the door is grooved, as at (6), to clear the free ends of the fingers (3) when the door is in the closed position shown in Fig. 2.

As one means for frictionally holding the door in closed position, I may equip one edge of the door with an apertured plate (7) (shown in detail in Fig. 3). The plate projects past the inner face of the door and is beveled or inclined on its free edge, as at (8). A depressible button (9) is seated in the edge of the recess in the key-bottom adjacent that edge of the door carrying the plate. In closing the door, the inclined edge (8) of the plate 7 engages and depresses the button, which snaps out into the aperture (10) in the plate 7 when in alinement therewith. The aperture 10 cannot be seen in Fig. 1 as it lies below the level of the grooved face 6 of the door. When the door is closed, it lies flush with the key bottom and conceals the fingers (3).

A check stop (11) is secured to the lower face of the key bottom adjacent the door. The front face of the check stop serves as a stop, against which the lower edge of the door abuts, to hold the door in horizontal position when open, as shown in Fig. 1. In this position the door serves as a rest for the hand operating the fingers (3). Having thus fully disclosed my invention, what I claim as new is—

1. The combination in a piano with a key slip and fingers, of a key bottom located beneath the key slip and chambered out to receive the free ends of the fingers, and a door adapted to close the chambered-out portion.

2. The combination in a piano, with fingers, and a key slip, of a key bottom located beneath the key slip, the face of the key bottom being chambered-out along a part of its length to receive the free ends



of the fingers and afford access thereto, and a door hinged to the outer face of the solid portion of the key bottom, the outer face of the door when closed lying flush with the unchambered outer face of the key bottom and forming a continuation thereof.

3. The combination in a piano, with fingers, and a key slip, of a key bottom located beneath the key slip, the face of the key bottom being chambered-out along a part of its length to receive the free ends of the fingers and afford access thereto, and a door hinged to the outer face of the solid portion of the key bottom, the outer face of the door when closed lying flush with the unchambered outer face of the key-bottom and forming a continuation thereof, the inner face of the door being grooved to clear the free ends of the fingers.

4. A finger concealing means for pianos comprising a key slip, a key bottom located beneath the key slip, and chambered out along a part of its length to receive the free ends of the fingers and to afford access thereto, a door hinged to the outer face of the solid portion of the key bottom, the outer face of the door when closed lying flush with the unchambered outer face of the key bottom and forming a continuation

thereof, and means for frictionally locking the door in closed position.

5. A finger concealing means for pianos comprising a chambered-out key bottom, fingers received in the chambered-out portion, a door supported by the key bottom for concealing the chamber, the door when closed lying flush with the unchambered part of the key bottom, and a stop depending beneath the key bottom and adapted to be engaged by the lower edge of the door, when open.

6. A finger concealing means for pianos comprising a chambered-out key bottom, fingers received in the chambered-out portion, a suitably supported recessed bar, the fingers projecting through the respective recesses in the bar, the end walls of the recesses operating to limit the movement of the fingers, studs stationarily located in the chamber, and a door hinged to the solid portion of the key bottom.

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

JOHN NEWMAN.

Witnesses:

HARLEY C. ALGER,  
RALPH S. WARFIELD.