A. F. POOLE.

CALCULATING MACHINE.

APPLICATION FILED JUNE 21, 1915.

1,196,885. Patented Sept. 5, 1916.

Fig. 1.

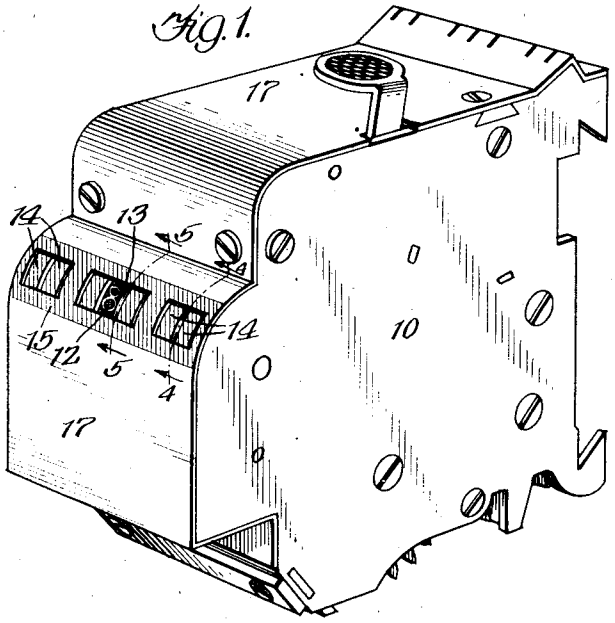


Fig. 4.

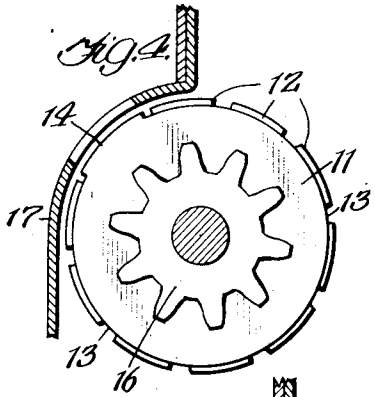


Fig. 5.

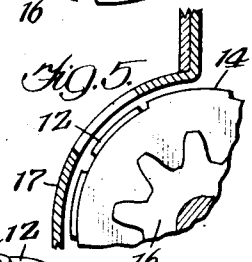


Fig. 2.

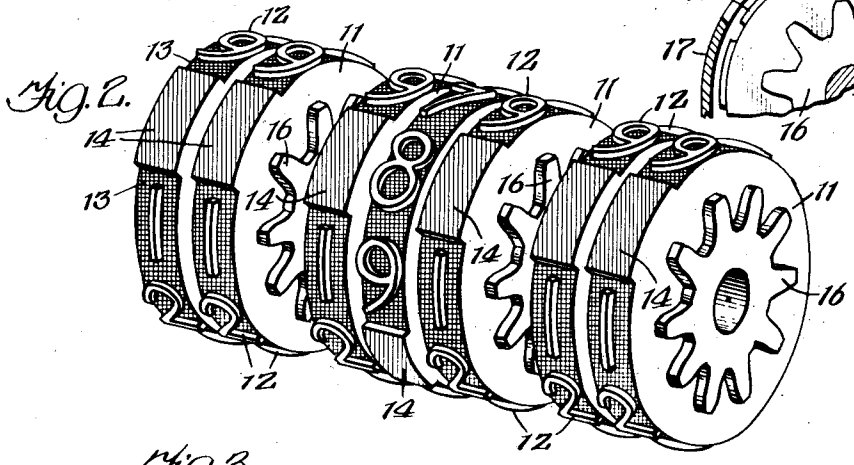
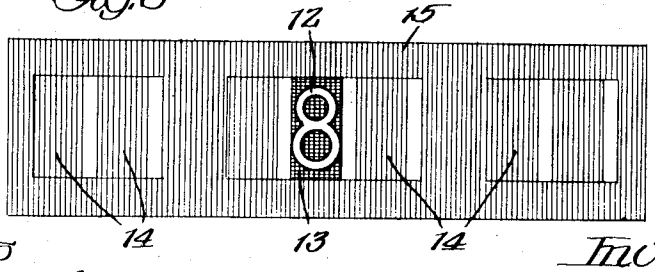


Fig. 3



Witness

Inventor:

Arthur F. Poole.

UNITED STATES PATENT OFFICE.

ARTHUR F. POOLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO WAHL ADDING MACHINE CO., OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

CALCULATING-MACHINE.

1,196,885. Specification of Letters Patent. Patented Sept. 5, 1916.

Application filed June 21, 1915. Serial No. 35,309.

To all whom it may concern:

Be it known that I, ARTHUR F. POOLE, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Calculating-Machines, of which the following is a specification.

My invention is an improvement in totalizers, particularly in the means for indicating when a totalizer is clear, or exhibits a line of zeros.

My improvement may best be understood by reference to the accompanying drawings of which—

Figure 1 is a perspective view of a Wahl totalizer, equipped with my invention. Fig. 2 is a view of the number wheels thereof. Fig. 3 is a partial development of the covers and number wheels as shown in Fig. 1. Fig. 4 is a partial section of Fig. 1 along lines 4—4. Fig. 5 is a partial section of Fig. 1 along lines 5—5.

My invention as shown is used in connection with a totalizer of the Wahl adding machine. This machine is in wide commercial use, and further is described in the issued patent to John C. Wahl, #893,719.

While I have shown this particular embodiment of my invention, it will be obvious that the invention can be applied to totalizers of any kind.

The Wahl totalizer as used in connection with a typewriter adding machine, has comparatively small number wheels. The width of these wheels is approximately $\frac{1}{10}$ of an inch, of this $\frac{1}{10}$, possibly a third is taken up by the width of the gear which serves to transmit motion to the wheels. Therefore, there is available for the purpose of placing the figures on the number wheels a space approximately .060″ to .070″ wide. Consequently figures on the number wheels are comparatively small and a somewhat close observation is necessary to determine the number indicated by the number wheels. In practice, trouble sometimes arises from the operator's failing to clear the totalizer or from the operator's starting to make a calculation with a number in the totalizer. One of my herein described improvements is to have the totalizer when clear present a marked difference in appearance from the totalizer when it contains a number.

Referring now to the drawings, Fig. 1 shows a perspective view of a Wahl totalizer 10, containing the number wheels 11 which are also shown separately in Fig. 2. These number wheels as usually made consist of raised white figures 12 against the black back ground 13, the wheels being usually made of aluminum, and the back ground is embossed, leaving the numbers standing in relief. The whole wheel is then blackened, and subsequently this blackened surface is removed from the surface of the numerals leaving these numerals standing comparatively white against the black background. In my improved number wheel, I have omitted the 0, replacing it by a raised portion 14, and this portion is of angular width somewhat greater than the angular width of the space occupied by the numeral. I have colored this raised portion a color which is different from either the color shown by the number or the color of the back ground on which said number is mounted. In the particular instance shown, I have colored the portions 14 red. Corresponding to this red portion 14, I have placed on the totalizer cover 17 a band 15, (Fig. 1) of the same color as the raised portion 14. When the totalizer stands at 0, or is clear, it presents the appearance of an unbroken band of the color of the raised portions 14 and band 15, this band being broken only by the comparatively narrow spaces between the number wheels in which are placed the driving gears 16. If, however, the totalizer is not clear, this band will be broken, as shown in Figs. 1 and 2, in which the totalizer indicates 80.00. The fact of the totalizer not being clear is much more obvious at a glance than when the number wheels are made in the usual way since certain figures, such as for instance, the 8, 9 and 6, have outlines which do not differ very much from the outline of the 0. The operator, therefore, taking a hasty glance at the totalizer, may mistake one of these figures for a 0, and thus leave her totalizer uncleared. This mistake, if not rectified, will produce a wrong computation the next time the totalizer is used.

I prefer to make the band 15 and the raised portion 14 red, the back ground 13 black, and the figures 12 white. I find that this combination gives a marked distinction between a totalizer clear and a totalizer not clear. However, I do not wish to limit my invention to these particular colors. Neither do I wish to limit my invention to the em-

ployment of three different colors on the number wheels, for if one were to make the raised portions 14 the same color as the totalizer covers 17, a marked improvement would be had over the ordinary practice.

It should be here noted that when there is a number in the totalizer the red portions 14 are to be read as zeros. An instance of this is shown in Fig. 3, in which is exhibited an 8 with red portions 14 to the right and left. These portions should all be read as zeros, so that the reading of this totalizer is 80.00.

It is further to be noted that these raised portions may also be made the color of the figures, that is, the raised portions 14 may be made white. This will give a marked advantage over the ordinary practice, but I do not consider it as desirable as the form herein shown.

I also do not wish to limit myself to an improvement including the presence of the band 15 since simply making the raised portions 14 of the wheels the same color as the back ground 13 will render the fact of the totalizer's being clear more conspicuous than if the 0's were put in place of these raised portions 14 as is the usual practice. However, I do not consider this method as desirable as my preferred form herein described.

In some of the claims I have used the term digit position to distinguish the position in which a number wheel exhibits a number from the zero position of said wheel.

Many modifications and variations may be made in the precise arrangement herein disclosed without departing from the spirit of my invention since—

I claim:

1. In a calculating machine, the combination with a casing having a sight opening, of calculating mechanism therein including a series of operatively associated wheels having numerals disposed around their edge portions, the zero position of each of said wheels being marked by a spot of color strikingly contrasted with the remainder of the edge portion of the wheel, and said spots being adapted to aline before said sight opening to present an approximately continuous streak of color indicative of the complete restoration of the calculator to a zero condition.

2. In a calculating machine, the combination with a casing having a sight opening, of calculating mechanism therein including a series of operatively associated wheels having numerals disposed around their edge portions, the zero position of each of said wheels being marked by a spot of color strikingly contrasted with the remainder of the edge portion of the wheel, and said spots being adapted to aline before said sight opening to present an approximately continuous streak of color indicative of the complete restoration of the calculator to a zero condition, the casing around said sight opening having a marginal portion of the same color as said spots so that any number appearing through the said opening, on failure to restore the machine to said zero position, will be inclosed within a border of said color.

3. In a calculating machine, the combination with a casing having a sight opening, of calculating mechanism therein including a series of operatively associated wheels having numerals disposed around their edge portions, the zero position of each of said wheels being marked by a spot of color strikingly contrasted with the remainder of the edge portion of the wheel, and said spots being adapted to aline before said sight opening to present an approximately continuous streak of color indicative of the complete restoration of the calculator to zero condition, some of the numeral wheels being substantially spaced apart, and the sight opening being bridged by cross bars alined with said spaces and colored in keeping with the colored spots.

4. In a totalizer, a set of number wheels having thereon three colors, one color for the figures, one color for the background, and one color for the zero position.

5. In a totalizer, a plurality of number wheels, having the digit positions one color and the zero positions a different color.

6. In a calculating machine, the combination with a casing having a sight opening, of calculating mechanism therein including a series of operatively associated wheels having numerals disposed around their edge portions, the zero position of each of said wheels being marked by a spot of color strikingly contrasted with the remainder of the edge portion of the wheel, and said spots being adapted to aline before said sight opening to present an approximately continuous streak of color indicative of the complete restoration of the calculator to a zero condition, the casing around said sight opening having a marginal portion of the same color as said spots so that any number appearing through the said opening, on failure to restore the machine to said zero position, will be inclosed within a border of said color, some of the wheels being substantially spaced apart, and the sight opening being bridged by cross bars alined with said spaces and colored in keeping with the colored zero spots.

7. In a calculating machine, the combination with a casing having a continuous sight opening, of calculating mechanism therein including a series of operatively associated wheels having numerals disposed around their edge portions adapted to be displayed through said opening, the zero position of each of said wheels being marked by a spot

of color strikingly contrasted with the remainder of the edge portion of the wheel, and said spots being adapted to aline and substantially fill the space described by the margin of said sight opening and present an approximately unbroken block of color indicative of the complete restoration of the calculator to a zero condition.

8. In a totalizer, a plurality of number wheels, having digit positions exhibiting one color and a zero position exhibiting a different color.

9. In a totalizer, a number wheel having thereon three colors, a cover for said totalizer having therein a window through which said number wheel is exhibited, said window having a border of the color of the zero position of said number wheel.

10. In a totalizer, a plurality of number wheels, having thereon three colors, a cover for said totalizer having therein a window through which said number wheels are exhibited, said window having a border of the same color as the zero position of said number wheels.

11. In a calculating machine, the combination with a casing having a sight opening, of calculating mechanism therein including a series of operatively associated like calculating elements each having numerals and zero positions on the edge portions thereof, the zero position of each of said elements being strikingly contrasted in color with the remaining numeral bearing part thereof, and said colored zero positions being adapted to aline before said sight opening to present a combined uniform colored formation indicative of the complete restoration of the calculator to a zero position and the breaking of which uniformity warns the operator that numbers are in the machine.

In witness whereof, I have hereunto signed my name, this 17th day of June, 1915.

ARTHUR F. POOLE.

DISCLAIMER.

1,196,885.—*Arthur F. Poole*, Chicago, Ill. CALCULATING MACHINE. Patent dated September 5, 1916. Disclaimer filed December 23, 1921, by the patentee and the assignee, by mesne assignments, *Remington Accounting Machine Corporation.*

"Hereby jointly and severally enter this disclaimer to that part of the claim in said specification which is recited in the 1st, 5th, 7th, 8th, and 11th paragraphs of claims and which is in the following words, to wit:

"1. In a calculating machine, the combination with a casing having a sight opening, of calculating mechanism therein including a series of operatively associated wheels having numerals disposed around their edge portions, the zero position of each of said wheels being marked by a spot of color strikingly contrasted with the remainder of the edge portion of the wheel, and said spots being adapted to aline before said sight opening to present an approximately continuous streak of color indicative of the complete restoration of the calculator to a zero condition.

"5. In a totalizer, a plurality of number wheels, having the digit positions one color and the zero positions a different color.

"7. In a calculating machine, the combination with a casing having a continuous sight opening, of calculating mechanism therein including a series of operatively associated wheels having numerals disposed around their edge portions adapted to be displayed through said opening, the zero position of each of said wheels being marked by a spot of color strikingly contrasted with the remainder of the edge portion of the wheel, and said spots being adapted to aline and substantially fill the space described by the margin of said sight opening and present an approximately unbroken block of color indicative of the complete restoration of the calculator to a zero condition.

"8. In a totalizer, a plurality of number wheels, having digit positions exhibiting one color and a zero position exhibiting a different color.

"11. In a calculating machine, the combination with a casing having a sight opening, of calculating mechanism therein including a series of operatively associated like calculating elements each having numerals and zero positions on the edge portions thereof, the zero position of each of said elements being strikingly contrasted in color with the remaining numeral bearing part thereof, and said colored zero positions being adapted to aline before said sight opening to present a combined uniform colored formation indicative of the complete restoration of the calculator to a zero position and the breaking of which uniformity warns the operator that numbers are in the machine."

[*Official Gazette January 3, 1922.*]

Disclaimer in Letters Patent No. 1,196,885.