

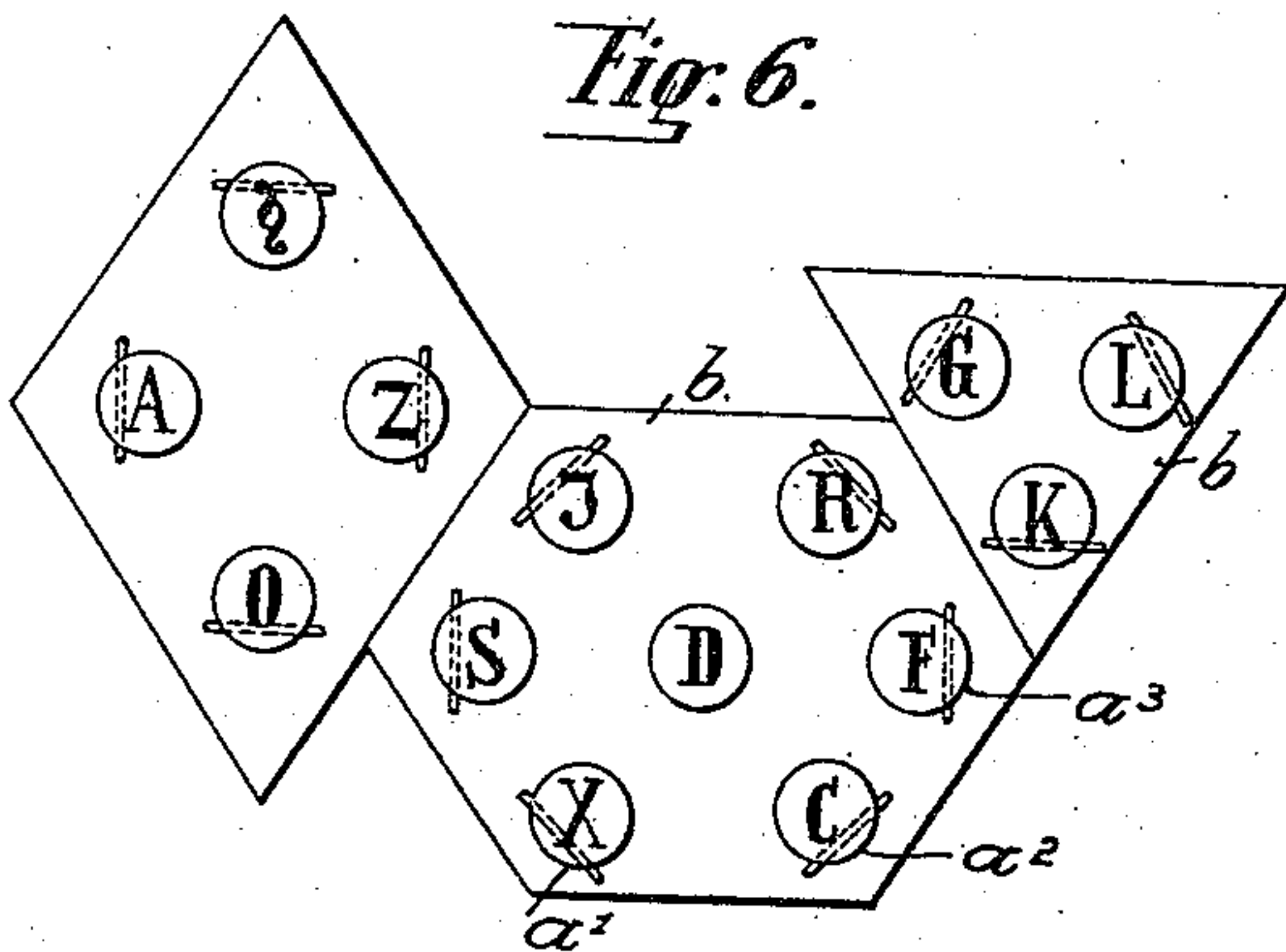
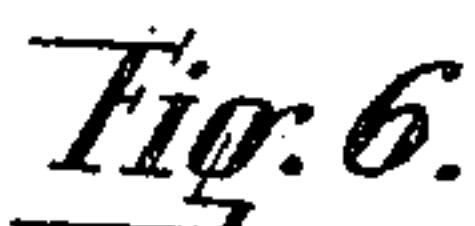
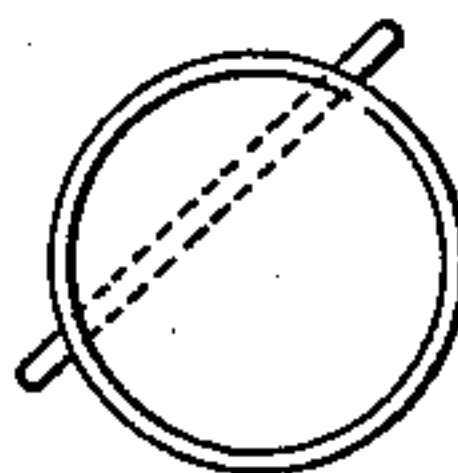
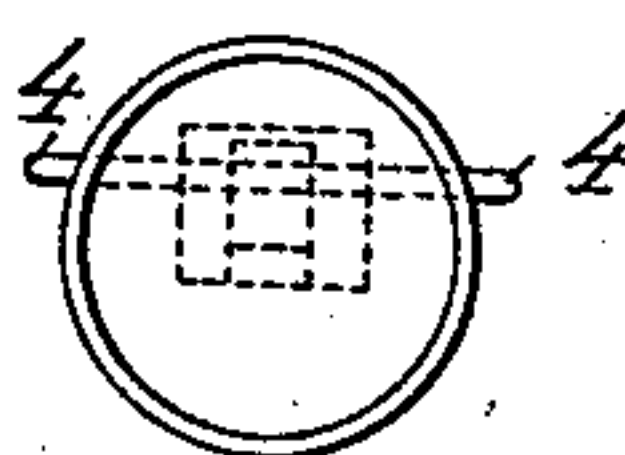
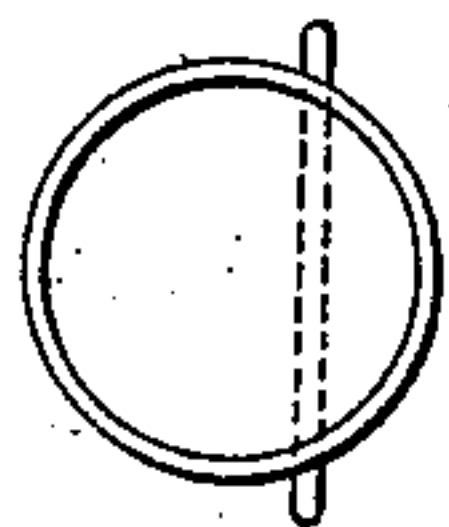
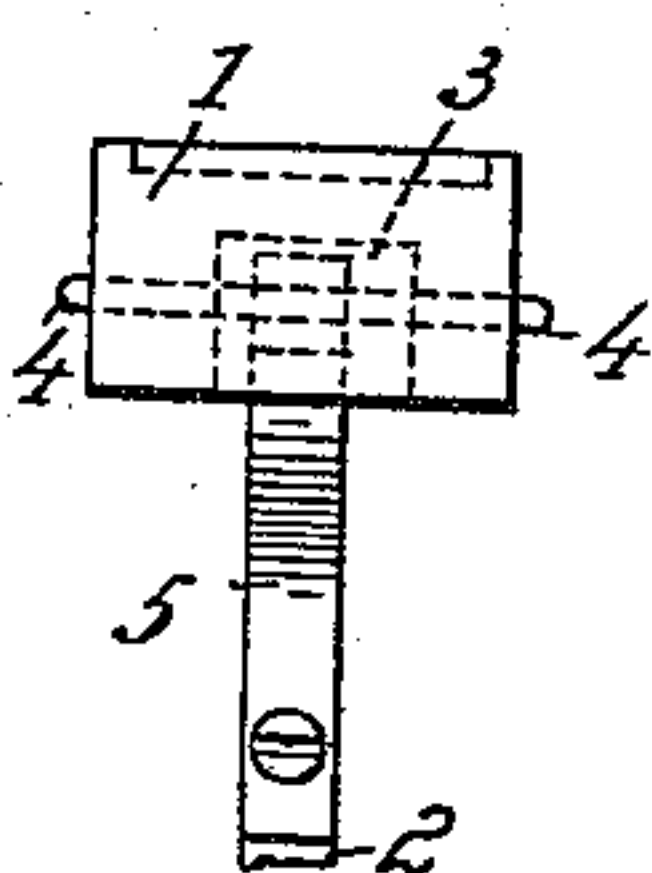
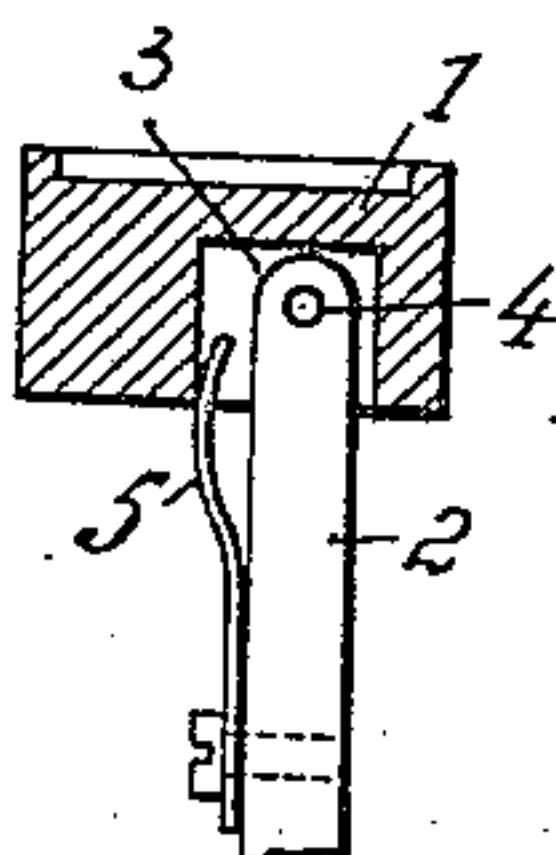
No. 848,471.

PATENTED MAR. 26, 1907.

J. H. LAUDENBACH.

KEYBOARD FOR TYPE WRITING MACHINES AND PIANOFORTES.

APPLICATION FILED JULY 25, 1906.



Witnesses,

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UNITED STATES PATENT OFFICE.

JEAN HENRI LAUDENBACH, OF PARIS, FRANCE.

KEYBOARD FOR TYPE-WRITING MACHINES AND PIANOFORTES.

No. 848,471.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed July 25, 1906. Serial No. 327,744.

To all whom it may concern:

Be it known that I, JEAN HENRI LAUDENBACH, a citizen of the Republic of France, residing at Paris, France, have invented certain new and useful Improvements in Keyboards for Type-Writing Machines and Pianofortes, of which the following is a specification.

This invention relates to a keyboard for type-writing machines and pianofortes in which the keys are mounted in such a manner that they can oscillate on axes which differ from each other by their different position. The keys are maintained in their normal position by springs or counterweights. Furthermore, without changing anything in the arrangement of the levers bearing the keys the latter are according to the present invention divided into several groups, which facilitate the learning of writing on type-writing machines or the playing of instruments with a keyboard.

In the accompanying drawings, Figure 1 is a vertical sectional view of a key. Fig. 2 is a front view of a key. Figs. 3, 4, and 5 are plan views of the key having the axis in various positions. Fig. 6 is a plan view of a plurality of keys being grouped. Fig. 7 is a sectional view of a key detached from the supporting-bar, and Fig. 8 is a sectional view of a modified form of key.

The key 1 is mounted upon a bar 2. In its lower part the key is provided with an excavation, so that it may perform a slight rotation on an axis 4, which goes through the bar 2. A spring 5 keeps the key in horizontal position. The spring may be arranged in any suitable manner, and it may be replaced by a counterweight or the like.

If the key is pressed down, the head of the key oscillates on the axis 4, and one can at once recognize by the mode of oscillation which key has been touched. In order to differ the keys from each other, it is only necessary to arrange the position of the axis 4 of the key-heads in a different manner. One may arrange the axis parallel, Fig. 3, perpendicular, Fig. 4, or inclined, Fig. 5, to the front edge of the keyboard. The effect may still be increased if one arranges the axis of oscillation of the key-heads with a certain regularity, so that the lengthenings of the axes form regular geometrical figures—for instance, hexagons, triangles, &c. Fig. 6 shows several groups of keys formed in the said manner. The middle group forms a hexa-

gon, and the axes 4 are arranged in such a manner that the keys oscillate toward the center of the hexagon. The middle key of this group may be provided with a device for recognizing it by touch. Each key-head of each group has a different direction of oscillation, so that in the moment of touching the keys the latter are easily to be recognized. Other geometrical figures show arrangements which afford the same advantages.

Experience has proved that in type-writing machines one keeps in mind most easily those keys which are mounted at the margins of the keyboard. When dividing the keys into groups in such a manner that the oscillating axes of the key-heads of each group indicate the sides of a regular and simple geometrical figure, the committing of the keys to the sense of touch is essentially facilitated. The key which is in the middle of such a group—for instance, a hexagon—has such a peculiar position that it is easily to be recognized.

The direction of the different oscillating axes is made recognizable to the eye by providing each key with a segment, the chord of which represents the oscillating axis.

The segments of the keys of each group may be colored with the same color. For instance, the segments may be blue for a hexagon, red for another geometrical figure, and so on.

What I claim is—

1. A keyboard for type-writing machines involving supports, a plurality of key-heads, axes associated with said supports and key-heads, the axis of each key-head having a position different with respect to the remaining axes, and means for holding the key-heads in a normal operative position.

2. A keyboard of the class described, involving a supporting-bar, a key-head, an axis for connecting the key-head to the bar to allow oscillatory movement of said key-head, said axis being arranged eccentrically in said key-head, and a resilient means for holding the face of the key-head in a substantially horizontal plane.

3. A keyboard involving a plurality of keys having suitable characters thereon, supports for the keys, means for connecting the keys with the supports to allow the said keys to oscillate on the supports, said means for each key being arranged on an axial line and in a different position relative to the adjacent key, and tension means operative on the keys

to hold the same normally in a substantially horizontal plane.

4. A keyboard involving a plurality of keys, supports for the keys, said keys arranged in a manner to form geometrical figures, supports for the keys, an axis connecting each of the keys to the supports, said axis of each key being arranged in the keys a distance removed from the center thereof to al-

low said keys to oscillate toward the center of the geometrical figures, and tension means operative on the keys to hold the same normally in a substantially horizontal plane.

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Witnesses:

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