the present invention is illustrated in the accompanying drawing in which:-

Figure 1 is a diagrammatic lateral elevation of an elemental mechanism of a tens-transferring device according to this invention as applied to an adding machine.

Figure 2 is an end elevation of two adjacent elemental mechanisms.

Figure 3 is a modification shown in side elevation.

Referring to Figures 1 and 2, the adding mechanism comprises the drums 1, 1' loosely mounted on a spindle 2 and each comprising ten studs 3 projecting from one face, and a tooth 4 projecting radially from the other face. A lever 5 is provided for each drum 1, 1' with the exception of the last drum of the series. The lever 5 is pivoted at 5' and lies in the plane of displacement of the radial tooth 4 of the drum 1. The lever 5 has a tooth 6 lying in the path of travel of the radial tooth 4. A bell-crank or double-armed lever is pivoted at 7 on the free end of the lever 5, the end 8' of one arm 8 of the said bell-crank lever lying within reach of the radial tooth 4; the other arm 9 having a nose 10 bent sideways to take a position opposite the studs 3 of the adjacent high-units drum.

The arm 8 has a rigidly secured spring blade 11 provided with a pin adapted to snap into one of two recesses 12 and 13 provided on the lever 5 so that the bell-crank lever 8-9 may occupy two different positions relatively to the

said lever 5 according as the pin of the spring blade 11 engages one or the other of the recesses 12 and 13. The lever 5 has a tail piece 14 adapted to come into contact in its extreme position with a stop bar 15.

The said lever has moreover an extension 16 whereby the lever is held in its normal positon into which it drops by gravity. Finally the lever 5 has a projection 17 lying within reach of a cam 18 keyed to a shaft 19 belonging to the actuating mechanism of the machine to which the adding mechanism is fitted. The cam 18 has a lateral knob 20 adapted to come into contact with the extension piece 21 of the arm 8.

The drums 1, 1' rotate in the direction of the arrow in Figure 1 so that when one drum has completed a revolution its radial tooth 4 comes into contact with the end 8' of the arm 8 and moved the bell-crank lever 8-9 into the position shown in dotted lines in which the nose 10 comes nearer the studs 3 of the adjacent drum (1') which is however left free to rotate. Owing to this oscillation of the bell-crank lever 8-9 the pin of the spring blade 11 now engages the lower recess 13 so that the said lever cannot spontaneously leave the new position into which it has moved.

The shaft 19 being further operated the cam 18 comes into contact with the projection 17 and causes the lever 5 to oscillate about the pivot point 5' which is positioned

so that while the lever is oscillating the nose 10 engages the stud 3 above it and the drum 1' is rotated one step. The lever 5 is prevented by the stop-bar 15 from overstepping its length of travel. Moreover, the drum 1' is prevented by the nose 10 from moving too far on account of inertia, owing to the said nose coming into contact with the following stud 3. The knob 20 then comes into contact with the extension piece 21 of the arm 8 so that the bell-crank lever 8-9 is now moved back into its initial position (shown in full lines) in which it is held by the pin of the spring blade 11 which is now again in engagement with the recess 12.

When the cam 18 moves out of contact with the projection 17 of the lever 5, the latter moves by gravity into the position shown, which is determined by the extension 16. Should the lever 5 fail to drop, the radial tooth 4 comes into engagement with its tooth 6 so that the lever 5 must be lowered. The radial tooth 4 comes into engagement with the tooth 6 before coming into contact with the end 3', so that the various members of the mechanism cannot fail to attain the correct position for the proper function to be performed at each revolution of the corresponding drum.

The lever 5 may also be positively operated for example through the medium of the construction illustrated in Figure 3 in which the lateral studs carried by a drum 1 of the adding mechanism are replaced by a toothed wheel 3' rigidly secured to the said drum and co-operating with a locking

pawl 22. The drum has on the opposite side a radial tooth 4 adapted to actuate the end 8' of the lever 8 the nose 10 of which co-operates with the toothed wheel 3'. of the adjacent drum. The lever 8 is pivoted at 7 at the end of the arm of a bell-crank lever 5 pivoted at 5' and provided with a projection 17 and a tail piece 17' lying in two adjacent planes in which two discs 23 and 24 are adapted to move, the said discs being keyed on a shaft 19 and being provided with cam members 23' and 24' which are so shaped that when the projection 17 moves over the cam member 23' the tail piece 17' drops into the cam member or groove of corresponding size. When the projection 17 leaves the cam member 23' the tail piece 17' leavés the groove or cam member 24' so that the bell-crank lever 5 must perform a complete oscillation at each revolution of the discs 23 and 24. The lateral pin 20' is intended to co-operate with the extension 21 of the lever 8 to return the latter to its initial position after being moved by the radial tooth 4 ofbthe drum 1.

The means for actuating the levers 8 belonging to the various elements of the adding mechanism (these means being the cam 18 in Figures 1 and 2 and the cam members 23' and 24' of Figure 3) must be moved angularly for the purpose of making the various elements operative in the costumary way, i.e. in succession, startig from the extreme element on the right.

What I claim as my invention and desire to secure by Canadian Patent is:-

1. In a tens-transferring mechanism for adding apparatus, drums each corresponding to an unit, pivoted levers each corresponding to a drum, actuating means for moving said levers, and a bell-crank lever pivoted on each of said levers, said bell-crank lever having an arm adapted for operation by said actuating means and by its respective drum in opposite directions and another arm adapted to engage the next drum.

2. In a tens-transferring mechanism for adding apparatus drums each corresponding to an unit, pivoted levers each corresponding to a drum, actuating means for moving said levers, a bell crank lever pivoted on each of said levers, each bell-crank lever having an arm adapted to engage the next drum and another arm adapted to be engaged by said actuating means, and means on each drum adapted to engage and operate said second arm of its respective bell-crank lever in an opposite direction with respect to said actuating means.

3. In a tens-transferring mechanism for adding apparatus drums each corresponding to an unit, pivoted levers each

corresponding to a drum, actuating means for moving said levers, a bell crank lever pivoted on each of said levers, cooperating means on said pivoted lever and associate crank lever for locking temporarily said pivoted lever and bell crank lever in two different respective positions, said bell crank lever having an arm adapted to engage the next drum and another arm adapted to be engaged by said actuating means, and means on each drum adapted to engage and operate said second named arm of its respective bell crank lever in an opposite direction with respect to said actuating means.

4. In a tens-transferring mechanism for adding apparatus drums each corresponding to an unit, pivoted levers each corresponding do a drum, actuating means for moving said levers, a bell crank lever pivoted on each of said levers, a spring blade on said bell crank lever and cooperating means on its associate pivoted lever to engage temporarily said lever and bell crank lever in two different respective positions, said bell crank lever having an arm adapted to engage the next drum and another arm adapted to be engaged by said actuating means, and means on each drum adapted to engage and operate said second named arm of its respective bell crank lever in an opposite direction with respect to said actuating means.

5. In a tens-transferring mechanism for adding apparatus, drums each corresponding to an unit, pivoted levers each corresponding to a drum, actuating means for moving

said levers, a bell crank lever pivoted on each of said levers, each bell-crank lever having an arm adapted to engage the next drum and another arm adapted to be engaged by said actuating means, and means on each drum adapted to engage and operate the first named lever and the second named arm of its associate bell crank lever in an opposite direction with respect to said actuating means.

In testimony whereof I have signed this specification at Turin, Italy, this ninth day of February 1924.

László Molnár di Magyarország

... in Tens-transferring mechanisms for calculating machines'

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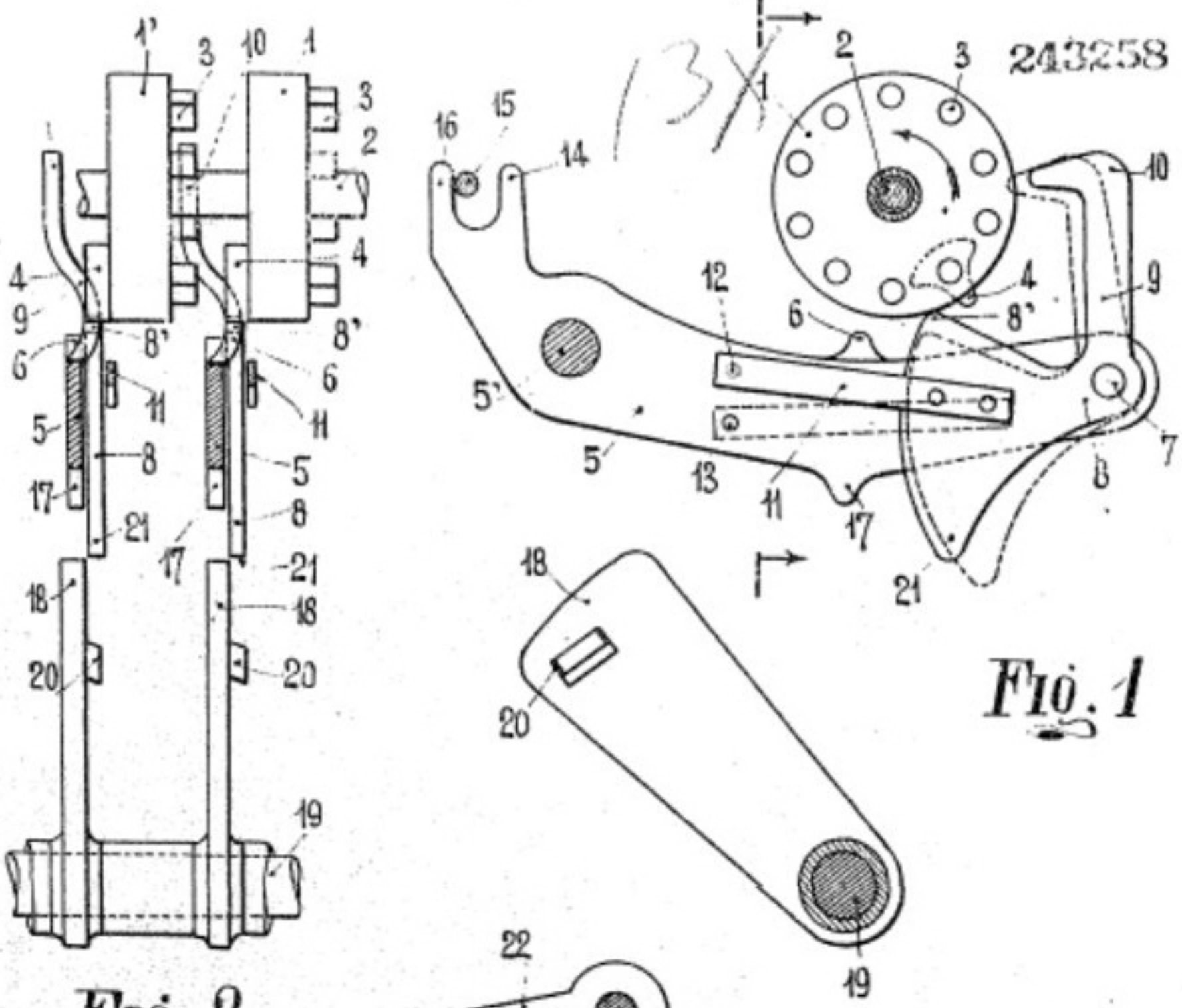

Fig. 1

Fig. 2

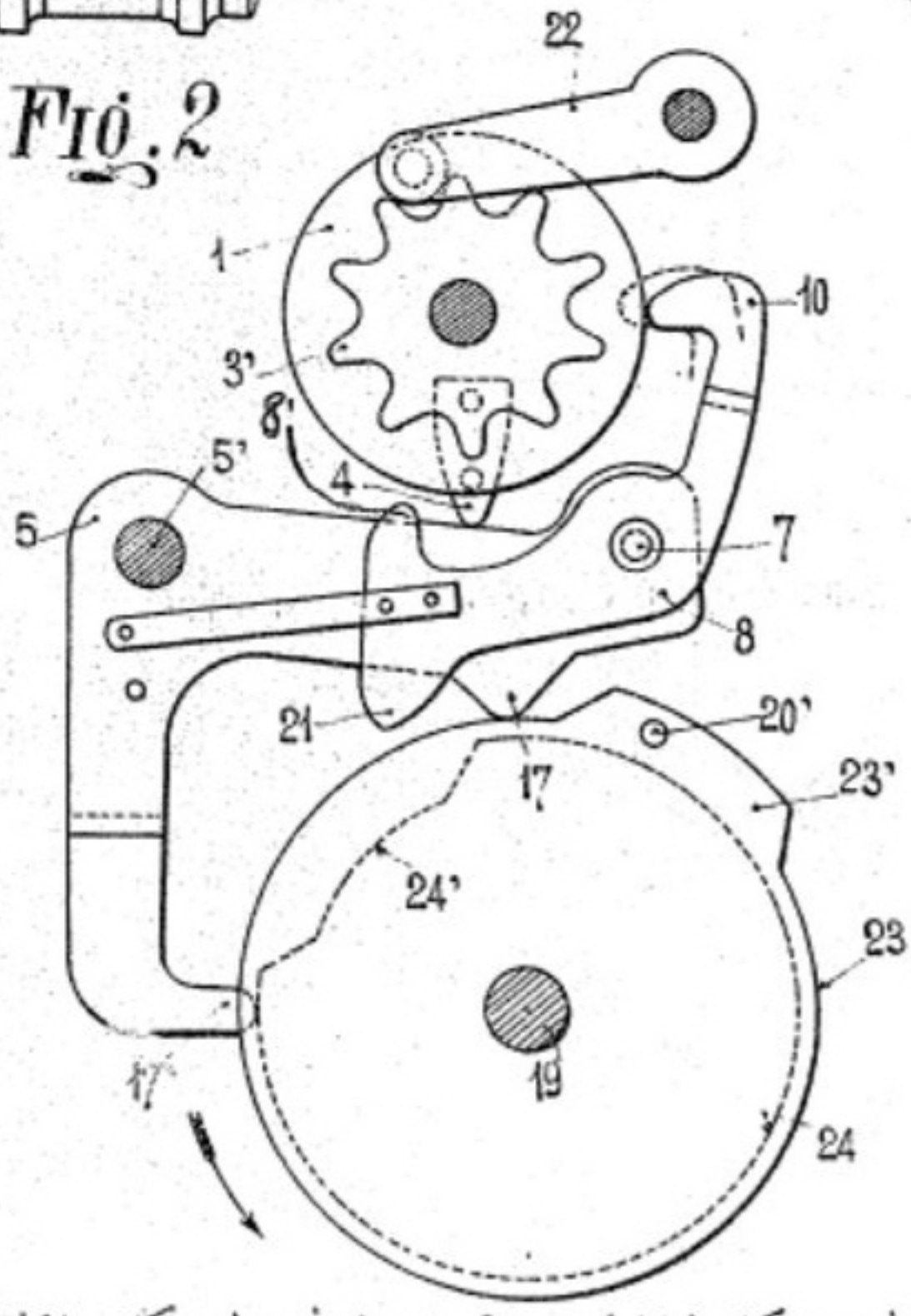

Fig. 3

Certified to be the drawings referred to in the specification hereunto annexed.

Ottawa, April 8/24.

Inventor:
Laszlo Molnar di Nagymagyar.

Witnesses {

Attorney: Fetherstonhaugh & Co