

N<sup>o</sup> 8893



A.D. 1908

Date of Application, 23rd Apr., 1908

Complete Specification Left, 14th Oct., 1908—Accepted, 18th Mar., 1909

PROVISIONAL SPECIFICATION.

“Improvements relating to Arithmometers and the like”

I, LEONTINE PAYEN, Widow *née* Leontine Huard, of 16 rue de la Tour des Dames, Paris, in the Republic of France, Manufacturer of Calculating Machines, do hereby declare the nature of this invention to be as follows:—

5 The present invention has for its object a zero setting mechanism for the dials showing the results of operations in arithmometers and other calculating machines of the same type. The invention is more particularly applicable to the arithmometer of Thomas of Colmar.

10 This mechanism consists broadly of two rods carrying a special system of rollers which act upon cams solid with pinions carrying the ordinary dials and the quotient dials. These two rods are operated in the same direction and by means of handles arranged on the same side of the machine and they may be controlled simultaneously by means of a single handle.

15 The invention is represented, but by way of example only, in the accompanying drawing in which it has been shown applied to the Thomas arithmometer.

Fig. 1 is a plan view of the arithmometer.

Fig. 2 is an underneath view on a larger scale of the carriage of the arithmometer.

Fig. 3 is a section on the line A—A of Fig. 2.

20 Figs. 4 and 5 are detail views upon a larger scale.

As shown in the drawing, the ordinary dials or indicators *a* (Figs. 2 and 4) which upon their periphery and upon the face opposite that represented in Fig. 4 carry figures which appear in windows *a*<sup>1</sup> (Fig. 1) of the arithmometer and the quotient indicators *b*, likewise carrying figures which appear in the windows *b*<sup>1</sup>, are provided with cams *c* presenting the profile represented in Figs. 4 and 5. These cams are heart-shaped except at their base which comprises a plane portion *c*<sup>1</sup> arranged somewhat eccentrically relatively to the symmetrical axis of the cam.

30 Upon the cams *c* carried by the different indicators, the rods *d*, *e* act.

These rods carry rollers *f* mounted at the front of plane bearings *g*.

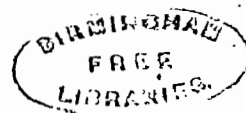
These rods are capable of longitudinal displacement. During their displacement one is guided by pins *h* passing through slots *i* and the other by bridges *j*.

35 Operating rods *k* *l* are fixed on the rods *d*, *e* enabling each of them to be operated separately. These rods *d*, *e* may be operated simultaneously by means of a lever *m* rotating at *n* and by means of a connecting rod *o* displacing a slide block *p*, which, by means of two shoulders *q*, *r*, in contact with corresponding noses on the rods *d*, *e*, is able to displace these latter.

40 The rod *e* is connected to a counter spring *s* fixed at the point *t*. The rod *d* carries a tappet *u* in contact with the tail of a rocking lever *v* pivoted at *x* and connected with a counter spring *y* fixed at the point *z*.

From what has been stated it will be understood that the two rods *d* *e* may be controlled independently of each other by means of the rods *k* *l* or simultaneously by means of the lever *m*.

[Price 8d.]



*Payen's Improvements relating to Arithmometers and the like.*

By the displacement of these rods  $d$ ,  $e$  the different indicators are re-set at zero. The indicators which are not already at zero present their cams  $c$  in the path of the rollers  $f$ . These rollers cause the cam to turn until the plane portion  $c^1$  is parallel with the axis of the rod. At this moment the plane portions  $g$  of the rod come into contact with the plane portions  $c^1$  of the cams and maintain them exactly in position. 5

As soon as the rods  $k$   $l$  or the lever  $m$  are released the rods  $d$ ,  $e$  are returned to their position of repose by their springs. In this return movement the plane portions  $g$  slide upon the plane portions  $c^1$  of the cams. The rods having returned to their position of repose the indicators are again able to rotate freely under the influence of their controlling devices. 10

The improved mechanism furnishes a smoother and more rapid operation than the devices heretofore employed; the counter mechanism is operated very readily and the counter springs of the rods  $d$   $e$  are mounted very strongly and none of the parts can get out of order. 15

The arrangements described above are given by way of example only; the forms, dimensions and detail arrangements may vary in all cases without modifying the principle of the invention.

Dated this 23rd day of April, 1908.

HASELTINE, LAKE & Co., 20  
7 & 8 Southampton Buildings, London, W.C., and  
60 Wall Street, New York City, U.S.A.,  
Agents for the Applicant.

## COMPLETE SPECIFICATION.

## "Improvements relating to Arithmometers and the like." 25

I, LEONTINE PAYEN, Widow *née* Leontine Huard, of 16 rue de la Tour des Dames, Paris, in the Republic of France, Manufacturer of Calculating Machines, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:— 30

The present invention relates to the zero setting mechanism for the dials showing the results of operations in arithmometers and other calculating machines of the same type. The invention is more particularly applicable to the arithmometer of Thomas of Colmar. 35

The invention consists in the means employed for the control of the bars or rods for resetting at zero enabling each rod to be operated independently, or both rods simultaneously. 40

The invention is represented, but by way of example only, in the drawing filed with my Provisional Specification in which it has been shown applied to the Thomas arithmometer. 45

Figure 1 is a plan view of the arithmometer.

Figure 2 is an underneath view on a larger scale of the carriage of the arithmometer.

Figure 3 is a section on the line A—A of Figure 2.

Figures 4 and 5 are detail views upon a larger scale.

As shown in the drawing, the ordinary dials or indicators  $a$  (Figures 2 and 4) which upon their periphery and upon the face opposite that represented in Figure 4 carry figures which appear in windows  $a^1$  (Fig. 1) of the arithmometer and the quotient indicators,  $b$  likewise carrying figures which appear in the windows  $b^1$  are provided with cams  $c$  presenting the profile represented in Figures 4 and 5. These cams are heart-shaped except at their base which 50

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comprises a plane portion  $c^1$  which may be of any desired length and is arranged somewhat eccentrically relatively to the symmetrical axis of the cam in order to facilitate the movement for re-setting at zero and in order to provide a part of the cam of sufficient length in contact with the plane portions of the rod.

5 Upon the cams  $c$  carried by the different indicators, the rods  $d, e$  act.

These rods carry rollers  $f$  mounted at the front of plane bearings  $g$ .

These rods are capable of longitudinal displacement. During their displacement one is guided by pins  $h$  passing through slots  $i$  and the other by bridges  $j$ .

10 Operating rods  $k, l$  are fixed on the rods  $d, e$  enabling each of them to be operated separately. These rods  $d, e$  may be operated simultaneously by means of a lever  $m$  rotating at  $n$  and by means of a connecting rod  $o$  displacing a slide block  $p$ , which by means of two shoulders  $q, r$ , in contact with corresponding noses on the rods  $d, e$  is able to displace these latter.

15 The rod  $e$  is connected to a counter spring  $s$  fixed at the point  $t$ . The rod  $d$  carries a tappet  $u$  in contact with the tail of a rocking lever  $v$  pivoted at  $x$  and connected with a counter spring  $y$  fixed at the point  $t$ .

From what has been stated it will be understood that the two rods  $d, e$  may be controlled independently of each other by means of the rods  $k, l$  or simultaneously by means of the lever  $m$ .

20 By the displacement of these rods  $d, e$  the different indicators are re-set at zero. The indicators which are not already at zero present their cams  $c$  in the path of the rollers  $f$ . These rollers cause the cam to turn until the plane portion  $c^1$  is parallel with the axis of the rod. At this moment the plane portions  $g$  of the rod come into contact with the plane portions  $c^1$  of the cams and maintain them exactly in position.

25 As soon as the rods  $k, l$  or the lever  $m$  are released, the rods  $d, e$  are returned to their position of repose by their springs. In this return movement the plane portions  $g$  slide upon the plane portions  $c^1$  of the cams. The rods having returned to their position of repose the indicators are again able to rotate freely under the influence of their controlling devices.

30 The improved mechanism furnishes a smoother and more rapid operation than the devices heretofore employed; the counter mechanism is operated very readily and the counter springs of the rods  $d, e$  are mounted very strongly and none of the parts can get out of order.

35 The arrangements described above are given by way of example only; the forms, dimensions and detail arrangements may vary in all cases without modifying the principle of the invention.

40 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A device for re-setting at zero the indicator dial of arithmometers and similar machines, characterised by means for controlling the zero setting rods, enabling these rods to be operated independently of each other or simultaneously.

45 2. Device such as claimed in Claim 1, consisting of a lever actuating a slide block capable of displacing the two zero setting rods simultaneously, these rods comprising operating knobs by means of which the said rods can be displaced independently without acting upon this lever.

Dated this 14th day of October, 1908.

50 HASELTINE, LAKE & Co.,  
7 & 8 Southampton Buildings, London, England, and  
60 Wall Street, New York City, U.S.A.,  
Agents for the Applicant.

Fig. 1.

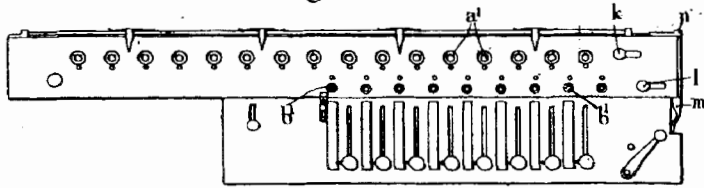


Fig. 3.

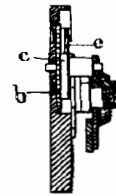


Fig. 2.

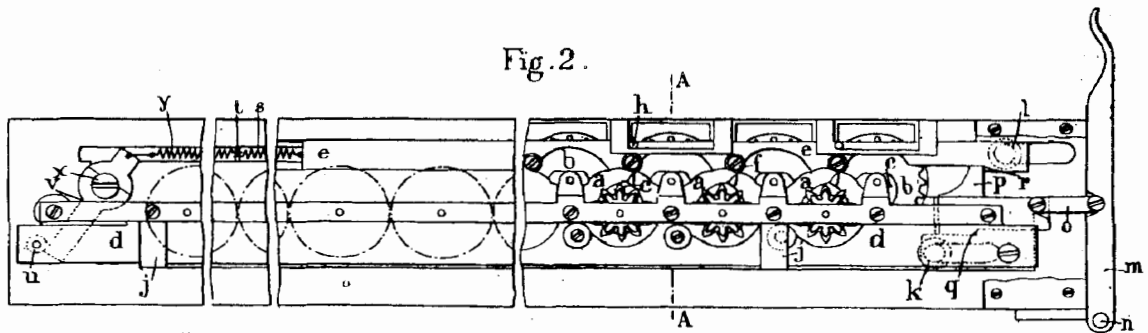


Fig. 5.

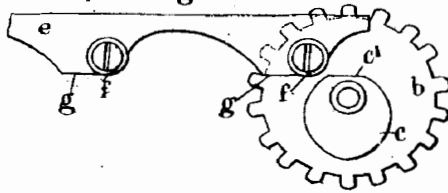
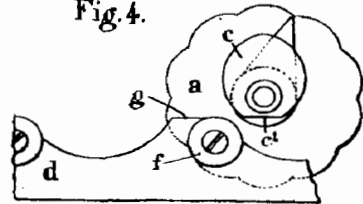


Fig. 4.



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[This Drawing is a reproduction of the original on a reduced scale.]