

No. 606,903.

Patented July 5, 1898.

B. TORREY.

KEYBOARD FOR TYPE WRITERS.

(Application filed Feb. 17, 1897.)

(No Model.)

Fig. 1.

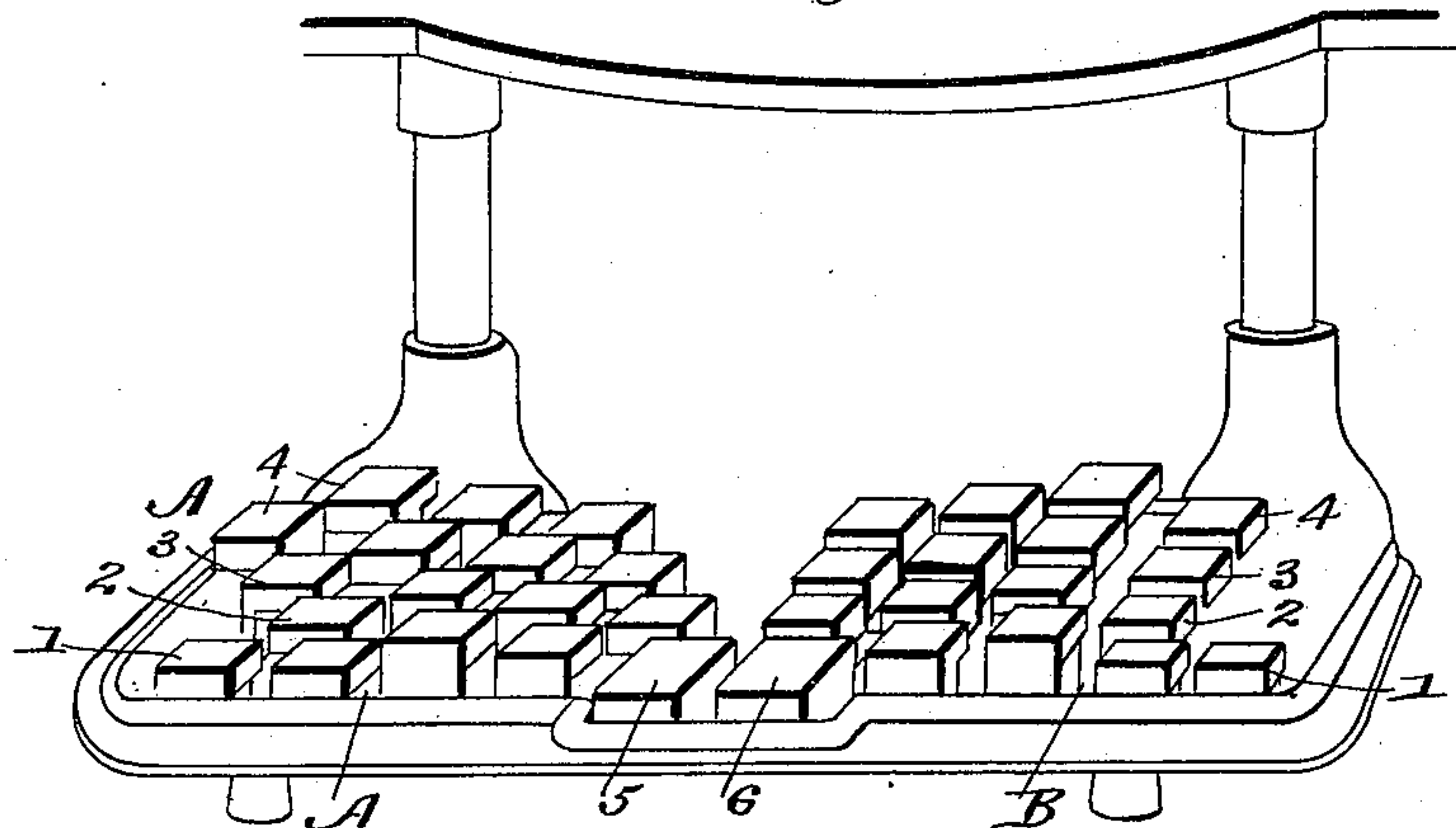


Fig. 2.



Fig. 3.

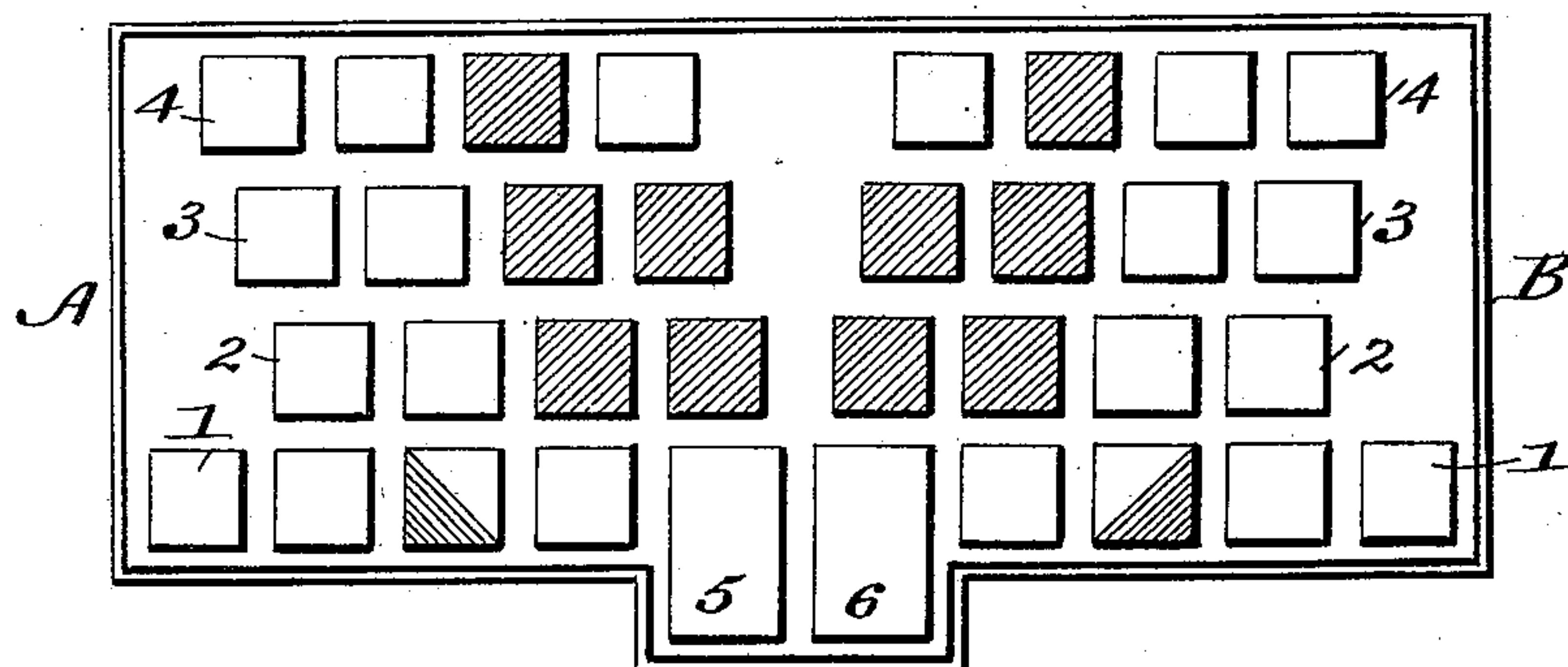
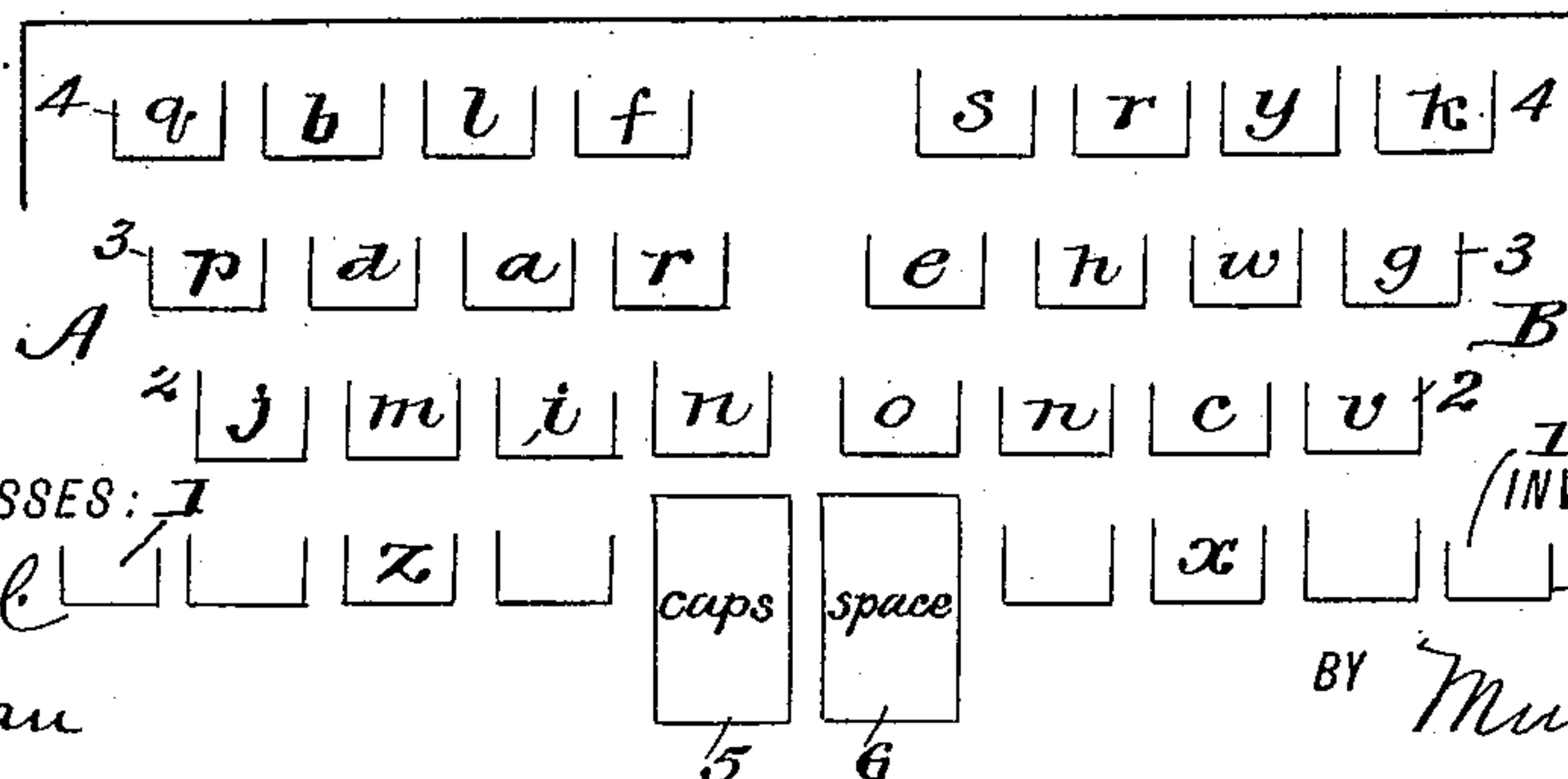


Fig. 4.



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KEYBOARD FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 606,903, dated July 5, 1898.

Application filed February 17, 1897. Serial No. 623,908. (No model.)

To all whom it may concern:

Be it known that I, BATES TORREY, a citizen of the United States, residing at Weymouth, in the county of Norfolk and State of Massachusetts, have invented a new and Improved Form of Keyboard for Type-Writing Machines, of which the following is a specification.

It is the object of my invention to attain maximum efficiency in touch-writing by what is known as the "all-finger" method.

My invention relates to the arrangement of keys hereinafter described for promoting convenience of attack or touch by the fingers, it being suited to the best exertions of the latter by conforming to the anatomical structure of the hand, and also for enabling the operator to locate the different keys or letters with ease and certainty when writing, so that type-writing by touch or without the necessity of visual inspection of the keyboard is made practicable.

In the accompanying drawings, Figure 1 is a perspective view of my improved keyboard. Fig. 2 is a diagrammatic end view of a row of keys, showing their arrangement in so-called "arched" form. Fig. 3 is a plan view of the keyboard. Fig. 4 is a plan view indicating the location of letters on the several keys.

I divide the keyboard centrally and transversely into two equal parts, or right and left groups of keys, (indicated by A and B,) each part or group containing four parallel rows 1 2 3 4 of lower-case-letter keys, four in each row. Besides these sixteen keys there are two other keys 5 and 6, arranged side by side between the front rows of the respective right and left groups A B, the same being so placed as to be conveniently attacked by the operator's thumbs. These two keys are for space and capitals, and they project forward or toward the operator a distance which should be at least equal to the width of the other adjacent lower-case-letter keys. This arrangement corresponds to the anatomical location or relation of the thumbs to the other four digits of the hands, and the thumbs are applied solely for spacing and shifting to "upper case" or capitals. It will be seen that while the operator's thumbs rest on these

two front and central keys 5 6 the other four fingers have easy access to the four keys of the four rows 1 2 3 4, the keys of the second row are elevated slightly above those of the first or front row, the third above the second, and the fourth above the third, as shown in Fig. 1.

The keys of each group A B are so placed (see Fig. 3) that any key in the third or fourth row (3 or 4) is farther from the transverse center of the board than the corresponding key in the row below it, so that, as respects the keys of the second, third, and fourth rows, they are in oblique alinement. This obliquity is for the purpose of favoring the application of the fingers that are alone employed to operate them and to enable the operator to locate the keys of each row more quickly and certainly than would be possible if the usual arrangement were preserved.

A peculiarity of my invention is the arrangement of the keys of each group A and B in what may be termed "arched" form—that is to say, as shown in Figs. 1 and 2 the two middle keys of each of the lengthwise rows 1 2 3 4 are slightly higher than the two adjacent or outer keys, which are practically in the same horizontal plane. This arched form corresponds to the natural shape or concavity of the hand and increases the facility of operation. It is thus apparent that I provide a distinct "territory," so to speak, for each hand, that the position of the hands is not materially shifted while operating, that such position is defined by the location of the thumbs on the "cap" and "space" keys 5 and 6, and that this and the terrace-like and oblique arrangement of the lower-case keys of each group A and B enable the operator to instantly determine the exact location of each letter-key without the aid of sight, while the arched form of each group further promotes facility and consequent ease and rapidity of manipulation.

Respecting certain details I will further state that I preferably employ square-top keys and place the rows (transverse and longitudinal) one-fourth inch apart, while the elevation of each of the three upper terraces is about three-sixteenths of an inch above the one below it.

It is an imperative requirement of this keyboard that the keys 5 and 6, marked "Caps" and "Space," Fig. 4, shall be depressed by the thumbs alone; but if there be necessity for a figure shift for some type-writing machines it shall be effected by some one of the bottom row of keys, preferably a key located next to the thumb-keys and for the left hand.

As shown in Fig. 3, certain of the lower-case keys are shaded black and others half black, while the rest are white. This is for the purpose of locating and memorizing a manual of letters when the actual letters may not be indicated on the keys.

I also employ an improved letter arrangement. The one most current is unquestionably left-handed, since on a basis of one thousand E's the left hand is obliged to make over fifteen hundred more strokes than the right hand, whereas by my letter arrangement (shown in Fig. 4) there is an excess of only about two hundred strokes for one hand over the other on a basis of one thousand E's, and this excess is for the right hand, which is usually the stronger and more manageable and therefore the better able to endure the strain. Again, the order adopted is remarkably free from danger of awkward letter sequences, the high average letters are located for the stronger fingers, the liquids and coalescents are conveniently arranged, and only

comparatively infrequent letters remain for the weaker fingers.

It is to be further understood that the keyboard may be enlarged by addition of more keys or rows of keys for letters or numerals, if necessity requires, while retaining the essentials of the arrangement hereinbefore stated.

What I claim is—

1. The improved keyboard for type-writing machines, comprising right and left groups of keys, there being four rows of four keys each, and the central keys of each row being elevated above the others on each side, so that the group presents an arched form, as shown and described for the purpose specified.

2. The improved all-finger keyboard, comprising two right and left groups of keys arranged in alined rows, four in each row, the central keys being elevated to form an arch as specified, and each of the keys back of the front row being arranged diagonally from the one in front of it, and two supplemental keys located between the two divisions of the front row and projecting forward from the same, to provide for application of the thumbs, as and for the purpose specified.

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Witnesses:

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