V. J. ODHNER.

CALCULATING MACHINE.

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1,348,575.

Patented Aug. 3, 1920.

Fig. 1.

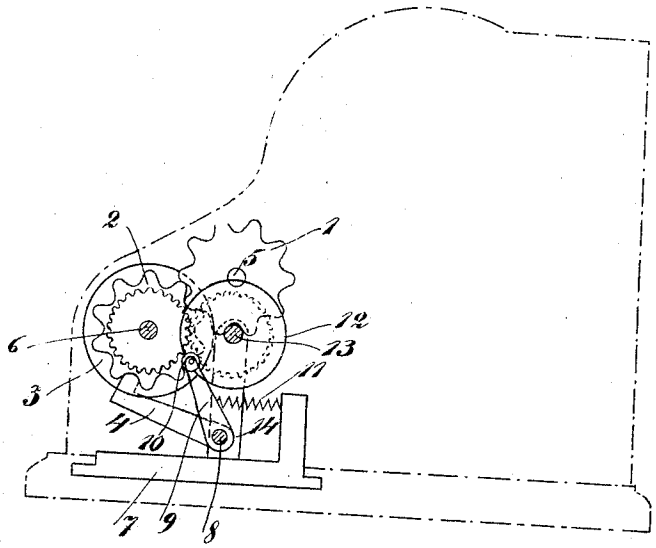


Fig. 2.

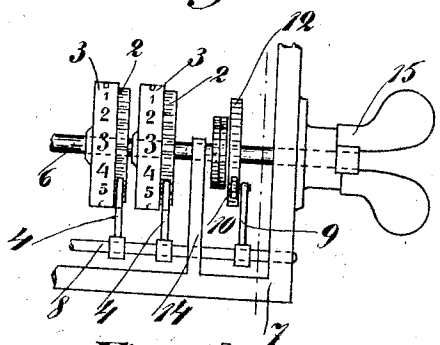
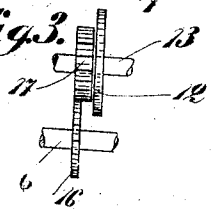


Fig. 3.



Inventor.
V. J. Odhner
By H. R. Kerslake
Atty.

UNITED STATES PATENT OFFICE.

VALENTIN JAKOB ODHNER, OF STOCKHOLM, SWEDEN.

CALCULATING-MACHINE.

1,348,575. Specification of Letters Patent. Patented Aug. 3, 1920.

Application filed April 24, 1919. Serial No. 292,459.

To all whom it may concern:

Be it known that I, VALENTIN JAKOB ODHNER, a subject of the King of Sweden and resident of Karlaplan 2, Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in Calculating-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

The indicating disks of calculating machines of the type disclosed by the patent to Trinks 1,040,059, dated October 1, 1912, are held, as well known, in adjusted position by catches. As the said disks are reset to zero, the said catches effect a considerable resistance to the turning of the shaft serving for the resetting of the disks, especially when a plurality of indicating disks have been shifted and are to be reset to zero, and besides the said catches often make a noise. For that reason a device is used, which disengages the catches, as the indicating disks are reset to zero. The cam disk or the like, used for this purpose, is, however, located on the said resetting shaft, for which reason all springs, actuating the catches, effect a great pressure on the resetting shaft at or after the disengaging of the catches. As well known, the said shaft is moved longitudinally at the starting of the resetting operation and at the end of the same. The said moving as well as the turning of the resetting shaft is rendered difficult in a high degree by the said pressure effected by the springs of the catches, for which reason the safe returning of the shaft to its initial position, which is effected by a spring, is jeopardized. The said disadvantage exists also in such machines, in which the resetting shaft is rotated by another shaft by means of a gearing, in which case the friction of the teeth of the gear-wheels renders more difficult the moving of the shaft longitudinally. The said disadvantages are removed by the present invention by the cam disk or the like, which disengages the catches, being provided on a special shaft or a pin and rotated by the resetting shaft by means of a gearing.

In the accompanying drawing one form of the invention is shown as an example. Figure 1 shows the disengaging mechanism viewed from one end of the calculating machine. Fig. 2 is a side view of the mechanism. Fig. 3 is a detail.

1 is one of the intermediate toothed wheels, which, as the corresponding calculating wheel is rotated, is rotated by pins projecting from the calculating wheel and rotates a registering wheel 2, fixed to or made integral with an indicating disk 3. The latter is provided with figures from 0 to 9, visible through an opening in a casing inclosing the mechanism. The said registering wheel 2 with the indicating disk 3 is held in adjusted position by a catch 4 engaging the registering wheel. There is one indicating disk and one catch for each registering wheel. In the drawing only two registering wheels, etc., are shown, freely mounted on the shafts 5 and 6 respectively. The said shafts are provided in the ordinary carriage 7. According to the drawing the catches 4 are fixed to a common rod or shaft 8 journaled in the carriage 7. An arm 9 projects from the said shaft and is provided with a roller 10, which by a spring 11, fixed to the arm 9 and the carriage 7, is forced against a cam disk 12. The said cam disk is mounted on a special shaft 13, journaled in the carriage 7 and an upright 14 fixed in the same. The shaft 6 is rotated in the ordinary manner by means of a winged nut 15 and is simultaneously moved longitudinally by any suitable means. During the rotary motion of the shaft 6 the shaft 13 together with the cam disk 12 is rotated by means of a gearing 16, 17 the one toothed wheel 17 of which is so broad, that it permits movement of the shaft 6 longitudinally without the toothed wheels being disengaged. In the drawing the toothed wheels 16, 17 have the same size but there may be a certain ratio of gearing, to which the number of notches of the cam disk 12 is adapted.

In the position of the parts shown in the drawing the catches 4 engage the registering wheels 2. As soon as the shaft 6 is rotated for resetting the indicating disks 3 to zero the cam disk 12 is rotated and disengages the catches. The pressure of the spring 11 is then sustained by the cam disk 12, for which reason the resetting shaft 6 is fully released from the spring pressure and consequently may easily be moved longitudinally. Owing to the fact that only one spring is provided for all catches, the pressure on the cam disk 12 is very slight, for which reason the resetting of the indicating disks to zero may be effected with a small amount of power.

The invention may evidently be modified in many respects without exceeding the

limits of the same. For instance the winged nut 15 may be provided on the shaft 14.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

In a calculating machine the combination with the indicating disks, a shaft carrying the said disks and adapted to reset the same to zero, catches locking the said indicating disks in adjusted position, and a cam disk, of a shaft carrying the said cam disk independently of other parts of the calculating machine, a motion transmitting device provided between the resetting shaft and the cam disk, an arm coöperating with the cam disk, and a common shaft carrying the said arm and the catches fixed to the said common shaft, substantially as described and for the purpose set forth.

In witness whereof I have hereunto signed my name.

VALENTIN JAKOB ODHNER.