No. 833,431. PATENTED OCT. 16, 1906.

P. A. VOGET.

SHORTHAND TYPE WRITING MACHINE.

APPLICATION FILED MAR. 24, 1904.

3 SHEETS—SHEET 1.

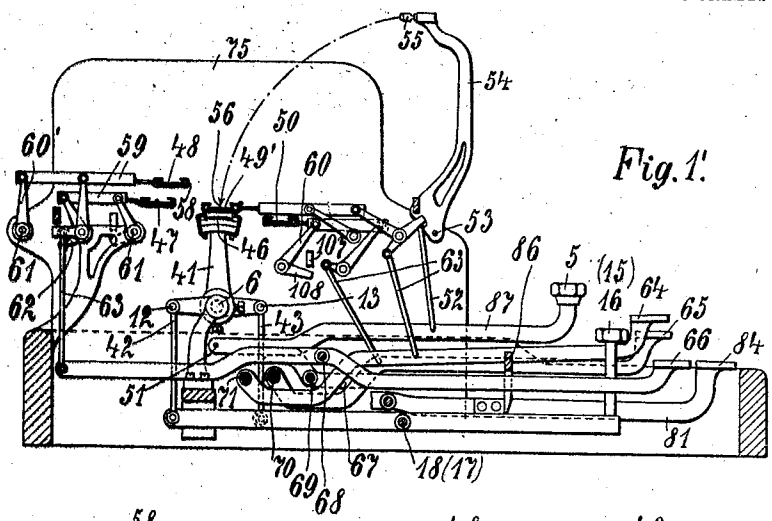


Fig. 1.

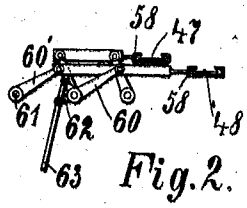


Fig. 2.

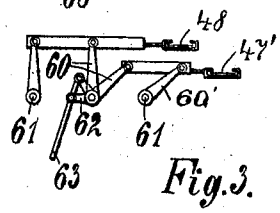


Fig. 3.

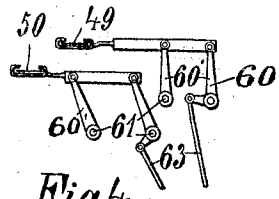


Fig. 4.

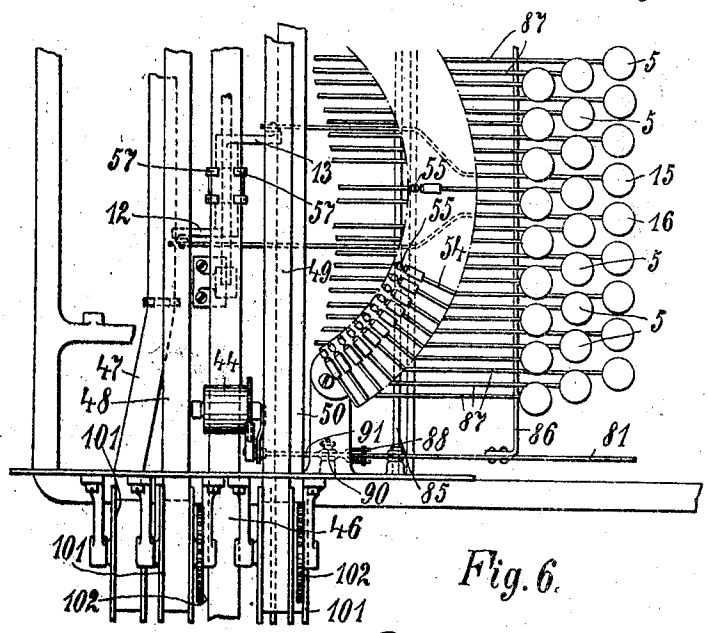


Fig. 6.

Witnesses.

Peter Alexander Voget
by B. Singer Atty.

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3 SHEETS—SHEET 2.

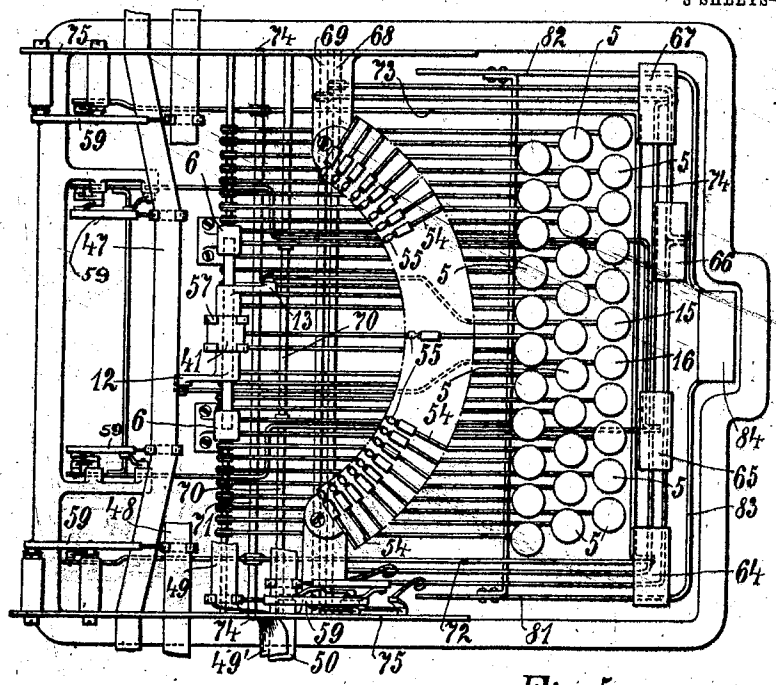


Fig. 5.

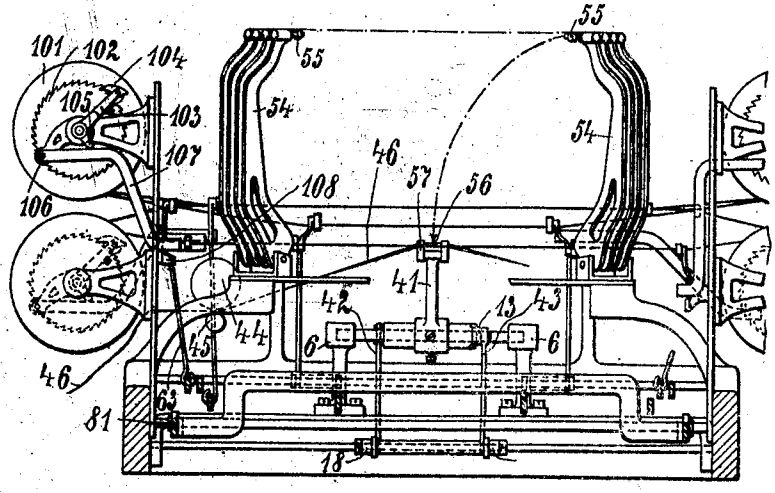


Fig. 9.

Witnesses.

F. Heeren

Inventor

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P. A. VOGET.

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3 SHEETS—SHEET 3.

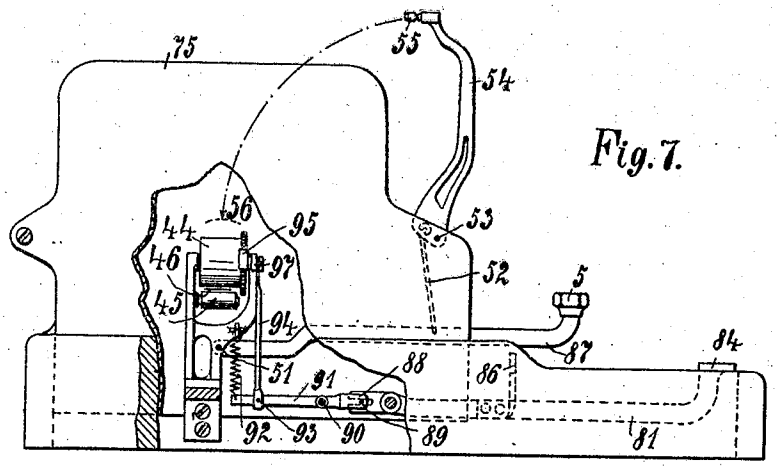


Fig. 7.

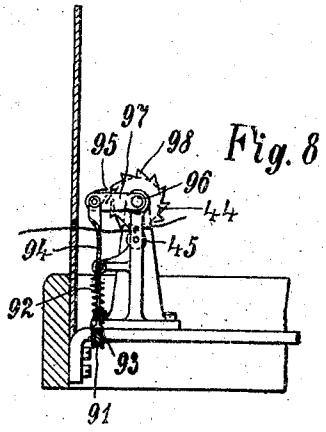


Fig. 8

Witnesses.

F. Bowen

Inventor

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UNITED STATES PATENT OFFICE.

PETER ALEXANDER VOGET, OF HANOVER, GERMANY.

SHORTHAND TYPE-WRITING MACHINE.

No. 833,431. Specification of Letters Patent. Patented Oct. 16, 1906.

Application filed March 24, 1904. Serial No. 199,790.

To all whom it may concern:

Be it known that I, PETER ALEXANDER VOGET, a subject of the German Emperor, residing at Hanover, in the Empire of Germany, have invented certain new and useful Improvements in Shorthand Type-Writing Machines, of which the following is a specification.

The present invention relates to a shorthand type-writing machine—that is to say, a machine which is able to write with sufficient speed for taking down the spoken words. For this purpose the operation of the keys does not produce straight lines of printed letters of uniform color, but letters printed in various colors above, below, or on the normal line. To allow of doing this, the paper-carriage and the printing mechanism are movable in such a manner that the type is printed on the paper at different vertical positions and that ribbons with inks of different colors are moved to the spot where the printing takes place.

A principal feature of this invention consists in the arrangement whereby each ink-ribbon is provided with a device for moving it in the direction of the line of writing independently of the other ribbons, so that only the ribbon which has just been used is moved on for a certain distance. To explain the purpose of this arrangement, it may be briefly mentioned that the higher or lower position of a consonant serves for symbolically indicating the different vowels, as is the case in some shorthand systems, and that the difference of color of certain letters or of whole words is used for symbolically expressing the case of nouns and the tense of verbs. As an example may be given the infinitive form of the verb "to make." When writing this word with the new machine, the vowel "a" can be omitted if the preceding consonant "m" is written above the line in order to indicate the omitted letter. Thus the essential letters "mak" of the words "to make" are indicated by the depression of two keys—namely, those corresponding to the letters "m" and "k." The preposition "to" and the final letter "e" can be omitted if the rule is adopted that the infinitive form of a verb is expressed by printing the verb in blue ink. Another rule of this shorthand system would be that the root or essential part of a verb is printed in red if the future tense is to be expressed, in black if the past tense is to be expressed, and in green if the present tense is to be expressed. According to these rules only the two keys which print the letters "m" and "k" need be operated to write either of the phrases "he will make," "he has made," or "he makes." It will easily be understood that with this system the writing can be performed with exceptional speed, especially if a special system of stenotypography is adopted which allows of using further combinations of colors and high and low positions of letters. Further description of a system of this kind is, however, not necessary for the explanation of the new machine.

In the annexed drawings, Figure 1 is a vertical longitudinal section through the center of the machine seen from the left-hand side. Figs. 2, 3, and 4 represent details of Fig. 1 in other working positions: Fig. 5 is a plan view with parts omitted. Fig. 6 is a top plan view of a portion of the machine, showing parts omitted from Fig. 5. Fig. 7 is a side view from the left with the wall partly broken away and is supplementary to Fig. 1. Fig. 8 is a front view of the mechanism shown in Fig. 7, and Fig. 9 is a vertical transverse section of the machine seen from the front.

As will be seen from the drawings, a light platen-lever 41 is used in the machine instead of the usual heavy paper-shift rollers, the said lever being mounted on fixed pivots 6 and provided with two arms 12 13, extending in opposite directions. The said arms are pivotally connected, by means of rods 42 43, with two key-levers which are pivoted at 18 and have at their ends keys 15 and 16, respectively, so that by alternately depressing these keys the lever 41 can be given a rocking movement in which a strip of paper 46 takes part, passing between the feed-rollers 44 45, Figs. 6, 7, 8, and over the cylindrical surface of the lever 41. Four ink-ribbons 47 48 49 50 can be separately moved to the position 49′, Fig. 1, in a manner which will be described hereinafter.

5 5 5 are the ordinary letter-keys, by the depression of which the key-levers 87 can be rocked on the fixed axle 51 in order to bring the type 55 into contact with the paper strip 56. For this purpose each key-lever 87 is pivotally connected, by means of a rod 52, with a type-lever 54, mounted on a stationary pivot 53. In Fig. 1 the ink-ribbon 49 is shown in the position 56, so that the impression made by the type 55 will be in the color

of the ink on the ribbon 49. The lever 41 is provided with small metal hooks or fingers 57, which hold the paper strip 46 on the cylindrical surface of the said lever, but do not grip the paper.

At each side of the lever 41, but not directly adjacent thereto, is arranged the pair of feed-rollers 44 45, already mentioned, Figs. 7, 8, which serve to move the paper after the operation of a type-key or of the space-key. Since the pair of feed-rollers 44 45 on the left-hand side of the machine is considerably removed from that on the right-hand side of the machine, it is possible to move the paper strip to and fro by rocking the lever 41 through a small angle, so that the point 56, at which the type 55 strikes the paper, is sometimes above and sometimes below the normal line of writing. As already mentioned, the lever 41 is operated by striking one of the keys 15 16, of which only one—namely, 16—is visible in Fig. 1, the other, 15, being exactly behind it. The ink-ribbons 47 48 49 50 are loosely supported near the striking-point 56 by metal holders 58, which are fixed to parallel arms 59, supported by links 60′ and levers 60. The links 60′ are mounted on fixed axes 61′, and the levers 60, which are integral with arms 62, are mounted on fixed axes 61 and are adapted to be operated by means of rods 63 and keys 64 65 66 67. In the position shown in Fig. 1 the ink-ribbon 49 has been moved into the working position 49′ by the depression of the key 64. The position of rest of the same ink-ribbon is shown in Fig. 4, in which the ink-ribbon 50 is shown in its working position, into which it has been moved from its position of rest by means of the key 64. The ink-ribbon 48 (shown in Fig. 1 in its position of rest) is moved into the working position 48′ (shown in Fig. 2) by means of the key 67, Fig. 5, and the ink-ribbon 47, which is shown in Fig. 1 in its position of rest, is moved into its working position 47′, Fig. 3, by means of the key 66. The key-lever 66 is rotatable about the axle 68, the key-lever 67 about the axle 69, the key-lever 65 about the axle 70, and the key-lever 64 about the axle 71. All these key-levers form portions of frames, as shown in Fig. 5. The key 64, for instance, is fixed to the left-hand front corner of the rectangle formed by the two levers 72 73, the frame part 74, and the axle 71. The latter is supported in bearings 74 in the lateral metal walls 75 of the machine-frame. The keys 65 66 67 are rigidly connected to the respective axles in a similar manner.

The paper strip 46 on which the letters are to be printed is wound on a roller, (not shown in the drawings,) this roller being situated on the left-hand side of the machine. From the said roller the paper passes between the rollers 44 45, (shown in Figs. 7, 8,) then over the lever 41, Fig. 9, and into a large box or basket on the right-hand side of the machine. The feed mechanism for producing the step-like movement of the paper strip is operated by means of levers 81 82, Figs. 1, 5, 6, 7, which are mounted on a shaft 85, rotatably supported in the machine-frame. These levers are rigidly secured at the front part of the machine to the bar 83, which carries the space-key. A bar 86, parallel with the shaft 85, is fixed between the levers 81 82 and extends underneath all the levers 87 of the type-keys 5, so that whenever one of the keys 5 is depressed the said bar 86 and the levers 81 82 84 are caused to move downward. The end 88 of the lever 81, projecting beyond the shaft 85, is forked, Fig. 7, and engages a pin 89, fixed to the lever 91, pivoted at 90, this lever being normally pulled upward by a spring 92, so that the space-key 84 is also normally in an elevated position. A short vertical rod 94, pivoted at 93 to the lever 91, is connected to a lever 97, provided with a pawl 95 and pivoted at 96. The pawl 95 gears into the teeth of a ratchet-wheel 98, fixed to the paper-feed roller 44, so that every time the space-key 84 or one of the keys 5 is depressed the paper-feed roller 44 is moved through one tooth-space. The roller 44 is of ebonite or similar material and is provided on its circumference with longitudinal ribs. The roller 45 is of soft rubber and is only rotated by friction, so that the paper strip 46, which is held between the two rollers with slight pressure, takes part in the movement of the roller 44—that is to say, is shifted after each impression of a letter or after the operation of the space-key 84, the extent of the movement being one letter-space corresponding to one tooth-space on the wheel 98. The ink-ribbon which has been used must also be shifted to the extent of one letter-space each time a letter has been printed, so that a fresh part of the ribbon is in position the next time it is required. The devices for moving the ink-ribbons are identical with each other, so that only one of them need be explained. The ribbons are wound on metal rollers 101, Fig. 9, in the known manner. At the side of each roller 101 is rigidly fixed a ratchet-wheel 102, into the teeth of which gears a resilient pawl 104, pivoted to a lever 103. A finger 105, fixed to the latter, abuts against a lever 107, pivoted at 106 and adapted to be lifted by means of a short lever 108 perpendicular thereto. The lever 108 is integral with the lever 60, pivoted at 61, Fig. 1. If, therefore, by striking the key 65 the ribbon 50 is moved into its working position, the lever 108 lifts the lever 107, and the latter operates the lever 103, so that the ribbon-roller is rotated through one tooth-space.

Having now fully described my invention, I declare that what I claim is—

1. In a shorthand type-writing machine the combination of a plurality of ink-ribbons,

a platen contact-surface, of type-levers and means of striking said type-levers against said platen contact-surface, of fixed axes, levers and links, pivoted to said axes, an arm respectively connecting said levers and links, ribbon-holders rigidly connected to said arm and means for operating said levers to move said ribbon-holders, substantially as and for the purpose set forth.

2. In a shorthand type-writing machine, the combination of a plurality of ink-ribbons, a platen contact-surface, type-levers and means for striking said type-levers against said platen contact-surface, fixed axes, levers and links pivoted to said axes, an arm respectively connecting said levers and links, ribbon-holders rigidly connected to said arm, rods connected with said levers for operating said ribbon-holders, and pivoted keys connected with said rods for operating the same.

3. In a shorthand type-writing machine the combination of a plurality of ink-ribbons, a platen contact-surface and means of respectively conducting said ink-ribbons over said contact-surface, of a platen-lever for the reception of said contact-surface, a fixed pivot with said platen-lever mounted thereon and means of oscillating said platen-lever and matrix around said pivot of feed-rollers 44, 45 for conducting a strip of paper 46 intermittently over the cylindrical surface of said platen-lever and means for causing said strip of paper to partake in the oscillation of said platen-lever, substantially as and for the purpose set forth.

4. In a shorthand type-writing machine adapted to print upon a strip of paper, the combination of an oscillatory lever, a platen fixed thereto, a plurality of ink-ribbons, means for intermittently moving said strip of paper over said platen and means for feeding said ribbons independently of each other when a type-lever is operated, substantially as described.

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

PETER ALEXANDER VOGET.

Witnesses:

ANNA DIPPEL,

HERMINE GÄDEGKE.