

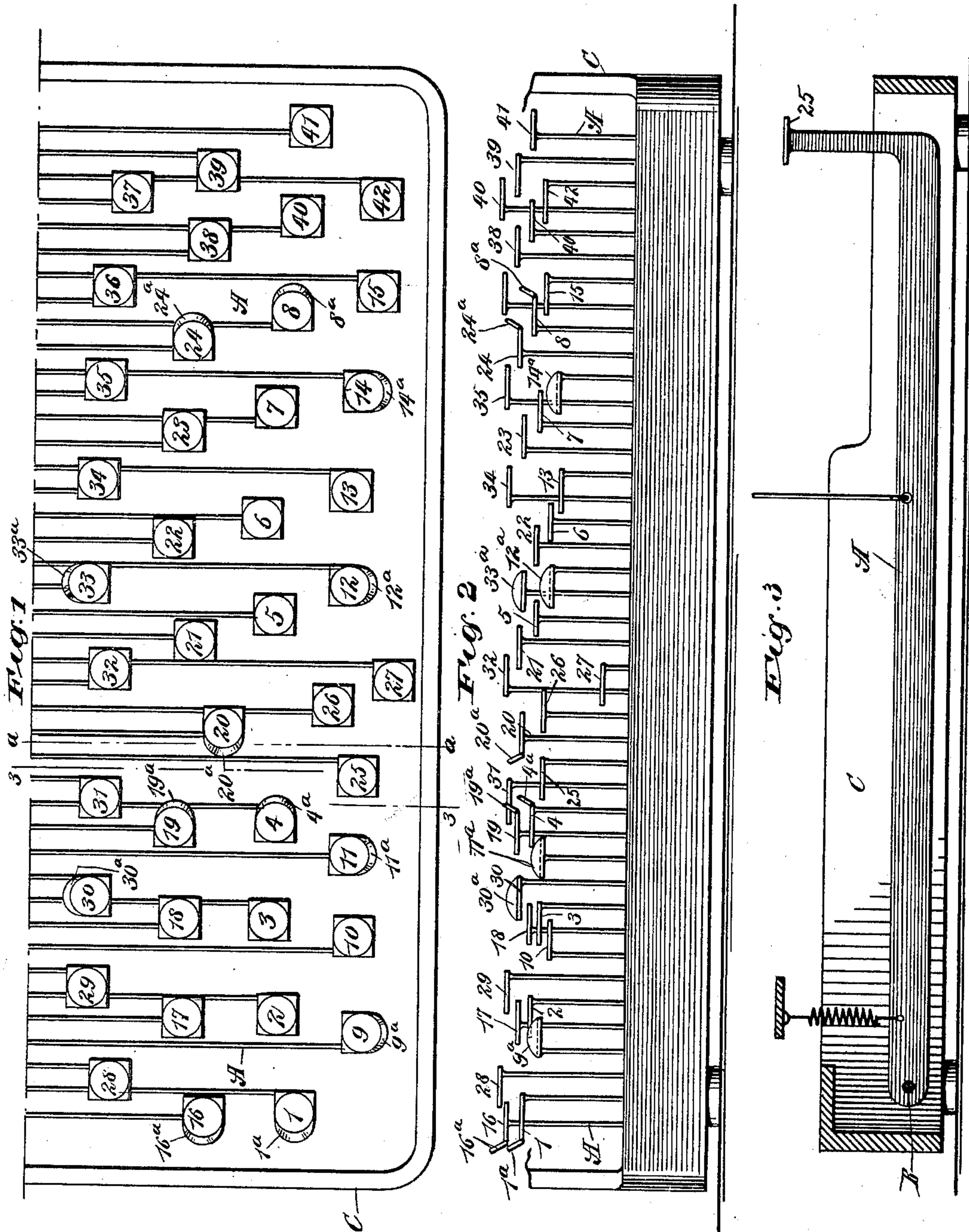
No. 674,747.

Patented May 21, 1901.

J. B. VIDAL.
KEYBOARD FOR TYPE WRITERS.

(Application filed July 12, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JUAN BAUTISTA VIDAL, OF HAVANA, CUBA.

KEYBOARD FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 674,747, dated May 21, 1901.

Application filed July 12, 1900. Serial No. 23,400. (No model.)

To all whom it may concern:

Be it known that I, JUAN BAUTISTA VIDAL, a citizen of Cuba, and a resident of Havana, Cuba, have invented a new and Improved
5 Keyboard for Type-Writers, of which the following is a full, clear, and exact description.

My invention relates to keyboards of typewriters, and has for its object to provide an improved arrangement of keys by which the
10 attainment of great speed in writing will be facilitated and which will enable an operator to write as much by touch as by sight, thus rendering the work easier.

The invention will be fully described hereinafter and the features of novelty pointed
15 out in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan of the improved keyboard. Fig. 2 is a front elevation thereof, and Fig. 3 is a sectional elevation on line 3 3 of Fig. 1.

25 I desire it to be understood that the shape and connection of the levers or arms which carry the keys form no part of my invention, which resides entirely in the relative location and in the construction of the keys proper—that is, those parts on which the fingers are
30 brought to bear. It is my intention that the key-levers should be made of a shape substantially like that used in the machine to which it is desired to adapt my invention. It will therefore be understood that the key-levers shown in the drawings are an example
35 only and that any other well-known or approved construction of key-levers may be employed.

40 As shown in the drawings, I employ key-levers A, fulcrumed at B upon the frame C. These levers are preferably readily detachable, so as to facilitate the application of the keyboard to existing machines by the substitution for the old key-levers of key-levers having the keys arranged according to my invention. The number of keys and key-levers will, as usual, depend upon the style of the machine.

50 According to my invention I arrange the keys in two sections, one for the right hand and the other for the left, and in each section

I dispose the keys in groups, one group for each finger.

A keyboard having the keys numbered from 55 1 to 27 will suffice in many cases; but where a greater number of keys is used I may add those numbered from 28 to 42. Each of these keys corresponds to a letter or sign which is produced upon the key as usual, and the arrangement varies with the language for which
60 the machine is intended and also with the machines made by different manufacturers, and the distribution of the alphabet and signs among the keys forms no part of my invention. 65

The keys located to the left of the dotted line *a a*—that is, the keys numbered 1, 2, 3, 4, 9, 10, 11, 16, 17, 18, 19, 25, 28, 29, 30, and 31—are intended for operation by the left
70 hand and the other keys for operation by the fingers of the right hand. The key 27 is the space-key. The little finger of the left hand operates the keys 1, 16, and 28; the ring-finger, the keys 2, 9, 17, and 29; the middle finger, the keys 3, 10, 18, and 30; the index, the
75 keys 4, 11, 19, and 31, and the thumb the key 25. The thumb of the right hand operates the keys 26 and 27; the index, the keys 5, 12, 20, 21, and 32; the middle finger, the keys 6, 13, 22, and 33; the ring-finger, the keys 7, 14, 23, and 34, and the remaining keys at the
80 right-hand end are intended to be operated by the little finger of the right hand. The keys 1, 2, 3, 4, and 25 on one side and 8, 7, 6, 5, and 26 on the other side are located at such
85 relative distances from each other as correspond to the normal positions of the fingertips when the hand is in a natural position, similar to that customary in playing on a piano or like key instrument. 90

To guide the fingers so that they may distinguish the keys by the touch and to relieve the operator of the necessity for keeping his eyes on the keyboard, I make some of the keys with upwardly-extending projections or
95 stops. Thus the keys 1 and 16 have stops 1^a and 16^a upon their exterior sides—that is, to the left—and the corresponding keys 8 and 24 have projections 8^a and 24^a at the right. The keys 9 and 11 of the left-hand section and the
100 keys 12 and 14 of the right-hand section have stops 9^a, 11^a, 12^a, and 14^a on their front ends, the keys 30 and 33 have stops 30^a and 33^a, respectively, at their rear edges, and keys 4,

19, and 20 have stops designated, respectively, as 4^a, 19^a, and 20^a, upon their opposing or inner sides—that is, on the right for the keys 4 and 19 and on the left for key 20. The operator can thus readily find the keys even in the dark and is enabled to attain considerable speed without a great strain on the eyes.

The keys adapted for operation by the same finger do not range in a straight line from front to rear, nor are they located at the same height. As regards the arrangement from front to rear the keys adapted to be pressed by the little finger are disposed approximately in the arc of a circle or in a series of circles the centers of which are at the key upon which the thumb is adapted to rest. Thus the keys 1, 16, and 28 are approximately in the arc of a circle whose center is at 25, and a point in the vicinity of the keys 26 27 is the approximate center of an arc in which are arranged the keys 15, 8, 24, and 35 and of two further arcs, one of which contains the keys 42, 40, 38, and 36 and the other the keys 41, 39, and 37. Owing to this arrangement a turning or pivotal movement of the hand, with the thumb for a fulcrum, will bring the little finger into successive registry with the keys adapted to be operated by it and located in the same arc or column. In the other groups also the keys are arranged in staggering fashion, those of the rear rows being nearer the center of the keyboard (line *a a*) than those in the front rows. It will also be observed that in a row of keys adapted for operation by the ring-fingers, the middle finger, and the index, respectively, as the keys 2, 3, and 4, the middle key 3 is located farther to the rear than the other two and the little-finger keys are located farther to the front than the ring-finger keys of the same row. This arrangement corresponds to the actual position of the finger-tips, owing to the different lengths of the fingers.

The difference in the height of the keys appears clearly in Fig. 2. As here shown, the height increases within one column from front to rear, and within the same row the height increases from the middle key outward. Thus of the keys in the row 1 2 3 4 the key 3 is the lowest, the keys 2 and 4 are at about the same height, and the key 1 is still higher. The thumb-keys 25 26 are slightly lower than those of the index, or approximately at the same height. The spacing-key 27 is much lower than the others, so that it is readily distinguishable.

The arrangement of the keys at different heights is not absolutely essential. The invention is of course applicable to other machines having keyboards similar to that of a type-writer.

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

1. A keyboard for type-writers and the like, having the keys arranged in a left-hand section and a right-hand section, each section comprising five successive groups disposed from the center outward and adapted to be operated by the respective fingers, the keys of the middle group or column of each section being farther to the rear than the keys of the adjacent groups in the same row.

2. A keyboard for type-writers and the like having the keys arranged in two sections, each section comprising five successive groups disposed from the center outward, the keys of each section being of different heights and the keys of the several groups so arranged with respect to each other as to correspond with the position of the fingers due to their difference in length.

3. A keyboard for type-writers and the like, having the keys arranged in a left-hand section and a right-hand section, each section comprising five successive groups disposed from the center outward and adapted to be operated by the respective fingers, sundry of the border-keys or peripheral keys of each section being provided, at that side which is nearest to the periphery, with upward projections or stops adapted for engagement by the operator's fingers.

4. A keyboard for type-writers and the like, having the keys arranged in a left-hand section and a right-hand section, each section comprising five successive groups disposed from the center outward and adapted to be operated by the respective fingers, sundry of the keys in the front row and rear row being provided with upward projections or stops at their front and rear edges respectively, and sundry of the keys in the inner and outer row having like projections or stops at their inner and outer edges respectively.

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

JUAN BAUTISTA VIDAL.

Witnesses:

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