

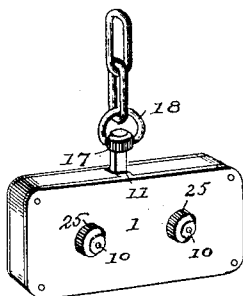
(No Model.)

C. C. FIELDS.  
GAME COUNTER.

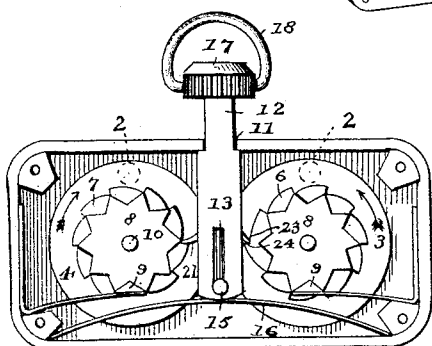
No. 499,218.

Patented June 13, 1893.

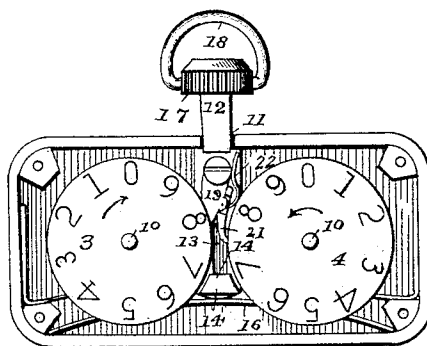
*Fig. 1.*



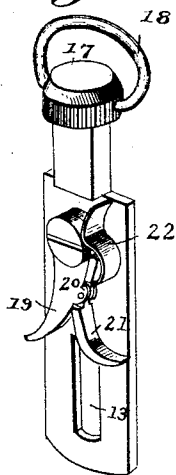
*Fig. 2.*



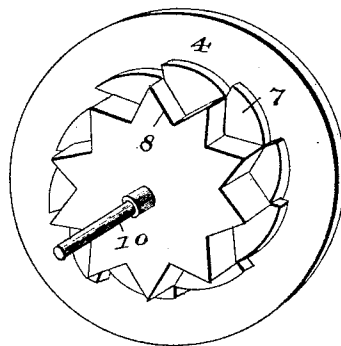
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses

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Inventor

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# UNITED STATES PATENT OFFICE.

CHARLES C. FIELDS, OF BRISTOL, TENNESSEE, ASSIGNOR TO THE BRISTOL NOVELTY COMPANY, OF SAME PLACE.

## GAME-COUNTER.

SPECIFICATION forming part of Letters Patent No. 499,218, dated June 13, 1893.

Application filed February 10, 1893. Serial No. 461,814. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. FIELDS, a citizen of the United States, residing at Bristol, in the county of Sullivan and State of Tennessee, have invented a new and useful Watch-Charm Calculating Device, of which the following is a specification.

This invention relates to calculating machines or devices, and has special reference to miniature forms of said devices arranged for use as watch-charms or analogous pendants, and has for its object to provide a device of the character set forth to be used as an ornament and also operative to perform a useful function as a means of addition or calculation, and also as an amusement or pastime.

With these ends in view, the invention consists in the construction and arrangement of the parts thereof as will be more fully hereinafter described and claimed.

In the drawings: Figure 1 is a perspective view of the improved device shown arranged as a watch-charm or pendant. Fig. 2 is a sectional elevation of the device on a large scale. Fig. 3 is a similar view looking toward the opposite side of the device. Fig. 4 is a detail perspective view of the operating push-post and the mechanism carried thereby. Fig. 5 is a detail perspective view of one of the disks.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the numeral 1 designates a casing of any preferred size, shape, and material having a pair of openings 2 therein at the upper edge of one side thereof that form sight-openings. In the said casing two disks 3 and 4 are rotatably mounted and operated to revolve inwardly toward each other in the direction of the arrows, and having on one face of each a series of numerals including the nine digits and a cipher, and that are brought successively under, or in rear of, the openings 2 to expose the same to view. The said numerals represent units and tens, respectively as arranged on the disks 3 and 4, or other denominations, as may be desired for the purpose for which the device is used and relatively in accord with the number of columns of figures being added

or otherwise calculated. Secured to the rear of each of the disks are ratchet-wheels 6 and 7, having a plurality of teeth therein equal in number to the numerals and ciphers on the respective disks, and in rear of the said ratchet-wheels are star-shaped ratchets 8, that are engaged by suitable stop-pawls 9, of spring form that are secured to adjacent portions of the casing and are arranged to prevent back movement of the disks 3 and 4, and to hold the latter at a proper tension relatively to the engagement and operation of the parts that will be presently referred to. The disks 3 and 4, ratchet-wheels 6 and 7, and ratchets 8 are secured to small transversely-extending shafts or arbors 10, that project from opposite sides of said parts and extend through the casing to form a bearing for the disks and said ratchet-wheels and ratchets.

In the top of the casing, at the central part thereof, is formed an opening 11, in which is movably mounted a push-post 12, that has the lower end thereof formed with a slot 13, fitted over an angularly-headed post 14, projecting inwardly from one side of the casing and held in contact with said post by a screw 15. The lower end of the said push-post bears against an elongated bowed spring 16, that is located in the bottom of the casing and acts to normally force the post upward or outward from the casing and consequently resists a downward pressure on the post. The said post is also provided with a head 17, that may be supplied with a suitable ring 18, for the purpose of attachment to a chain or other analogous device, or if desired the said ring may be located elsewhere. Pivotaly secured to one side of the said post is a pawl 19, and the lower part of one edge of said pawl is recessed and formed with ears 20, between which an auxiliary pawl 21 is pivotaly secured. The upper end of said auxiliary pawl extends above its pivotal point and is adapted to engage the adjacent edge of the pawl 19, to form a stop therefor and limit the outward movement thereof. A spring 22 is mounted against the post 12 and tends to hold the pawl 19, with its pawl 21, toward one side, as fully shown in Fig. 4. The push-post 12 operates between the ratchet-wheels 6 and 7 and the

disks 3 and 4, and the pawl 19 at all times engages and operates the ratchet 6, and consequently the disk 3, that in the present instance represents units. The ratchet 6 has one of its teeth formed with an enlargement 23, with a bracing spur or shoulder 24 at the termination thereof that causes the pawl 19 to be pressed over toward the ratchet-wheel 4 and forces the auxiliary pawl 21 into engagement with the said ratchet-wheel 4. This operation occurs when the disk 3 shall have been actuated ten times and made one complete revolution and the disk 4, therefore, registers the tens. Immediately that the enlargement 23 is past the point of engagement with the pawl 19, the spring 22 forces the said pawl over in its normal position and releases the auxiliary pawl 21 from engagement with the ratchet 7. By this means the operation of registry becomes successive, as will be understood, and the said disks 3 and 4 may be used to represent hundreds and thousands, or for still larger denominations as may be desired. At one side of the casing the shafts or arbors 10 project and receive milled heads 25, that are used to turn the disks back to ciphers or other denominations as may be desired and found necessary for various uses. The position of the bowed spring 16 is such that it assists in holding the disks 3 and 4 in proper position in the casing and keeps the same from having too free movement or play.

The device set forth is very useful in addition, and in adding a single column of figures each ten is registered in succession, while the excess of tens or units is added to the next figure above until the column is completely added, the unit remaining being placed at the foot of the column and the amount indicated by the machine is prefixed to the said remaining unit and indicates the sum total of the said single column. In adding two columns the hundreds are registered by the machine and the units and tens are added to the numbers above successively, and in this instance the unit remaining from the first column is placed at the foot thereof and the amount indicated by the machine is carried to the next column. In adding three columns the thousands are registered by the machine and the hundreds, tens, and units are added to the numbers above successively, similarly as in adding two columns. This principle applies equally well to any number of columns, which might be continued indefinitely, and it will be seen that by the use of the machine in this manner the mind is not only educated for quick and expert work in addition, but the strain is removed from the mind by a mechanical addition as produced by the

machine with an absolutely accurate result. The machine may also be used as a game counter in keeping tally for various forms of games, and it will be especially useful in measuring lumber to register the tens, hundreds, and thousands of feet as they are called off.

A very valuable use of this machine is in proving addition; that is, to test the correctness of the numbers indicating the sum total of an added column or number of columns. This operation will vary slightly according to the number of columns and the length of the same, and is accomplished without any great strain on the mind.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. In a device of the character set forth, the combination of a casing, two disks mounted therein and having numerals on one face of each thereof, ratchet-wheels in connection with said disks having the same number of teeth as the numerals thereon, one of said ratchet-wheels having an enlargement with an engaging-face of less depth than the remaining teeth, a spring-actuated push-post movable between said ratchet-wheels, a pawl pivotally connected to said push-post, and an auxiliary pawl pivoted to the aforesaid pawl, and a spring arranged to hold the first-named pawl normally to one side, substantially as described.

2. In a device of the character set forth, the combination of the casing, two disks rotatably mounted therein and having numerals on one face of each, ratchet-wheels in connection with said disks, one of said disks having an enlarged tooth, shafts or arbors projecting from the opposite sides of the ratchet-wheels and disks and at the rear extending through the casing and provided with milled heads, a spring-actuated push-post, a spring-actuated pawl pivotally connected to said push-post, an auxiliary pawl pivoted to the aforesaid pawl, and ratchets secured to the said ratchet-wheels and arranged to be engaged by pawls attached to the adjacent parts of the casing to prevent loose movement of the disks, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

C. C. FIELDS.

Witnesses:

J. H. SIGGERS,  
BERNICE A. WOOD.