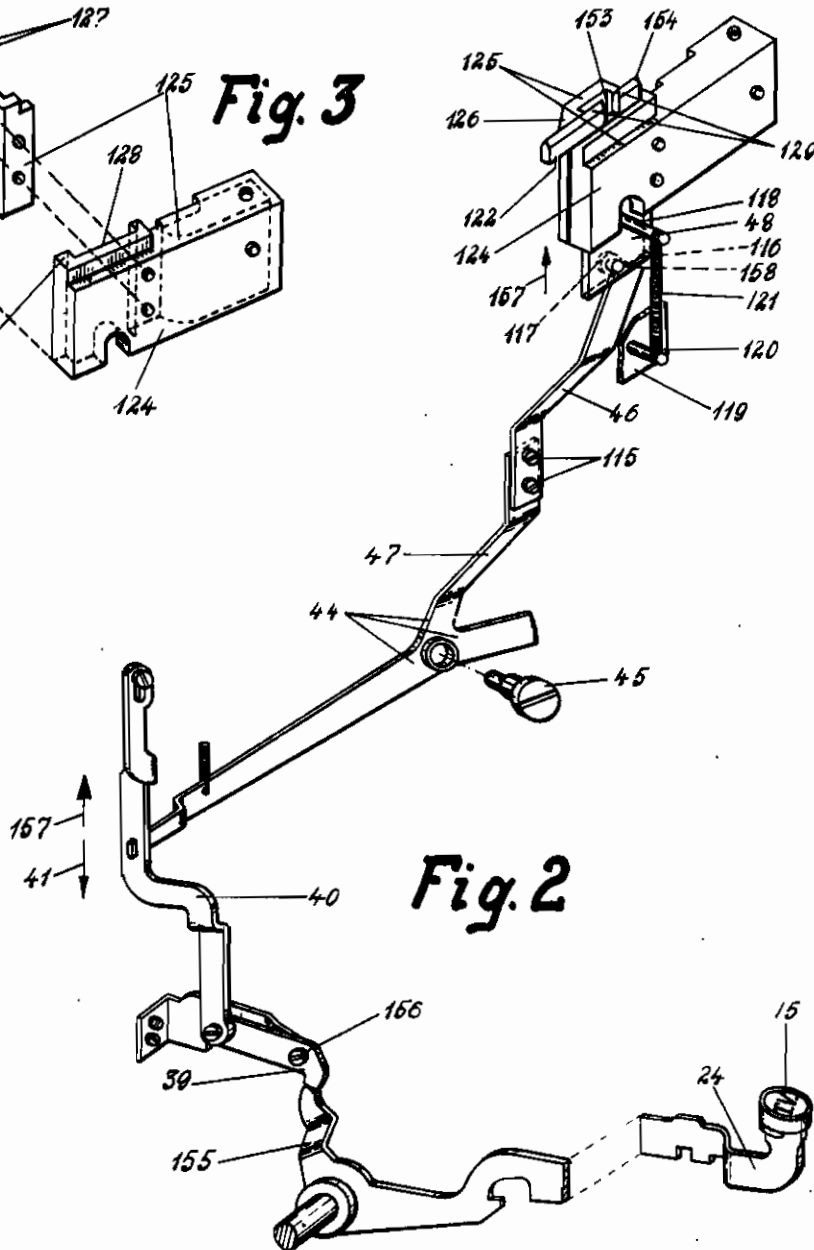
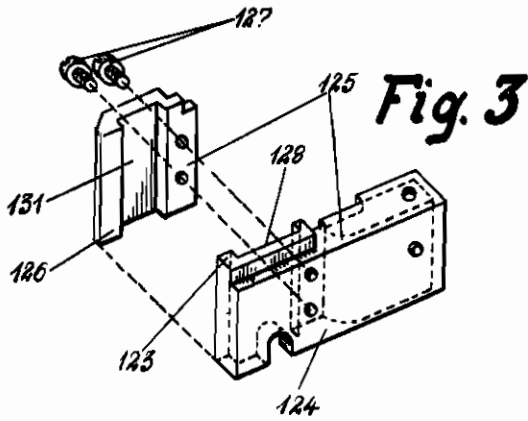


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TOTALIZERS
Original Filed Nov. 19, 1936

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4 Sheets-Sheet 2

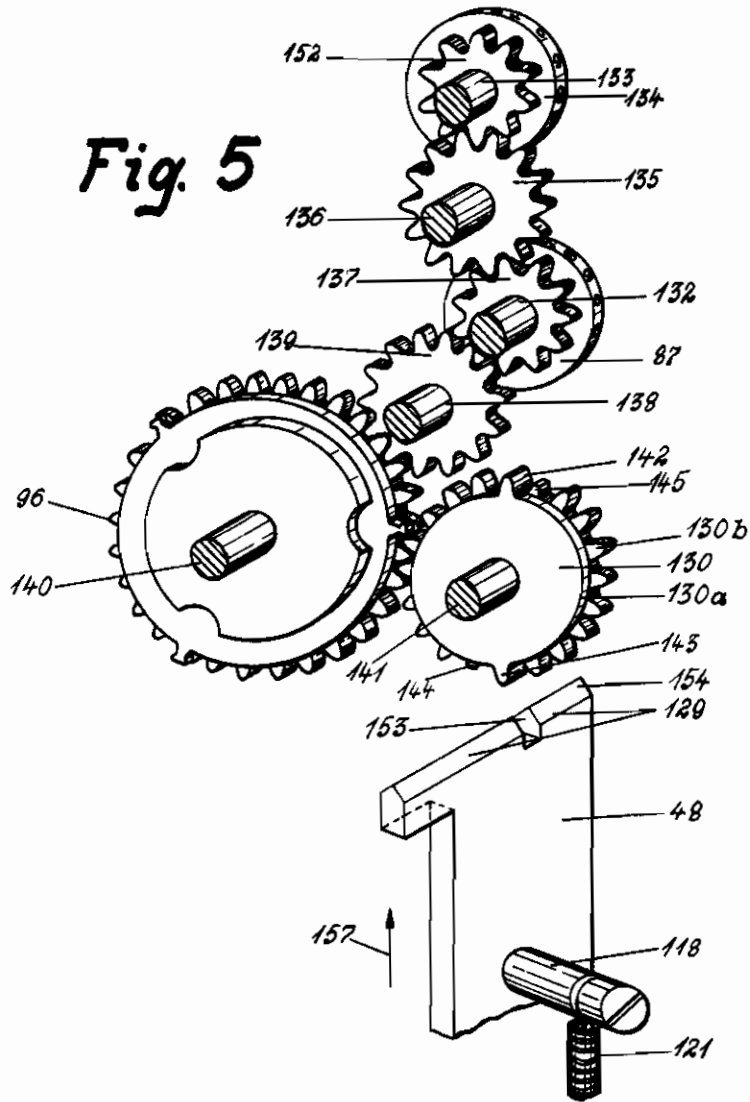


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ALIEN PROPERTY CUSTODIAN

TOTALIZERS

Robert Anschutz, Zella-Mehlis, Germany; vested
in the Alien Property Custodian

Application filed October 30, 1940

This application is a continuation of my application Ser. No. 111,726, filed 11, 19, 1936, and relates to a totalizer, more particularly for typewriter calculating machines the latter having a total taking mechanism.

Various forms of such totalizers are already known as, for instance, those disclosed in patents to Briken Nr. 1,266,660 of May 21, 1918, and to Wahl Nr. 1,270,471 of June 25, 1918.

For instance, it has been proposed to use the usual tens transmitting gear as a stop for the "zero-setting" or "zero-shifting" by locking the driving wheel of the totalizer which is located of the next higher place or denomination of the totalizer with respect to the numeral roller which is to be set or brought to zero. The numeral roller which is to be brought to zero in this case is limited in its rotation by the tens shift cam which acts on the next higher place. In view of the fact that the tens shift cams are relatively small and have a form which is not suitable for the relatively heavy stresses occurring in the total taking, it has been further proposed to provide a particular zero-stop. Although the shape of the zero-stop could thus be better adapted to the requirements, it was not possible to make the zero-stop very strong and durable and to arrange the counter-stop in a convenient manner, as the zero-stop was arranged at a toothed wheel which was located between the main driving wheel and the number roller.

These disadvantages are eliminated according to the invention by the provision of an additional group of toothed wheels which is connected, preferably in parallel arrangement, with the train of toothed wheels which is arranged between the main driving wheel and the numeral roller.

This offers the advantage that the zero-stop at the wheels of this group of toothed wheels can be made very strong and sufficiently wide, and the wheels of this group of wheels can be so mounted that they co-act with the counter-stop in a suitable manner.

Furthermore this arrangement offers the advantage that the wheels of the additional group of wheels may be adapted for carrying the teeth for the known clear sign feeling member at the same time. The small extension or projection of the totalizer casing which is necessary in order to accommodate the additional group of wheels is advantageously enlarged so as to render it possible to utilize the same for supporting and enclosing the clear sign feeling member and the

control cam for adjusting the type of calculating and writing.

In the drawings, one form of construction of the invention is illustrated by way of example.

Fig. 1 shows a left-hand side elevation of a "Mercedes Addelektra" typewriter calculating machine, provided with the novel device according to the invention.

Fig. 2 shows a fragmentary perspective view, viewed from the left-hand front side of the machine, of the device according to the invention, including the mechanism for the drive.

Fig. 3 shows, in a perspective view, viewed from the left-hand front side of the machine, the supporting member for the zero-shifting and aligning tooth, the parts being separated from each other for the sake of better illustration.

Fig. 4 represents a side elevation of a totalizer, the left-hand side wall being removed in order to show the gear system of the totalizer.

Fig. 5 shows, in a perspective view, the left-hand group of wheels of the totalizer.

General description

On the machine frame 1 (Figure 1) the carriage 2 with its platen 3 is displaceably mounted on the running rails 4 and 5. The totalizers 6 (Figure 1) are mounted so as to be readily attachable and detachable on a rail 7 fixed to the carriage frame 8. The carriage 2 is continuously acted on by a spring-operated draw band (not shown) from right to left. By means of an escapement mechanism described in the Patent Nr. 2,046,524, the carriage 2 is moved on each key-stroke towards the left one step at a time.

On the front side of the machine, a row of number-keys 9 (Figure 1) is arranged. By means of these number keys 9, values are typed upon the platen 3, but not inserted into the totalizers 6. The character keys 10, which are arranged underneath the number keys 9 in the keyboard serve for the writing of clear text. The space key 11 is located in front of the character keys 10. By means of this space key 11, when depressed, the paper carriage 2 may be selectively moved one or more steps to the left.

Underneath the usual keyboard, the tabulator keys 12 (Figure 1) are arranged in the supporting frame 13. If one of the tabulating keys 12 is depressed, in a manner described in detail in Patent 2,046,524, one of the column totalizers 6 is brought with a certain denomination into the desired calculating position, whereby the carriage 2 is released. Underneath the tabulator keys 12, the calculating keys 14 are arranged

in the supporting frame 13, by depression of which values are transmitted into the totalizers 6, whereby the corresponding values are simultaneously typed upon the platen 3.

Besides the calculating keys 14, and the tabulator keys 12 a key 15 (Figure 1 and 2) provided with the Mark "TV" is arranged on the left hand side in the supporting frame 13. This key 15 serves for total taking from the totalizers 6.

On the right hand side of the paper carriage 2, a carriage release lever 16 (Figure 1) is arranged. By depression of this release key 16, the carriage 2 is released as described in the patent Nr. 2,046,524.

On the right hand side of the machine 1 the motor 17 (Figure 1) is arranged.

Brief description of several controlling means

The parts described in the following do not form a part of the invention, but for a better understanding of the present invention, it seems advisable to briefly refer thereto. The totalizer 6 is provided with a control cam 170 swingable round a shaft 171 and a control plate 172. If the control cam 170 coacts with the angle lever during the total taking process, the calculating mechanism is adjusted for subtraction and the case shifting of the platen is effected whereby the values written down in inclined numbers and if the control plate 172 coacts with the lever 174 the kind of calculation is changed over from addition to subtraction.

General description of the details of the mechanism concerning the invention

The member 46 which is shown in figs. 1 and 2 is arranged at the arm 47 of the three-armed lever 44, which arm 47 is bent off as shown in fig. 1 and 2 and fixed thereto by means of screws 115. The upwardly extending end of the member 46, is capable of acting upon a roller 117, by means of its inclined face 116 (fig. 2), in the manner which will be described under the heading "Operation of the device according to the invention". The roller 117 is rotatably mounted in any suitable manner on a zero-setting and aligning tooth 48 which forms a part of the invention. The zero-setting and aligning tooth 48 is held in its normal position under the action of the spring 121, which is held at one end by a bolt 118 (which is fixedly mounted on the zero-shifting and aligning tooth 48) and with its other end acts upon the bolt 120 which is fixedly mounted on the front wall 119 of the calculating mechanism, (figs. 1 and 2). This normal position of the spring 121 is determined by the contact of the lower edge 122 (fig. 2) of the zero-setting and aligning tooth 48 with the face 123 (fig. 3) of the portion 124 of the guiding member 125. The guiding member 125 (fig. 3) consists of two parts 124 and 126, the part 124 is fixed to the front wall 119 (fig. 1) of the calculating mechanism in any suitable manner by means of screws (not shown), while the part 126 is fixed to the part 124 by means of screws 127 (fig. 3). The zero setting and aligning tooth 48 which is guided in the recess 128 of the part 124 of the guiding member 125 and held thereto by the part 126 of the guiding member 125, is capable of co-acting with the left intermediate wheel 130 (fig. 1, 4 and 5) of the totalizer 6, by means of its tooth 129. The part 126 of the guiding member 125 is provided with a recess 131 in such manner that the aligning tooth 48 after removal of the spring-operated bolt 118 can be lifted out in

upward direction, notwithstanding the fact that the roller 117 is arranged on the aligning tooth 48.

Rotatably mounted on two shafts 132 and 133 (fig. 1, 4 and 5) which are supported in the two side walls of the totalizer 6 are the number rollers 134 and 87 and the wheels 152 and 137 which are rigidly connected with the rollers 134 and 87, respectively, and the comma rollers (not shown). The number rollers 134 and 87 engage with the transmitting wheels 135 which are rotatably mounted on a shaft 136 which in turn is rigidly supported in the two side walls. Furthermore the toothed wheels 137 which are rigidly connected with the number rollers 87 mesh with intermediate wheels 139 which are rotatably mounted on a shaft 138 which is supported in the two side walls of the totalizer 6. The wheels 139 in turn mesh with driving wheels 96 which are rotatably mounted on the shaft 140, which is rigidly supported in the two side walls of the totalizer 6. Rotatably mounted on a further shaft 141 which is supported in the two side walls, are the wheels 130 which likewise mesh with the driving wheels 96. The wheels 130 are shown in fig. 5, it will be seen that two teeth 142 and 143 are provided having a width equal to the total width of the disk 130a and the toothed wheel 130b (fig. 5). The wheels 130 are adapted to co-act with the teeth 129 of the zero-setting and aligning tooth 48. Moreover two further teeth 144 and 145 (fig. 5) are provided which have a smaller width and are adapted for coacting with the feeling member 146 (figs. 1 and 4) of the clear sign printing device which coacts with parts described and illustrated in British patent Nr. 414,248. Mounted on the front wall 119 of the calculating mechanism 147, by means of screws 148, is a support 148 which is shaped as shown in fig. 4 and at its upwardly bent end bears a rotatably mounted roller 150 which co-acts with the part 151 (figs. 1 and 4) of the totalizer 6 in the manner set forth hereafter under the heading "Operation of the device according to the invention".

Operation of the device according to the invention

At first, it may be assumed that values have been introduced into the totalizers 6 in a known manner. Now, if the total or the subtotal is to be taken, the respective totalizer 6 is brought into its working position by means of the space key 11 (Fig. 1) or one of the tabulator keys 12, whereby the left-hand driving wheel 96 of the column totalizer 6 is brought into engagement with the main driving wheel 63 and the left-hand driving wheel 130 of the column totalizer 6 comes into a position opposite to the gap 163 (Fig. 5) of the zero-setting and aligning tooth 48. When the totalizer 6 is moved into its working position, the main driving wheels 63 are aligned by the portion 154 (Fig. 5) of the aligning tooth 48. Now, if the corresponding totalizer 6 from which the total or subtotal is to be taken, is brought into its working position, the key 15 which is marked with "TV" is depressed. When depressing this key 15 and swinging the lever 24, the latter by means of its arm 155 (Figs. 1 and 2) acts upon the lever 39 and swings the same in an anti-clockwise direction round the screw 156. The slide 40 participates in this movement and is displaced in the direction of the arrow 41. The lever 44 (Figs. 1 and 2) is also acted upon thereby and swung round the

screw 45 in an anti-clockwise direction, thus acting with the inclined face 116 of the part 46 which is fastened at the lever 44, upon the roller 117 which is fastened at the zero-setting and aligning tooth 48. The aligning tooth 48 is thereby upwardly moved in the direction of the arrow 157, against the action of the spring 121. As soon as the key 15 has reached its depressed position, the face 158 (Fig. 2) of the part 46 contacts with the roller 117 of the aligning tooth 48. When depressing the key 15 the actuating mechanism is released in the manner described in patent application of Kämmler, Ser. Nr. 287,672, and the main driving wheel 63 (Fig. 4) is driven in an anti-clockwise direction. The left-hand driving wheel 96 of the column totalizer 6 is thereby rotated in a clockwise direction and the left-hand wheel 130 of the column totalizer 6 is rotated in an anti-clockwise direction, i. e. for instance by five units, if the value "5" has been introduced into the left-hand numeral roller of the totalizer 6, whereby the tooth 143 of the wheel 130 strikes against the aligning tooth 129, while the toothed rim of the same passes through the slot 153 (Fig. 5) of the aligning tooth 49. At the same time, by the rotation of the driving wheel 96 in a clock-wise direction, the numeral roller 67 is set from "5" to "0", by means of the intermediate wheels 139 and 137, whereby the value which is in the left numeral roller 87 is cleared or brought out of the totalizer 6. This value then at the same time is printed on the form or paper by means of the mechanism described and illustrated in application, Serial Number 287,672. In the same manner the values which are in the remaining numeral wheels 87

are written out. Now, after the last place or denomination of the totalizer 6 has been cleared, the key 15 which up to this instant has been held depressed automatically, as described in application Serial Number 287,668, is released, whereby all of the mechanisms thereby actuated return to the original position, so that no further calculating operation can occur.

In consequence of the arrangement of the gear wheels 130 in the totalizer 6 it is possible to combine the usual clear sign feeling member 146 (Figs. 1 and 4) also with the group of wheels 130. The feeling member 146 which is rotatably mounted on the shaft 160 then feels off either of the two short tooth 144 and 145 of the gear wheels 130.

In order to guide the totalizers 6 in a safe and reliable manner when it is introduced into the calculating place or denomination, the arrangement is provided as follows:

When any of the totalizer 8 is introduced into the left-hand calculating place or denomination, the roller 150 (Figs. 1 and 4) of the support 149 contacts with the face 161 of the part 151 which is fastened at the totalizer 6 and thus prevents the totalizer 6 from rising. The part 151 is fastened in the two side walls of the totalizer 6 in a suitable way and, at the same time, forms the front wall of the totalizer 6.

This guiding device is known per se, from patent to Kurowski Number 1,876,696 of Sept. 13, 1932, however, it has not been suggested before to use it in connection with the total taking device and this novel combination adds to the faultless and reliable clearing of the totalizers.

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