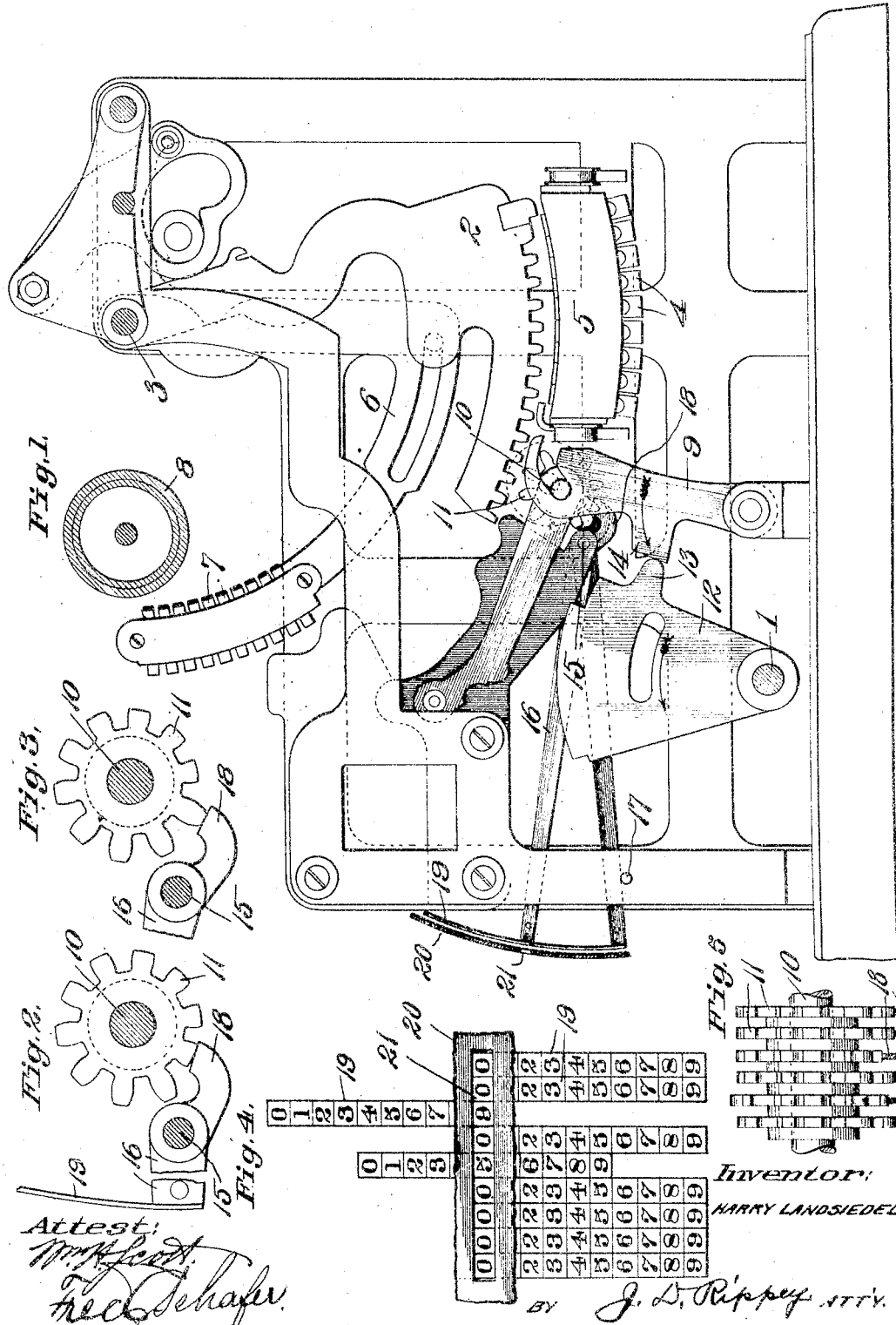


H. LANDSIEDEL.
 ADDING AND RECORDING MACHINE.
 APPLICATION FILED FEB. 1, 1912.

1,187,748.

Patented June 20, 1916.



UNITED STATES PATENT OFFICE.

HARRY LANDSIEDEL, OF POPLAR BLUFF, MISSOURI, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE DALTON ADDING MACHINE COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

ADDING AND RECORDING MACHINE.

1,187,748.

Specification of Letters Patent. Patented June 20, 1916.

Application filed February 1, 1912. Serial No. 674,756.

To all whom it may concern:

Be it known that I, HARRY LANDSIEDEL, a citizen of the United States, residing at Poplar Bluff, county of Butler, and State of Missouri, have invented a new and useful Adding and Recording Machine, of which the following is a specification.

This invention relates to adding machines, and it consists of mechanism cooperating with the adding mechanism of the machine whereby the sum or total represented or contained in the adding mechanism may be visibly registered or indicated at any desired time.

My invention is particularly adapted for use in connection with the Dalton adding machine, which is constructed in accordance with the adding mechanism or department constituting a part of the subject-matter of Hopkins Patent No. 1,039,130, dated September 24, 1912. It will be understood, however, that I do not restrict my invention to use in the Dalton machine, for it will be apparent that it may readily be attached and combined for use in connection with other machines.

An object of the invention is to provide mechanism operable automatically to effect visible indication or registration of the sum or total contained or represented in the adding mechanism of the machine.

Another object is to provide mechanism arranged to cooperate with the submerged and non-indicating adding mechanism of an adding machine whereby any sum or total contained or represented in said adding mechanism will be rendered visible at all times, preferably by a movement of the adding mechanism subsequent to each adding operation.

There are other objects to be attained by this invention, which do not require specific mention, and will appear from the following detailed description, reference being made to the accompanying drawings in which—

Figure 1 is a sectional view of an adding machine containing my present invention. Figs. 2 and 3 are enlarged views illustrating the novel construction of the totalizing or adding wheels or disks whereby said wheels or disks are caused to operate the total indicating or registering devices. Fig. 4 is a front view of the in-

dicating or registering devices, showing a total indicated thereby. Fig. 5 is a front view of a series of adding wheels or disks constructed in accordance with the requirements of one embodiment of my present invention.

The machine of the type referred to includes a main rock shaft 1, whose operation determines the operation of the adding and recording mechanism. A series of racks 2 swing from a shaft 3 and are limited in their movement by stops 4, mounted within a carriage 5. The type-carriers 6 are controlled by the racks 2 effectively to present the recording type 7 along a printing line on the platen 8. The types 7 may then be driven effectively to record the various items to be listed and added.

The machine also includes supports 9, carrying a shaft 10 transversely to the movement of the racks 2. Toothed wheels 11 are supported on the shaft 10 and are held in depressed position out of mesh with the racks 2 during forward travel of the racks and are raised into mesh with said racks prior to their return movement and are operated by the racks effectively to add numbers recorded. Upon the shaft 1, is an arm or plate 12, which is swung back and forth when the shaft 1 is rocked. The arm or plate 12 is provided with an extension 13, which, during slight lost or idle movement of the arm or plate 12 during its backward operation, engages with a projection 14 on one of the supports 9, thereby operating said supports effectively to move the wheels 11 transversely to their axis to the position shown in Fig. 1. This is the normal or idle position of the wheels 11 when combined with my present invention, which I will now describe.

A rod 15 is supported in front of the adding wheels 11, and supports a series of pivoted arms 16, which extend toward the front of the machine and whose front ends are upheld by a support 17 when the adding wheels are operating or are in mesh with the racks 2. The adding wheels and arms 16 are equal in number and are equally spaced, so that, in the present embodiment, the rear ends of the said arms terminate adjacent to and under the adding wheels, being provided with upturned extensions 18, adapted to be engaged and operated by the adding wheels.

The front end of each of the arms 16 supports an indicating or registering plate 19, said plates being in transverse alinement. On the front face of each of the registering plates 19 is a numeral indicator or register comprising type representing the ten figures or digits in sequential order from "0" at the top to "9" at the bottom. The indicating or registering plates are concealed behind an opaque part of the case 20, which is provided with a sight slot 21, through which numbers indicated or registered by the type on plates may be observed. In the present construction the ends of the teeth of the adding wheels 11 are in an involute line, the tooth representing "0" being nearest the center and the others being of progressively greater length, as shown in Figs. 2 and 3. In the present embodiment the adding mechanism is "clear" when the smaller or "0" teeth are upon the ends 18 of the arms 16 and in "clear" adjustment of the adding wheels the said arms 16 rest upon the support 17 and the indicating or registering plates 19 disclose a line of "0" characters through the sight slot 21. When any number is added or represented in the adding wheels said wheels are turned so that, when lowered, longer or larger teeth of said wheels will engage upon the ends 18 of the arms 16 and raise the front ends of said arms proportionately so that the number represented in the adding wheels will be disclosed through the sight slot 21, as clearly shown in Fig. 4.

From the foregoing description and by reference to the accompanying drawings it will be observed that the indicating or registering mechanism or appliances which I have provided are operated automatically after each item is listed or added, effectively to register and disclose to the operator the sum or total in the adding wheels at any time. The arms 16, in the embodiment shown, are operated directly by the adding wheels themselves, but it will be apparent that they may be operated by other parts such, for instance, as by involute disks attached to the sides of the adding wheels.

I do not restrict myself to any specific construction or arrangement, but

What I claim and desire to secure by Letters-Patent is—

1. In an adding machine, the combination with adding wheels, actuators for operating said adding wheels to add, portions formed on said wheels at graduated distances from the axis of said wheels, and means for moving said wheels into and out of engagement with said actuators, of indicating devices detached from said wheels for indicating the numbers represented in said wheels, and connections controlled by said graduated portions of said wheels to operate said indicating devices by the movement of said

wheels out of engagement with said actuators.

2. In an adding machine, the combination with adding wheels operable to add numbers and each thereof having its teeth of graduated lengths, actuators for said adding wheels, means for engaging and disengaging said adding wheels and actuators, indicating devices supported independently of said wheels, and elements actuated by the teeth of said adding wheels for operating said indicating devices to indicate the numbers represented in said wheels incidentally to disengagement of said wheels from said actuators.

3. In an adding machine, adding wheels operable to add numbers, means for moving said wheels transversely of their axis, and means operable by said adding wheels effectively to indicate the numbers contained in said adding wheels when said adding wheels move as aforesaid.

4. In an adding machine, a series of adding wheels operable to add numbers, means for moving said adding wheels transversely of their axis after each adding operation, independently movable indicating devices, and means for operating said indicating devices incidentally to the transverse movement of said wheels after each adding operation.

5. In an adding machine, the combination with adding wheels, mechanism for operating said adding wheels to add numbers, and means for engaging and disengaging said adding wheels and said mechanism, of means for indicating numbers, and connections whereby said adding wheels will operate said indicating means after each adding operation has been completed incidentally to disengagement of said wheels and said operating mechanism.

6. In an adding machine, a series of adding wheels operable to add numbers, means for moving said wheels transversely of their axis after each adding operation, indicating devices, and means for operating said devices varying distances to indicate the digits of the number represented by the positions of said wheels incidentally to the movement of said wheels after each adding operation.

7. In an adding machine, mechanism for adding numbers, indicating devices, actuators for said indicating devices, and means for moving said adding mechanism out of engagement with said actuators to position said indicating devices after each adding operation is completed to indicate the number represented in said adding mechanism.

8. In an adding machine, a movable frame, adding wheels supported by said movable frame, means for operating said adding wheels to add numbers, and means for operating said movable frame to move said adding wheels transversely of their axis after each adding operation, in combination

with movable indicating devices, and connections operated by the movement of said adding wheels transversely of their axis after each adding operation has been completed to position said indicating devices to indicate the number represented in said adding wheels.

9. In an adding machine, adding wheels, mechanism for operating said adding wheels in adding operations, means for moving said adding wheels transversely of their axis, type operable to effect visible indication of the number represented in said adding wheels, means for holding said type alined at zero during adding operations of said wheels, and connections operated by said adding wheels when said adding wheels are moved transversely to their axis to position said type to indicate the number represented in said wheels.

10. In an adding machine, a shield provided with a sight slot, type operable adjacent to said shield, means for supporting said type alined at zero, and levers for moving said type, in combination with adding wheels operable in adding operations, and automatic means for moving said wheels transversely of their axis to operate said le-

vers and type after said adding operation has been completed for the purpose set forth.

11. In an adding machine, adding wheels, mechanism for operating said adding wheels in adding operations, type operable to effect visible indication of the number represented in said adding wheels, levers for moving said type, and means for moving said adding wheels equal distances transversely of its axis to actuate said levers varying distances as required to position the proper type to indicate the number represented in said wheels.

12. The combination with adding wheels and type-carriers movable varying distances to aline any type thereon side by side, of means for moving said adding wheels transversely of their axis, and means for moving said type-carriers varying distances as aforesaid by the movement of said adding wheels an equal distance transversely of their axis.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

HARRY LANDSIEDEL.

Witnesses:

SAM C. DORMAN,
B. C. HARRISON.