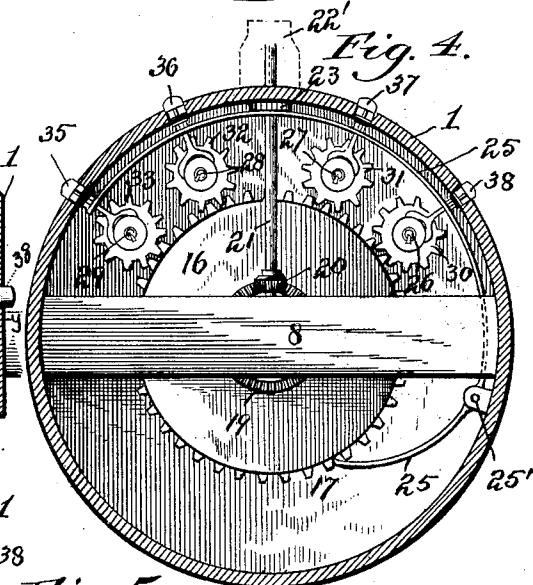
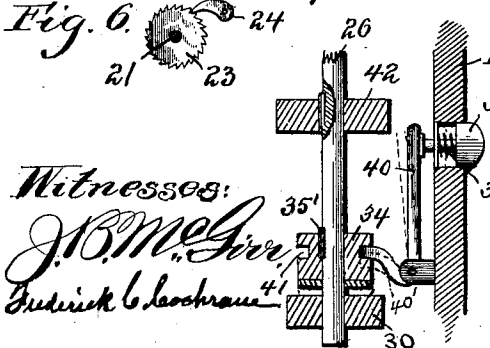
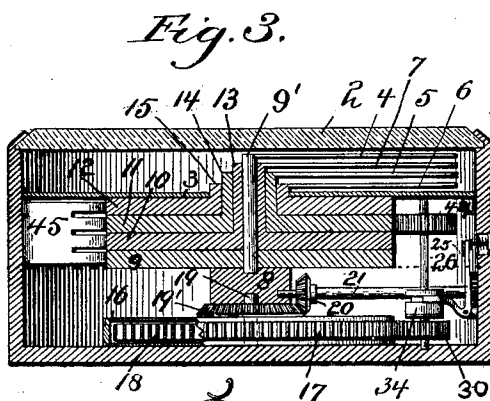
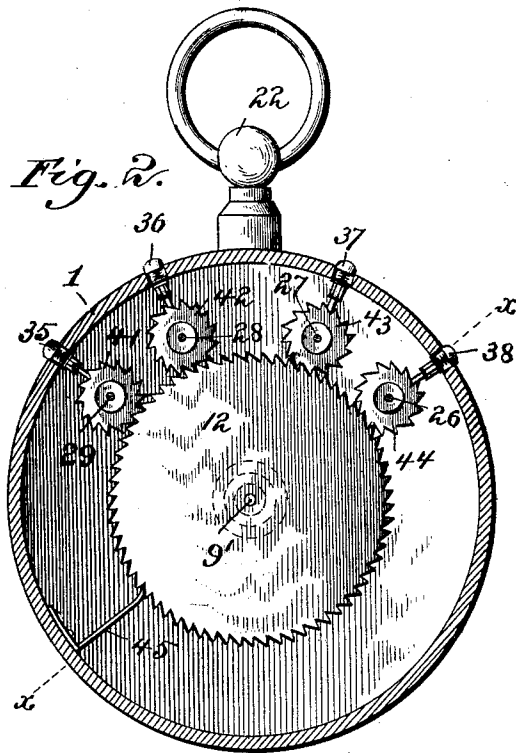
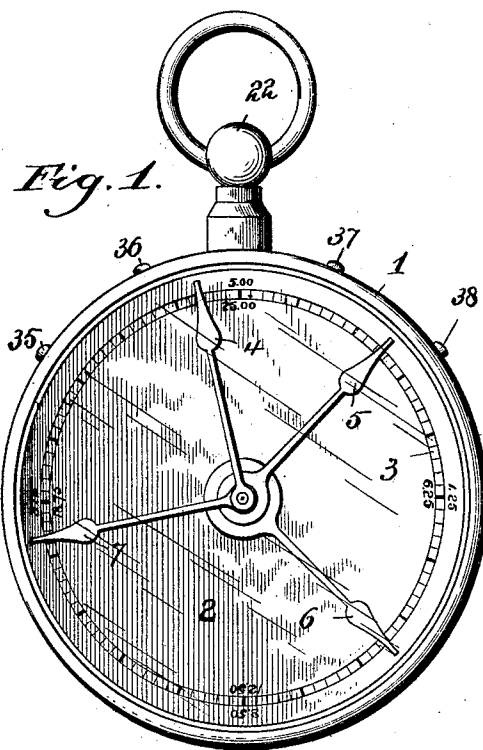


(No Model.)

E. L. GIBSON.
POCKET REGISTER.

No. 563,854.

Patented July 14, 1896.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWARD L. GIBSON, OF BROOKLYN, NEW YORK.

POCKET-REGISTER.

SPECIFICATION forming part of Letters Patent No. 563,854, dated July 14, 1896.

Application filed December 23, 1895. Serial No. 573,043. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. GIBSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Pocket-Registers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in pocket-registers whereby several distinct accounts may be registered by as many hands moving independently over one or more dials, each hand being operated by distinct mechanism under the control of the operator; and it consists in the novel construction hereinafter described, and particularly pointed out in the claims.

My invention, as illustrated in the drawings, is particularly intended for use by commercial travelers, and comprises four hands to register items of expense in as many different accounts, such as baggage, railroad-fare, hotel-bills, and incidentals. Owing to the values arbitrarily assigned to one space upon the dials and the sum totals to which they register the four hands may, in this case, register on one dial.

As represented, the value of one space upon the dial intended for hotel expenses is twenty-five cents, and as the total amount to be registered is twenty-five dollars there will be one hundred spaces on the dial. The value of one space upon the other dials is five cents, and the total sum registrable is five dollars, thus making one hundred divisions upon these dials also. Therefore one dial divided into one hundred parts and provided with two rows of figures indicating the amounts registered will serve for all four hands, although four different concentric dials may be used, if desirable.

In the annexed drawings, forming a part of the specification, and in which like numerals refer to the same parts, Figure 1 is a face view showing the hands and dial of my im-

proved register. Fig. 2 is a horizontal section through the case along the line *yy* in Fig. 3, looking upward. Fig. 3 is a vertical section through the case along the line *xx*, Fig. 2, leaving a portion of the spring-box intact. Fig. 4 is a horizontal section through the case along the line *yy*, Fig. 3, looking downward. Fig. 5 is a detail view of the push-button and friction-clutch. Fig. 6 is a detail view of the ratchet-wheel and detent upon the winding mechanism.

The numeral 1 refers to the case with the crystal 2 and dial 3. Across the case at a distance from the bottom thereof sufficient to accommodate the necessary parts underneath it extends the supporting-bar 8, in which is journaled the lower end of the arbor 9'. The said arbor carries at its upper end one of the hands 4, 5, 6, or 7 and at its lower end a ratchet-wheel 9. Concentrically journaled around the arbor are the sleeves 13, 14, and 15, each sleeve carrying a hand at its upper end and a ratchet-wheel upon its lower end. Each ratchet-wheel is supported by the ratchet-wheel beneath it, whereby all of the sleeves are supported by the inner arbor.

Each of the ratchet-wheels 9, 10, 11, and 12 upon the sleeves and arbor has teeth equal in number to the divisions upon the dial over which the hand attached to the respective sleeve registers, so that a movement of one tooth of the ratchet-wheel will cause a movement of one space by the pointer.

Beneath the supporting-bar 8, with its center in line with the arbor 9', is the spring-box 16, having teeth 17 upon its outer side circumference and containing the spring 18. The outer end of the spring is attached to the side of the spring-box and its inner end to the vertical winding-shaft 19. The winding-shaft 19 passes through the spring-box, making a bearing therefor about which it rotates, and is journaled at its lower end in the bottom of the case and at its upper end in the supporting-bar 8.

In order to wind the spring 18, a bevel gear-wheel 19' is secured to the vertical winding-shaft 19 just below the supporting-bar 8, and is in mesh with the bevel-wheel 20 upon the horizontal winding-shaft 21. The horizontal winding-shaft 21 is journaled at its inner end

in the supporting-bar and at its outer end in the wall of the case and terminates in a knob 22. To prevent the winding-shaft from being rotated backward, and thus allowing the spring to become unwound, the ratchet-wheel 23 is placed upon the horizontal shaft 21 just inside the case and is held against backward movement by the pawl 24. The detent-lever 25, holding against the teeth 17 of the spring-case, prevents the spring from unwinding at its outer end.

The detent-lever 25 is a curved piece of flat spring metal pivoted at 25', and having its longer end extended so as to be struck by the long arm 40 of an angle-lever, as hereinafter described.

Vertical spindles 26, 27, 28, and 29 are journaled in the top and bottom of the case at convenient intervals around the spring-box. Loosely rotating about these spindles are the gear-wheels 30, 31, 32, and 33 in mesh with the teeth 17 upon the spring-box. On the upper surface of each of the gear-wheels 30, 31, 32, and 33 is secured a disk of some suitable material, such as rubber, to form the lower member of a friction-clutch to lock the loosely-rotating gear-wheel to its spindle. The upper member of each friction-clutch (see 34, Fig. 5) is slidingly mounted upon its respective spindle, but held from rotating independently thereof by a feather 35', so that when the two members of the clutch are held in contact the spindle and loosely-journaled gear revolve together. Longitudinal movement of the upper members is governed by the push-buttons 35, 36, 37, and 38, projecting through the wall of the case and yieldingly held in their limiting outward position by the spring 39'. Each push-button acts upon the friction-clutch controlled by it through the medium of an angle-lever fulcrumed in a bracket attached to the side of the case. These angle-levers consist of the two arms 40 and 40', the longer and outer arm of which, 40, is acted upon by the push-buttons and the shorter and inner arm of which, 40', acts upon the long arm of the detent-lever 25, as is shown in Fig. 3. The inner end 40' of the angle-levers is bifurcated, forming fingers that embrace a groove 41 in the side of the upper member of the friction-clutches. It is evident from an inspection of the drawings that the inward movement of the push-button must cause a downward movement of the inner end of the angle-lever and thereby hold the two members of the clutch together. It will also be understood that the fingers of the angle-lever need not embrace the upper member of the clutch so tightly as to interfere with the rotation of said member. It will also be understood that other forms of clutches might be used in place of the friction-clutch described. Just at the moment when the friction-clutch is in position to lock the spindle and gear-wheel the long arm of the angle-lever presses against the long arm

of the detent-lever 25, before referred to, and releases the short arm of said detent from engagement with the teeth 17 upon the spring-box, thus allowing the spring-box to rotate and actuate the spindle whose friction-clutch is in operative position. Rigidly attached to the spindles 26, 27, 28, and 29 are the small ratchet-wheels 41, 42, 43, and 44. These ratchet-wheels are in mesh, respectively, with the ratchet-wheels 12, 11, 10, and 9 upon the sleeves 15 14 13 and arbor 9'.

The detent-plate 45 is attached at one end to the side of the case and terminates at the other end in four spring-fingers. These four fingers engage, respectively, with the teeth upon the ratchet-wheels upon the sleeves and arbor.

The contact between the spring-finger and the ratchet-wheels is just close enough to prevent too rapid a movement of the hands and also to prevent their accidental displacement. The fingers also serve, by the clicking noise they make in passing over the teeth, to indicate how many spaces the hands are passing over.

When it is desired to register a sum upon one of the dials, the proper push-button is forced in. The angle-lever moves the upper member of the friction-clutch down upon the loose gear-wheel, and at the moment when the contact is firmly established strikes the detent 25 and releases the spring-box. By the unwinding of the spring all of the loose gear-wheels are actuated, but the motion of only that one which is locked to its spindle is transmitted. Only one of the spindles, therefore, is rotated and thereby only one of the hands moves. By watching the motion of the hand over the dial or by counting the clicks made by the spring-fingers the operator can tell how many spaces are being registered, and by releasing the push-button stop the hand at any desired point.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a pocket-register the combination of a series of concentric hand-bearing sleeves having ratchet-wheels attached at their lower ends, of a series of vertical spindles equal in number to the sleeves, one ratchet-wheel rigidly attached to each spindle and in mesh with one of the ratchet-wheels upon the sleeve, one gear-wheel loosely rotating about each spindle, a friction-clutch upon each spindle to lock the loose gear-wheel and spindle, and means for actuating the loose gear-wheel, substantially as described.

2. In a pocket-register the combination with a series of concentric hand-bearing sleeves carrying ratchet-wheels at their lower ends of a series of vertical spindles equal in number to the sleeves, each spindle bearing a ratchet-wheel rigidly attached to it and in gear with one of the ratchet-wheels upon the sleeves, a gear-wheel loosely rotating about each spindle, each loose gear-wheel being in

mesh with a single spring-actuated gear-wheel, a detent to lock said spring-actuated gear-wheel, a clutch upon each vertical spindle to communicate the motion of the loose
5 gear-wheel to the spindle and means to simultaneously release the detent and operate any one of the clutches, substantially as described.

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

EDWARD L. GIBSON.

Witnesses:

FREDERICK C. COCHRANE,
COOK CARLETON.