D. GIRSON.

NUMERATING MACHINE.

APPLICATION FILED JUNE 8, 1911.

1,071,664. Patented Aug. 26, 1913.

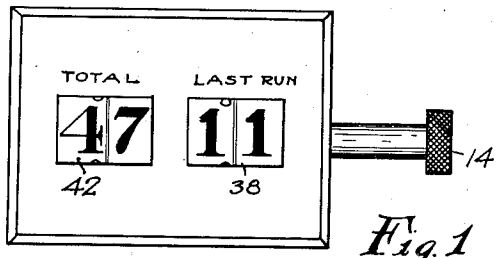


Fig. 1

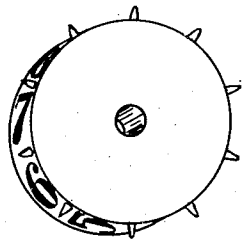


Fig. 4

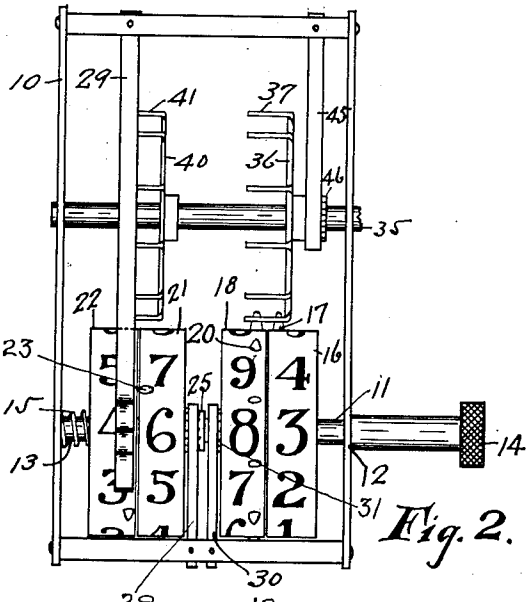


Fig. 2.

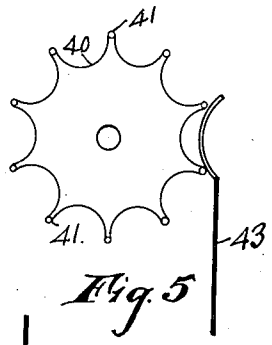


Fig. 5

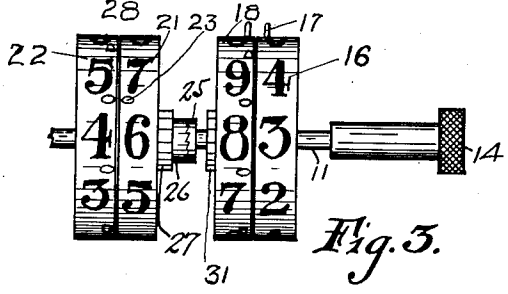


Fig. 3.

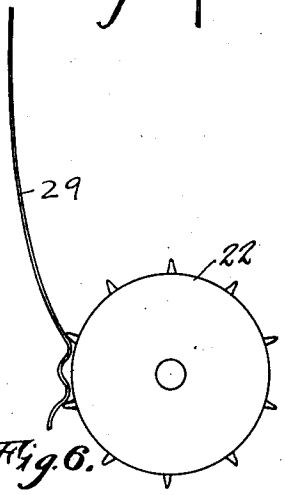


Fig. 6.

WITNESSES

N. L. Mann.

G. M. Kaufman

INVENTOR

David Girson.

Mason Fenwick & Lawrence,

ATTORNEYS

UNITED STATES PATENT OFFICE.

DAVID GIRSON, OF SPOKANE, WASHINGTON.

NUMERATING-MACHINE.

1,071,664. Specification of Letters Patent. Patented Aug. 26, 1913.

Application filed June 8, 1911. Serial No. 631,979.

To all whom it may concern:

Be it known that I, DAVID GIRSON, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Numerating-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to numerating machines and it consists in the novel construction hereinafter described and claimed.

In the accompanying drawings forming a part of this application, Figure 1 is a view of the device in front elevation. Fig. 2 is a view in elevation showing the interior mechanism, the view being taken at right angles to that shown in Fig. 1. Fig. 3 is a view in elevation of the wheels which carry the numbers. Fig. 4 is a perspective view of one of the numbered wheels showing the arrangement of the pins on the circumference. Fig. 5 is a view in elevation of one of the wheels which constitutes a tens transferring device. Fig. 6 is a detail view in elevation of one of the number carrying wheels and its detent.

In carrying out my invention I provide a framework 10 of suitable construction, shown in Fig. 2 as being substantially rectangular and in one end of this framework a shaft 11 is mounted, having its bearing at the points 12 and 13, and carrying on its outer end a thumb-piece 14. A coil spring 15 surrounds the opposite end of the shaft and bears against a portion of the framework and against the adjoining numbered wheel, hereinafter referred to.

It is obvious that the number of wheels to be carried on shaft 11 may be varied according to circumstances, but in the present drawings I have shown four wheels, the device here described being intended for use in keeping count of the plays in a pool or other similar game.

Numbered wheel 16 is mounted rigidly on shaft 11 and carries a single pin 17 on a portion of its circumference. Adjoining wheel 16, but carried loosely on shaft 11, is a numbered wheel 18 carrying a series of pins 20, one pin being located between each of the numerals on the wheel. Additional numbered wheels 21 and 22 are loosely carried on shaft 11 and the pair of wheels last mentioned is slightly separated from the first pair of wheels numbered 16 and 18. The said wheels 16 and 18 may be regarded as detail counting wheels, and wheels 21 and 22 as total wheels. Wheel 21 also carries a single pin 23 on its circumference and wheel 22 carries a series of pins corresponding to those on wheel 18.

A clutch member 25 is carried by shaft 11 and engages clutch member 26 affixed to wheel 21. Connected with clutch member 26 is a toothed wheel 27 against which a spring 28 bears for the purpose of retaining the wheel in any position in which it may be set. Numbered wheel 22 is retained in a similar manner by means of a spring 29, provided with bent or corrugated portions which engage the pins of said wheel. A spring 30 bears against the toothed wheel 31 carried by numbered wheel 18 and serves a similar purpose. The several springs referred to are connected with the framework 10.

The device for transferring tens from one wheel to an adjacent wheel will now be described. A shaft 35 is mounted in the framework and carries thereon a wheel 36, having teeth 37 projecting at an angle to the body portion of the wheel in much the same manner as the teeth of a crown wheel. These teeth are spaced apart at suitable intervals and the pin 17 of unit wheel 16 engages one of these teeth at each revolution of said wheel 16 and causes the pin thus engaged to engage one of the pins of wheel 18, the latter being the tens wheel. This action carries the wheel last mentioned a sufficient distance to cause one of the numerals thereon to pass the slot 38, through which the numbers are read. A wheel 40 also carried by shaft 35 serves a similar purpose, the pin on wheel 21 engaging one of the teeth 41 of said wheel and causing the operation of wheel 22 a sufficient distance to cause one of the numerals thereon to pass the slot 42 in the casing. Spring 43 retains wheel 40 in whatever position it may be set. Wheel 36 is retained by spring 45 bearing against pinion 46.

In view of the clutch connection shown in Fig. 3, clutch member 25 being rigidly mounted on shaft 11 and wheel 16 also being rigidly mounted on said shaft, it will be apparent that numbered wheels 16 and 21 will be moved forwardly at each movement of the thumb-piece 14. As soon as unit wheels 16 and 21 have each completed a single revolu-

tion their adjacent tens wheels will then be operated through the mechanism above described.

In returning the wheels to the zero point, thumb-piece 14 is operated in a reverse direction, and is thus made to reset wheels 16 and 18, the clutch member 25 during that operation passing loosely over clutch member 26, this operation resetting the detail wheels 16 and 18 and leaving the remaining wheels stationary. In order to reset the total wheels they should be rotated forwardly to the zero position, after which the detail wheels are reset to the zero point in the manner already described.

What I claim is:

In a numerating machine, a shaft, a plurality of disks mounted upon the shaft, one of said disks being rigid upon the shaft, a second disk rotated from the first mentioned disk upon the completion of a cycle of rotation by such first mentioned disk, a third disk mounted to rotate upon the shaft, a clutch carried by the shaft adapted to rotate the disk when in engagement, and a fourth disk rotatable upon the shaft and rotated by the third disk upon the completion of a cycle of rotation by the third disk, a series of radially extending teeth on one of the disks, a radial tooth on an adjacent disk, a member rotatable wholly beyond the periphery of the disks and provided with teeth extending from one side and in a direction at right angles to the teeth first mentioned and parallel with the shaft, said teeth last mentioned imparting movement from one disk to the other.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID GIRSON.

Witnesses:
H. E. SMITH,
NETTIE KING.