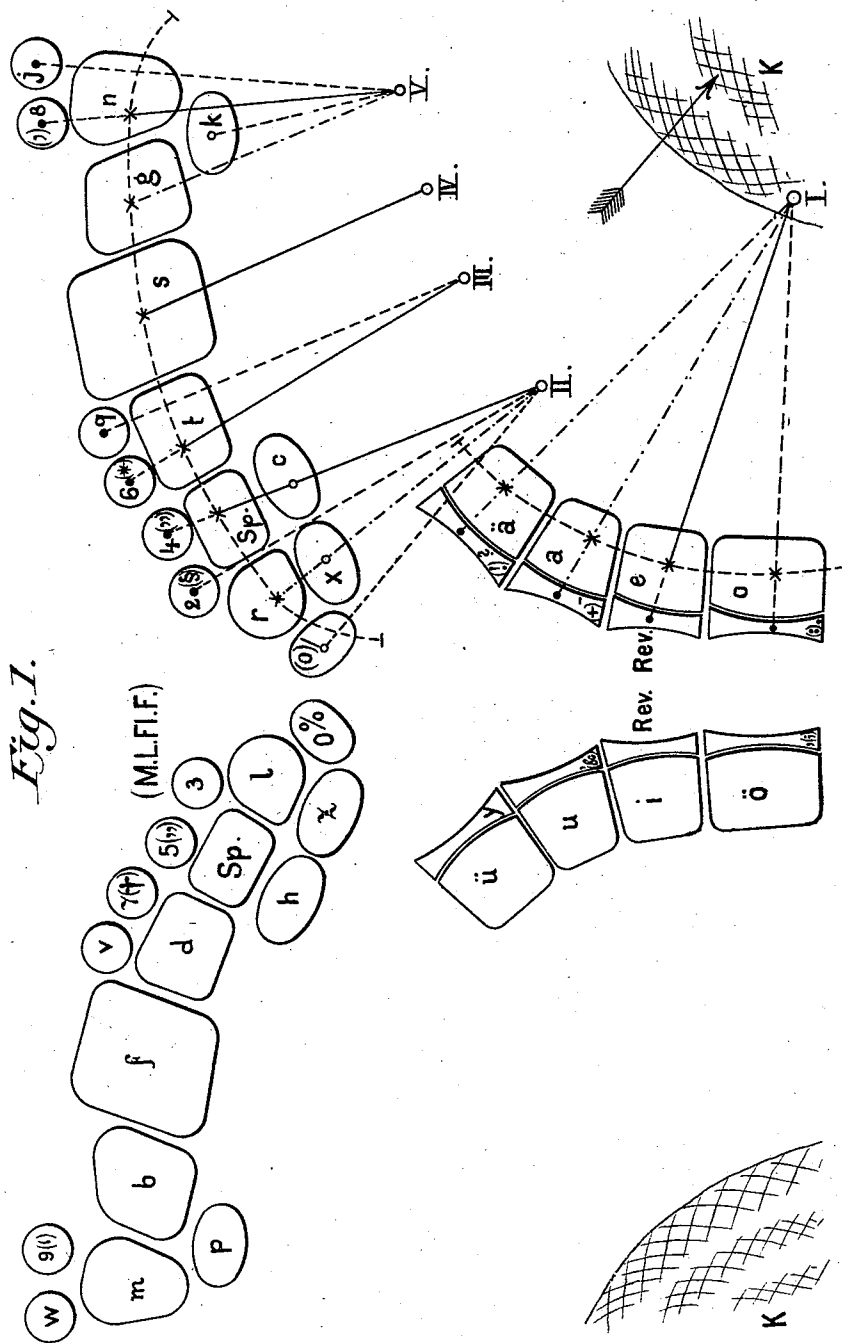


A. VON KUNOWSKI.
KEYBOARD FOR TYPE WRITING MACHINES.

No. 556.422.

Patented Mar. 17, 1896.



Witnesses:

Paul Aulich.
Reinhold Weimer.

Inventor:

A. von Kunowski.

By Attorney:

Wm. H. Reynolds

(No Model.)

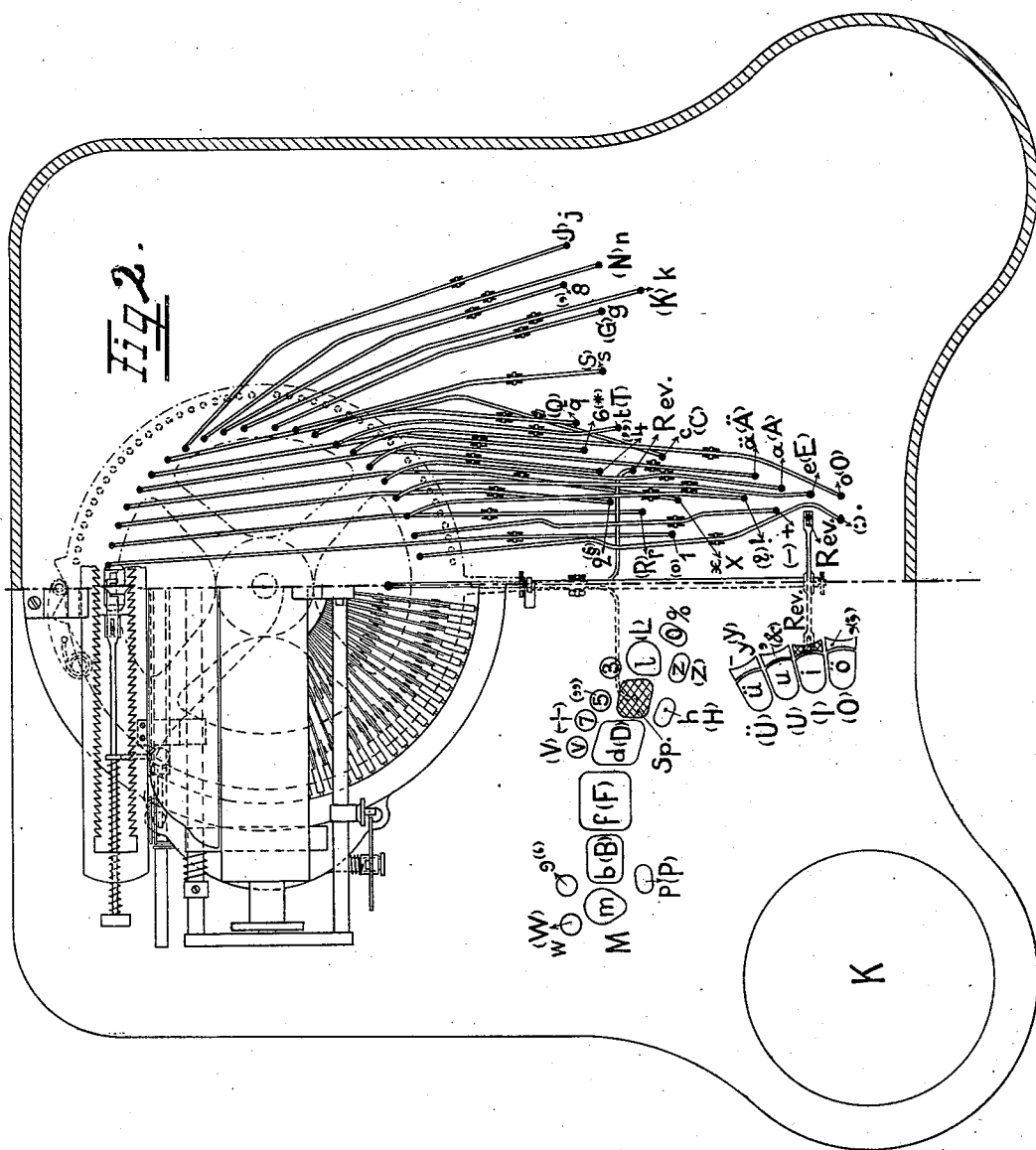
3. Sheets—Sheet 2.

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Masfascovi.

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(No Model.)

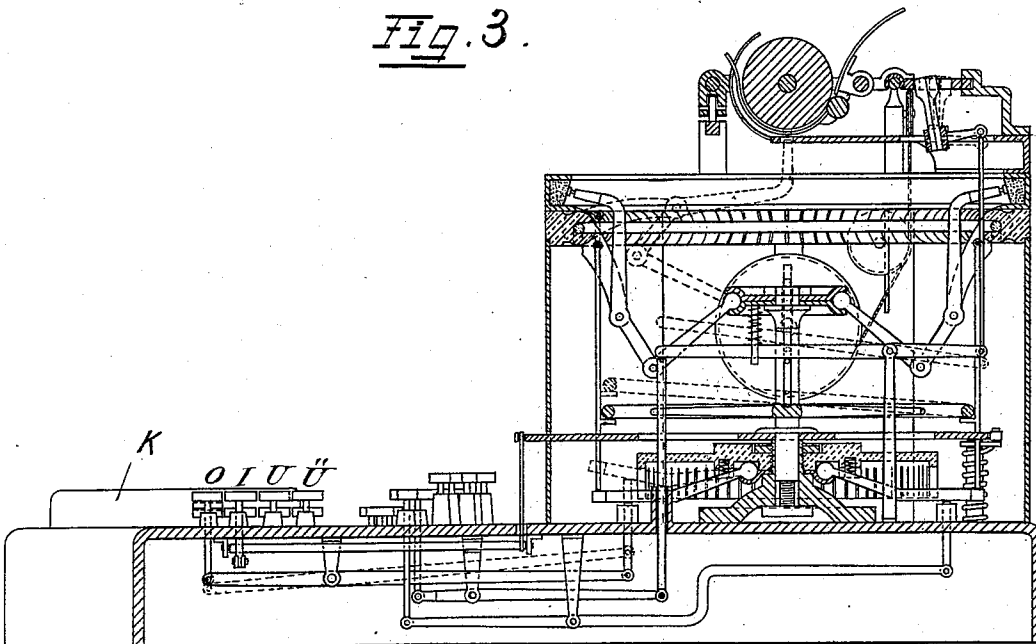
3 Sheets—Sheet 3.

A. VON KUNOWSKI:
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Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBRECHT VON KUNOWSKI, OF BERLIN, GERMANY.

KEYBOARD FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 556,422, dated March 17, 1896.

Application filed March 15, 1893. Serial No. 466,156. (No model.)

To all whom it may concern:

Be it known that I, ALBRECHT VON KUNOWSKI, a subject of the German Emperor, and a resident of Berlin, Germany, have invented certain new and useful Improvements in Keyboards for Type-Writing Machines and Similar Apparatus, of which the following is a full, clear, and exact specification.

The keyboards for type-writing machines commonly used have the disadvantage that on account of the rectangular or semicircular shape of the board in actuating the type-writing machine the lower arm has to be shifted, because the keys cannot be reached by the sole movement of the fingers while the arm is at rest. This disadvantage is avoided in the so-called "stenographic" type-writing machines, in which the keys are arranged in two curved lines symmetrically to the center line of the keyboard. Arrangements of this kind, however, permit of employing only a comparatively restricted number of keys and therefore cannot be used for ordinary type-writing machines.

My invention relates to an improved keyboard, in which both inconveniences are obviated by arranging the keys in four curved lines, which I call "guiding-lines," the two innermost of which are the guiding-lines of the thumbs and correspond to a curve described by the point of the thumb when spreading it away from the hand. The two outer guiding-lines have a configuration which is about the same as that of a line drawn through the points of the four fingers of the hand placed in the most convenient position upon a plane surface. Secondly, I place the main keys, which correspond to the mostly-used characters, exactly coincident with the said guiding-lines and make them of a greater size than is given to the by-keys, which correspond to the less-used characters, and which I place partly before and partly behind the main keys. The by-keys lying on the farther side of the main keys are preferably elevated in position. By arranging the keys in this manner all of them can be touched and depressed by the sole movement of the fingers while the hand may be at rest on a special cushion. Type-writing machines with my improved keyboard can therefore be used even by blind persons, because the variety

of the size of the keys gives a sufficient direction for actuating them.

Of the accompanying drawings, forming a part of this specification, Figure 1 is a diagram of the keyboard, showing, by way of example, the usual number of keys—that is to say, forty-eight keys with eighty-eight types are provided. Fig. 2 is a combined plan view and section of the keyboard in connection with a system of type-writers actually much in use—i. e., the so-called "Yost" system. Fig. 3 is a longitudinal vertical section of the same machine.

The same letters of reference indicate the same parts in all the figures.

In the construction shown in Fig. 1 the number of types is adapted to the usual one—that is to say, forty-eight keys with eighty-eight types are provided. On each side of the keys are cushions on which the rear part of the palm of the hand is so placed that the lower parts form an angle of about ninety degrees with each other, this being their most convenient position. The cushions K are somewhat raised, so that the hand lies free above the keys. The latter are, in the example shown, arranged on or close to the above-mentioned guiding-curves in positions corresponding to the four fingers and the thumb, as determined, on the one hand, by the anatomy and physiology of the hand, and on the other hand by the constructions of the language—that is to say, the keys for the letters mostly used are placed in those positions on which the point of the strongest and most agile fingers rest or which they can easily reach. Thus, for example, the vowels and diphthongs are apportioned to the thumbs, the most used "e," and "i," being in the best positions. The keys for the consonants (and if necessary also the space-keys) are apportioned to the fingers. Those most frequently used occupy the best places on the guiding-curves, which correspond to the most convenient (slightly-bent) positions of those fingers. The less-used letters are arranged on the subsidiary keys, as are also the numerals and other seldom-used symbols.

In the arrangement shown the diagram for the right hand is shown for greater clearness. The fingers with the turning-points 1 to 5 are situated, when in the most convenient posi-

tion of rest, at those points which are indicated by the lines drawn in full and ending with a cross. The points of the fingers therefore rest upon the main keys. By spreading
5 or moving inward or outward the fingers the subsidiary keys marked with circles can be reached, the fingers being then made to assume the positions indicated by dotted lines.

The reversing-key "Rev." and the space-
10 key "Sp." are advantageously duplicated.

The relative positions of the types shown on the drawings are only indicated as examples for my invention. I do not, however, limit myself to this or any other arrangement
15 of types.

Having now particularly described and ascertained the nature of my said invention, I declare that what I claim, and desire to secure by Letters Patent of the United States, is—

20 1. A keyboard for type-writing machines and similar apparatus, having the keys arranged in two symmetrically-placed groups, one on each side of the center line of the keyboard and each consisting of two out groups
25 arranged in curves corresponding to the guiding-lines of the four fingers and the thumbs, respectively, substantially as and for the purpose described.

2. A keyboard for type-writing machines

and similar apparatus having the keys ar- 30
ranged in two symmetrically-placed groups, one on each side of the center line of the keyboard and each consisting of two subgroups arranged in curves corresponding to the guid- 35
ing-lines of the four fingers and the thumbs, respectively, the main keys corresponding to the mostly-used characters, lying exactly in such guiding-lines and being of greater size than the by-keys in the neighborhood of such guiding - lines, substantially as and for the 40
purpose described.

3. A keyboard for type-writing machines and similar apparatus, having the keys arranged in two symmetrically-placed groups, 45
one on each side of the center line of the keyboard and each consisting of two subgroups arranged in curves corresponding to the guiding-lines of the four fingers and the thumbs, respectively, the keys arranged on the farther side of the board being elevated substantially 50
as and for the purpose described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ALBRECHT VON KUNOWSKI.

Witnesses:

PAUL AULICH,
REINHOLD WEIDNER.