

N^o 17,401



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COMPLETE SPECIFICATION.

Improved Adding and Subtracting Apparatus.

I, EDMOND BEAUCOURT, Manufacturer, of 4, Place de la Reconnaissance, Lyons, France, 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:—

5 The present invention relates to an improved adding and subtracting apparatus of the kind comprising a primary disk or wheel and one or more secondary numerical disks or wheels, one of which will be turned through a predetermined angle at each revolution of the primary disk and will on completing each revolution turn the next secondary disk, thereby indicating the figures units, 10 tens, hundreds, *etc.*, appearing through orifices in the casing which is in the form of a small flat box. In such apparatus it is known to bring the higher numeral wheels to zero by hand, while the lower wheels are reset by some other means such as a draw bolt.

My invention consists in an improved construction of such apparatus as will 15 hereinafter be described and comprises means for the rapid return of the hundreds wheel to zero.

The annexed drawing illustrates the machine.

Figure 1 is an elevation.

Figure 2 is an elevation of the top plate of the machine and the parts which 20 it carries.

Figure 3 is a section,

Figure 4 is a plan view of the cover.

The machine is constituted by a plate A, Figure 2, on which are pivoted three 25 toothed wheels B, C, D, each having ten teeth and the first wheel indicating units, the second tens, and the third hundreds. Each toothed wheel is provided with a spring pawl E, F, G, which normally maintains the wheels fixed but allowing them to be turned by the operation of the machine as will be hereinafter described.

Above the toothed wheels B, C, D, and on the same axis are fixed discs H, I, J, 30 on the periphery of which are printed the figures 0 to 9. These figures appear successively on the cover P through openings K, L, M, provided with glass or transparent mica.

On the plate A is also mounted a toothed wheel Q engaging with a pinion R 35 mounted on the axle of the toothed wheel B and integral therewith and also engaging with a pinion S having similar teeth, and fixed to the end of the spindle of the operating disk T which is provided with apertures for viewing figures on a dial as known. On the said spindle is also fixed a finger U which is for the purpose of turning the wheel C for the amount of one tooth for each turn of 40 the wheels T and S. A similar finger V is also mounted on the spindle of the wheel C to cause the wheel D to advance one tooth for each turn of the tens wheel C.

To facilitate construction, the spindle which carries the wheels S and T is hollow and is traversed by a pin X rivetted to the plate A, the other end is screw threaded and has a button Y screwed thereon.

[Price 8d.]



Improved Adding and Subtracting Apparatus.

The cover P is fixed to the plate A by means of four screws Z, and a dial *b* carrying the numbers 1 to 9 is fixed on the cover the figures on said dial being visible through apertures *b*¹ formed round the disc T.

The operation of the apparatus is as follows.

The different wheels being turned to zero to add for example 5 and 7 the 5
finger is placed in the aperture of the disc T which does not lie over any figure
and the disc is turned until the orifice is brought over the numeral 5 which
numeral will appear through the aperture K; the operation is then recommenced
and the disc is stopped over the numeral 7 on the disc *b* when the numeral 2
will appear through the aperture K at the same time that the finger U having 10
made the wheel C advance one tooth, the numeral 1 of the disc I will appear
through the aperture L and so on. When the tens wheel has accomplished a
revolution it will cause the wheel J to advance for one unit so that the apparatus
can be used for adding up to 999. It is sufficient to increase the number of
wheels to make additions the total of which forms more than three figures. 15
Subtraction is effected by turning the wheel T in the reverse direction.

In order to rapidly return the hundreds wheel M to zero its spindle is provided
with a milled disc *a* forming a slight projection through a slot in the cover P
and which can easily be turned by hand.

Having now particularly described and ascertained the nature of my said 20
invention, and in what manner the same is to be performed, I declare that
what I claim is:—

1. An adding and subtracting apparatus of the kind described wherein one of
the secondary numerical disks is provided with a milled disk which projects 25
through a slot in the casing substantially as and for the purpose described.
2. An apparatus as in Claim 1, constructed substantially as herein described
and as illustrated in the annexed drawing.

Dated this 26th day of July, 1912.

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

Fig 1

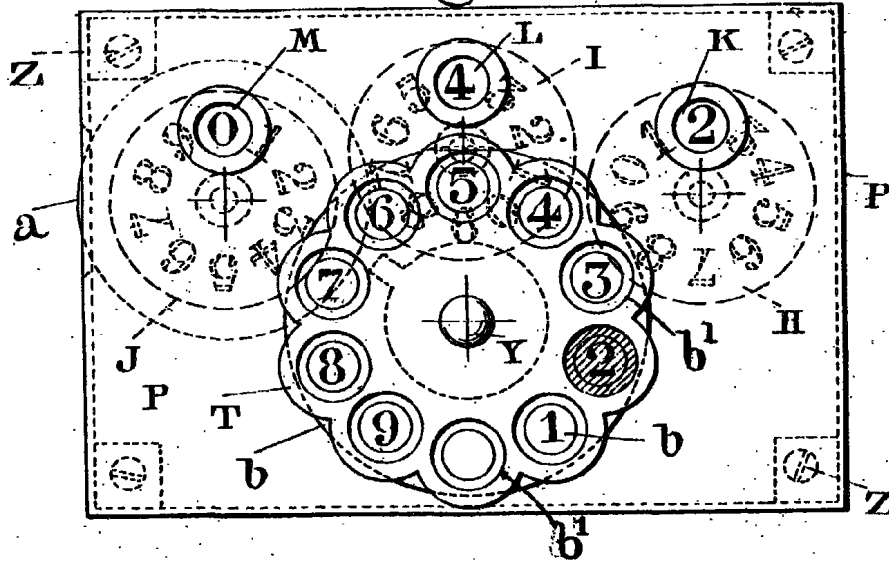


Fig 4

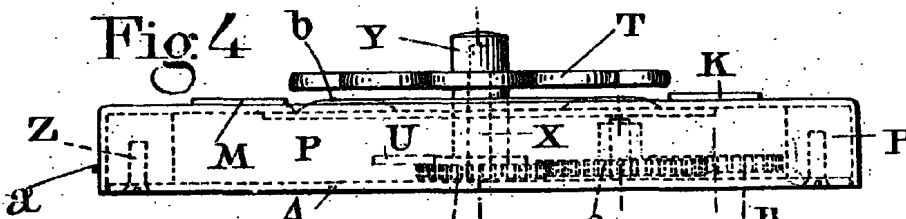


Fig 3

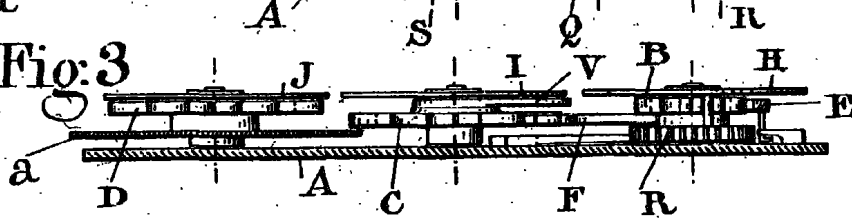
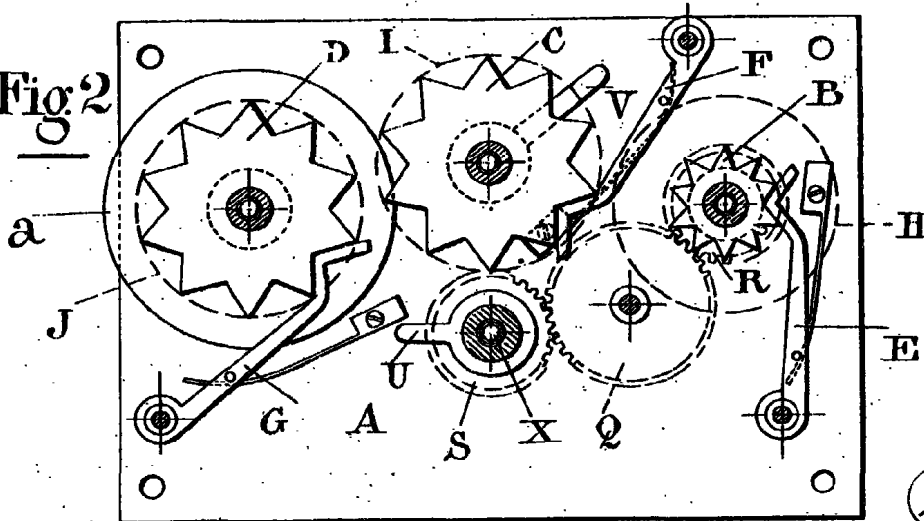


Fig 2



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