No. 806,051. PATENTED NOV. 28. 1905.

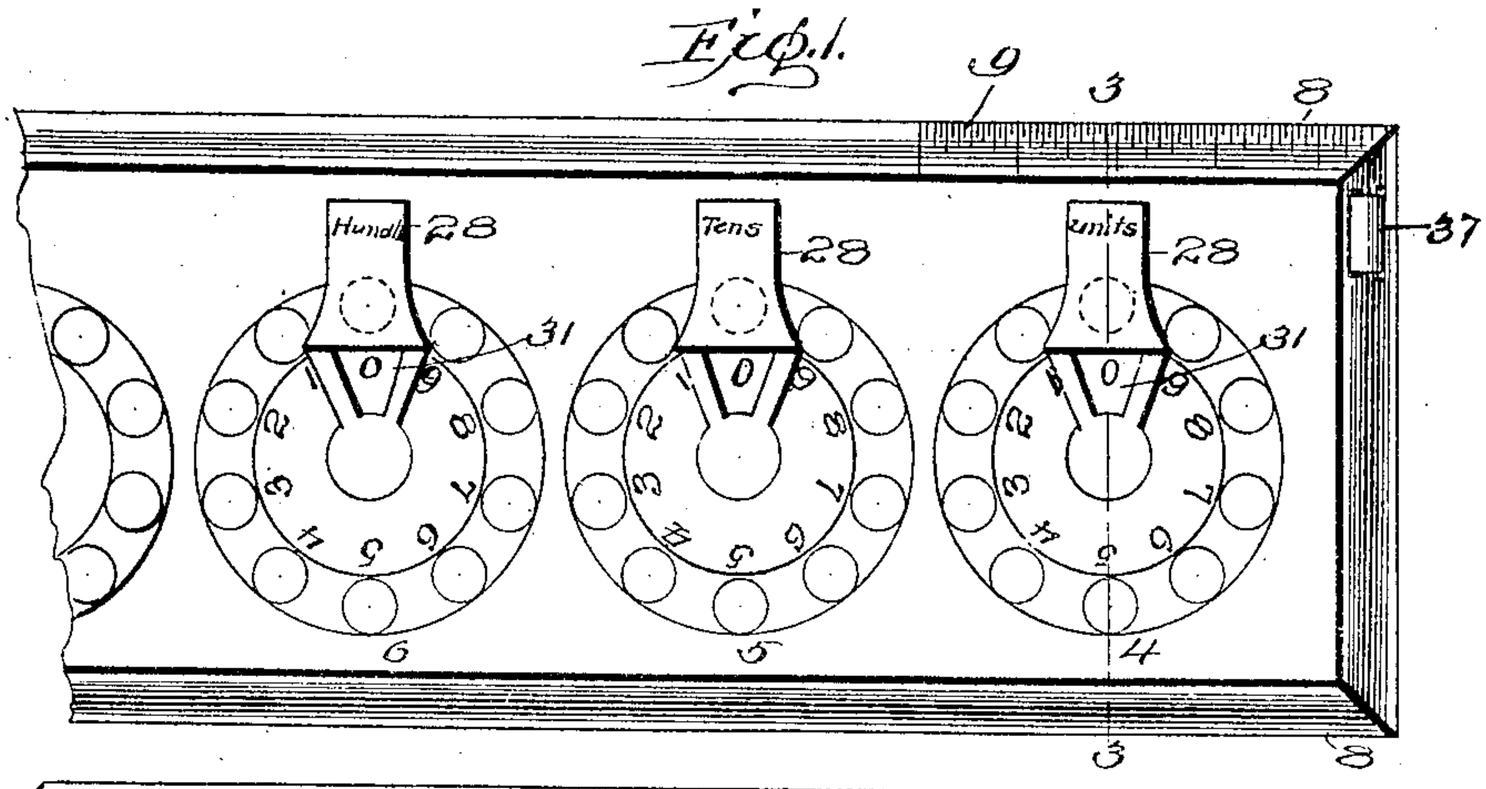
A. M. BENEDIC.

ADDING MACHINE.

APPLICATION FILED JUNE 3, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



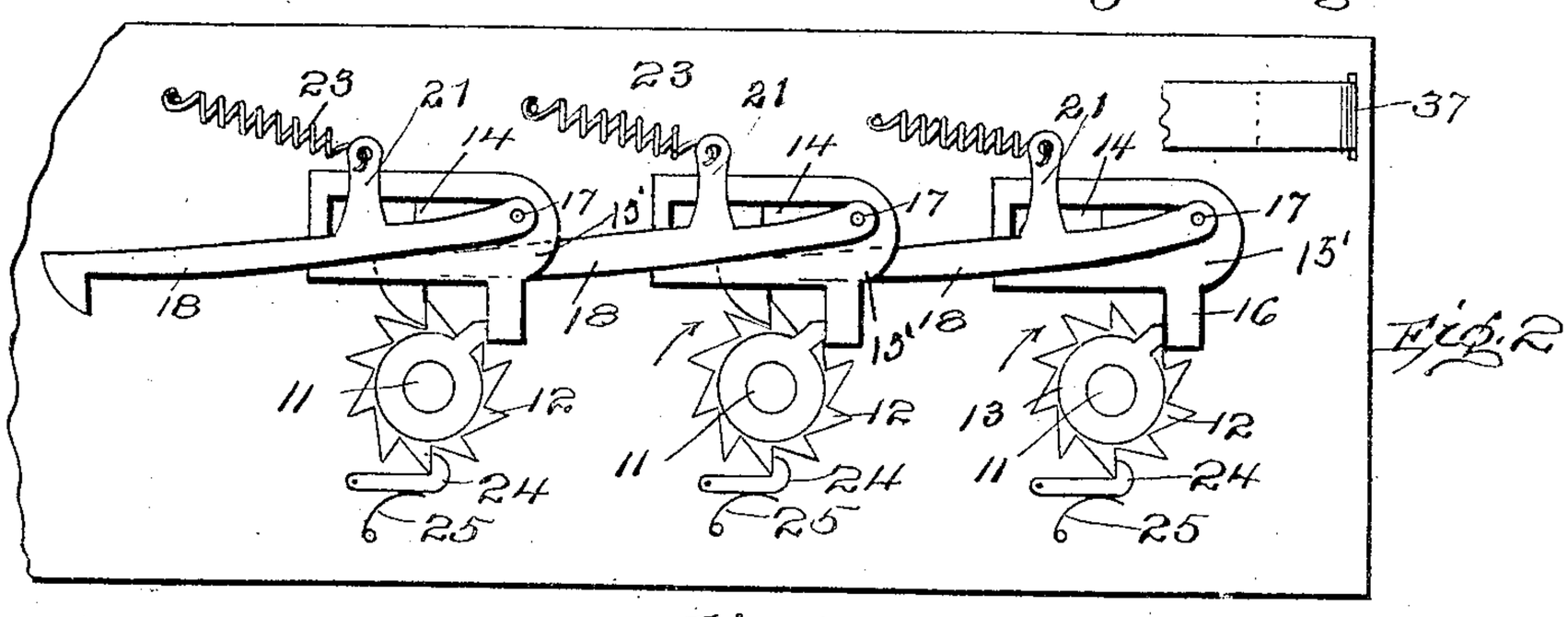
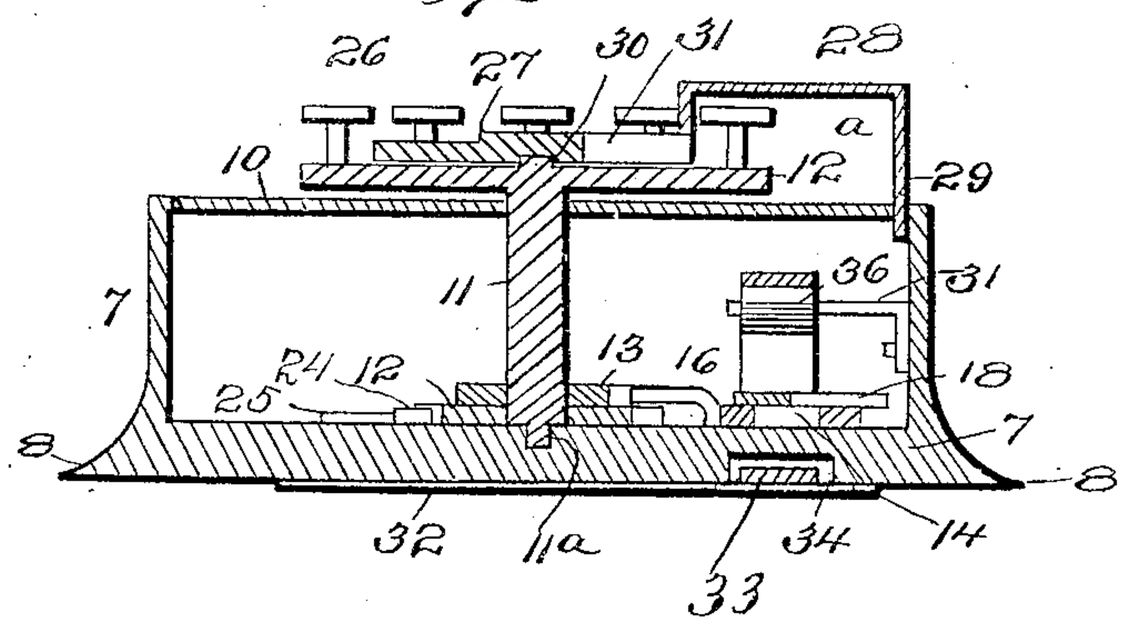


Fig. 2

Fig. 3



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2 SHEETS—SHEET 2.

Fig. 4.

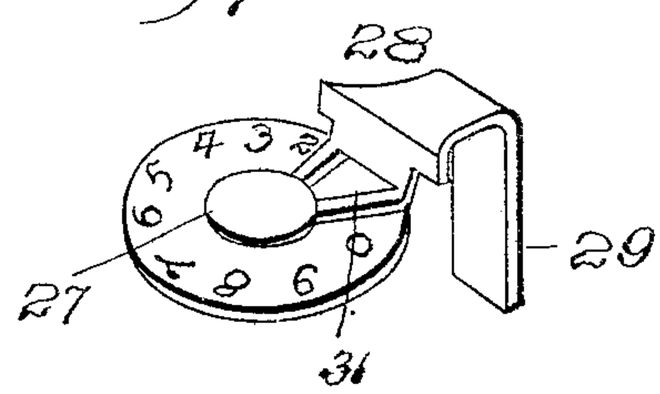

Fig. 5

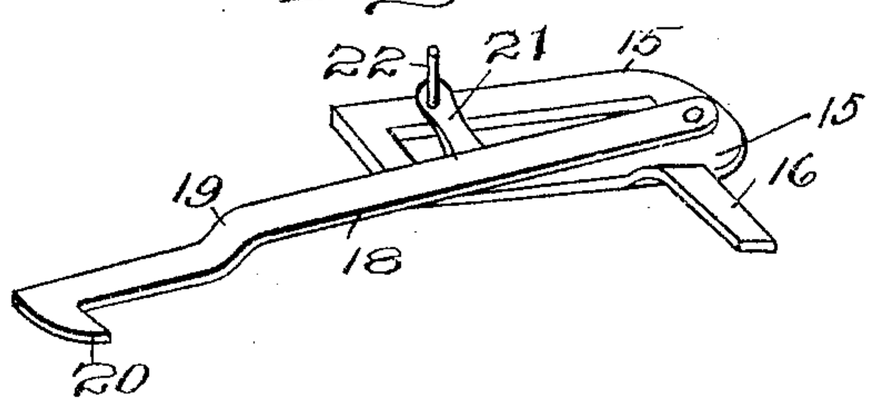

Fig. 6.

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January							February							March							April							May						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S

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UNITED STATES PATENT OFFICE.

AUGUSTIN MARION BENEDIC, OF NEW ORLEANS, LOUISIANA.

ADDING-MACHINE.

No. 806,051. Specification of Letters Patent. Patented Nov. 28, 1905.

Application filed June 3, 1904. Serial No. 211,012.

To all whom it may concern:

Be it known that I, AUGUSTIN MARION BENEDIC, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Adding-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 improvements in adding-machines, and particularly to a mechanism for indicating a particular sum to be added or a sum obtained by the addition of two or more numbers.

The object of the invention is to provide a simple, efficient, and practical mechanism for the purpose of indicating a particular number by means of one or more dials which are provided with numerals spaced upon their upper surfaces.

Another object of the invention is to provide rotary indicating means coöperating with lever means for operating and controlling the movement of auxiliary indicating means.

Another object of the invention is to provide a frame or casing with indicating means and to construct upon the base of the frame a perpetual calendar.

A still further object of the invention is to provide a plurality of dials, each dial indicating different numerical values, and means for positioning said dial for the purpose of exhibiting certain numerals formed upon the dials in predetermined positions.

With these and other objects in view the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims hereto appended.

In the drawings, Figure 1 is a fragmentary plan view of a completed mechanism constructed in accordance with the present invention. Fig. 2 is a fragmentary plan view of the base of the casing or frame, showing the ratchet-wheels and coacting lever mechanism in an assembled position therewith. Fig. 3 is a transverse sectional view of the mechanism, taken on lines 3 3, Fig. 1. Fig. 4 is a perspective view of a stationary dial which is secured to or formed integral with the frame or casing of the mechanism. Fig. 5 is a perspective view of the lever mechanism which is assembled with each of the dial structures. Fig. 6 is an inverted fragmentary plan view of the base of the frame or casing of the mechanism, showing the perpetual calendar formed thereon.

In carrying out the present invention I employ a plurality of dial mechanisms, each succeeding dial mechanism indicating the value of the next highest order of the numerical denomination—as, for instance, the dial mechanism 4 indicates units, 5 indicates tens, 6 hundreds, and subsequently the other dials employed in the construction of a completed mechanism indicate the next highest order in the numerical denomination increased by ten.

I will specifically describe the construction of one of the dial mechanisms, and preferably that designated by units, as it will be obvious upon considering the drawings that the construction is similar in each of the succeeding dial mechanisms as that depicted in the drawings for mechanism 4.

A casing or frame 7, preferably rectangular in construction, is provided with cutting edges 8 8, which are formed for the purpose of employing said casing or frame as a paper-cutter in addition to a paper-weight. If it is desired, a scale, as 9, may be formed upon one or both of the edges 8 8 for employing the same as a rule. The casing 7 is provided with a cover 10, which is removably mounted upon the same. Referring to the dial mechanisms, and preferably that designated as "units," the vertical shaft 11 is provided with an integral rotatable dial 12^a, which is preferably secured upon one end of said shaft 11 and outside of cover 10. The shaft 11 is journaled in a suitable aperture formed in the cover 10 and in a journal-box 11^a or the like formed in the upper surface of the base of casing 7. A ratchet mechanism is secured to the shaft 11 of each dial mechanism. Each ratchet mechanism comprises a ratchet-wheel 12, which is provided with ten teeth, and above said ratchet-wheel and secured to shaft 11 is a cam member 13, which is provided with a single tooth. The body portion of the cam member is disk-shaped in form, and the single tooth projects therefrom. Secured to the upper surface of the base and contiguous of the members 12 and 13 is a rectangular guide 14. Slidably mounted upon the

guide 14 is a lever mechanism 15. Lever mechanism 15 comprises in its construction an approximately rectangular frame 15′, which is provided with an elongated central aperture, which is adapted to permit of said mechanism being positioned upon the stationary lug or guiding member 14 for the purpose of permitting of slidable movement of the same upon the base of the casing 7. The member 15′ is also provided with a right-angle extension 16, which is bent upwardly and outwardly for the purpose of permitting of said tooth or extension 16 to engage the cam member 13. Pivotally secured to the frame or member 15′ and near one end thereof at 17 is a lever member 18. The lever member 18 comprises in its construction a body portion which is bent intermediate its length at 19 for the purpose of permitting of the hooked end 20 to rest upon the base of frame or casing 7 and normally in engagement with the toothed ratchet-wheel 12. Integrally secured to lever member 18 and extending at right angles therefrom is an arm or extension 21. In Fig. 5 of the drawings said arm 21 is provided with a pin 22, upon which the spring 23 is adapted to be mounted. In Fig. 2 the extension or arm 21 is apertured near its outer end for the purpose of receiving one end of the spring 23 instead of having said pin attached to a pin 22, as depicted in Fig. 5. The opposite end of spring 23 is secured by any suitable means to the base of frame 7. Owing to the construction of lever 18, it will be obvious that the member 15′ is permitted to be secured directly against the base of the frame, while the lever 18 is secured upon the upper surface of frame 15′, both of which are permitted to move independently of each other. To prevent shafts 11 from rotating in one direction, thereby preventing movement of the ratchet-wheels, each dial mechanism is provided with a dog 24, which is normally held in engagement with the ten-toothed wheel 12 by means of a spring 25.

A plurality of keys 25 are positioned upon and near the edge of dial 12ª. The keys 26 are preferably ten in number, and each of said keys is positioned contiguous to numerals formed upon the upper face of dial or disk 12ª, said numerals being "1" to "0," respectively. The keys 26 are preferably spaced a suitable distance above dial 12ª. Dial 27 is secured by means of an integral indicating-plate 28, which is provided with a right-angled extension 29 to one side of casing 7. If it is desired, the arched indicating-plate 28 may be integrally secured to one side of casing 7. Upon the under side of stationary dial 27 a suitable recess 30 is formed for the purpose of permitting of an integral projection extending from dial 12ª to engage said recessed portion 30. The purpose of this recessed portion of dial 27 is to positively retain shaft 11 in a vertical plane, and thereby assuring of the rigidity of the ratchet-wheel and cam member when mounted upon shaft 11 for normally retaining the same in engagement with the frame 15′ and lever 18. An aperture 31 is formed upon stationary dial adjacent to the arched portion 28 for the purpose of permitting of the exposure of the numerals which are formed upon revoluble dial 12ª. The arched portion 28 may be used to indicate the numerical value of the dial mechanism.

It will be obvious upon referring to the drawings, Fig. 1, that dial mechanism 4 is designated by units, which are formed upon the upper surface of member 28. The subsequent dial mechanisms and the coacting parts are designated upon members 28 by tens, hundreds, &c.

Upon the rotation of dial 12ª it will be apparent that the numerals, which are formed upon the upper surface thereof, will be exposed to view through apertured portion 31 of stationary dial 27. Upon stationary dial 27 there are formed numerals from "1" to "0," respectively.

Upon the bottom of the casing 7 I have arranged a perpetual calendar which comprises in its construction a sheet of material 32, upon which is printed the months of the year, together with the dates for indicating the days contained in each month. An endless ribbon 33 is mounted upon casing 7 and is adapted to be positioned between the months of the year and the dates formed upon the sheet 32. The purpose of this ribbon upon which the days of the weeks are designated is to indicate the days of the week in each month and the dates thereof. The ribbon 33 is mounted within a slot 34, which is formed upon the bottom of casing 7. The sheet 32 is preferably constructed of transparent material—celluloid, for instance—for the purpose of permitting of the letters or characters upon the ribbon 33 to be easily discernible. A plurality of brackets 35 are positioned upon one side of casing 7 and within the same. Journaled upon an extension of bracket 35 are rollers 36, over which ribbon or sheet 33 is adapted to be passed when it is desired to position the same for the purpose as is hereinafter specified. When it is desired to move the ribbon, this can be accomplished by engaging the same at 37 by means of any suitable instrument which will permit of the actuation of the same. Upon the ribbon 33 are letters designating the days of the week. Said letters are adapted to be positioned contiguous to the numerals representing the dates of the days in each week of each month. As an illustration of the purposes of this construction and arrangement it will be apparent that in designating the first day of the year, if the same should come on Friday, it will be neces-

sary to move the ribbon so as to place the letter "F" in parallel position with the numeral "1" appearing in January. The subsequent day of the week, as Saturday, will occur upon the second, and the remaining days of the month will be properly designated by the numerals indicating the dates. When it is necessary to position the ribbon after the first positioning at the beginning of each year, as in the case of leap-year, this can be easily accomplished by causing sliding movement of the same at 37 by means of any suitable instrument. The purpose of constructing this calendar in combination with the other mechanisms of this invention is to provide a simple and convenient construction for the purpose of assisting in the computing of interests in relation to commercial papers, or, as will be obvious, the calendar will provide a ready reference for any other purposes when it is desired to ascertain the date of a particular day.

The operation of the mechanism is as follows: When the dial mechanisms are in the position depicted in Fig. 1, the character "0," formed upon the revoluble dials 12ª, will be exposed to view through the openings 31 of the stationary dials 27. If it is desired to expose a character other than "0" through the opening 31 of the stationary dial in the units mechanism, this may be accomplished by turning the revoluble dial preferably from right to left, as illustrated by the arrow, Fig. 2. Upon each complete revolution of dial 12ª the extension of cam member 13 will engage the lateral extension 16 of the frame 15′ and will impart longitudinal movement to all of the lever mechanisms when positioned as shown in Fig. 2. After the cam in any of the dial mechanisms has actuated the lever mechanism of the respective dial mechanisms spring 23 will return said lever mechanism bodily longitudinally to its normal position, so as to place the extension 16 of the frame 15′ in the path of movement of the extension of cam member 13. In all of the dial mechanisms except the units mechanism the levers 18 will be retained by means of the springs 23 in engagement with the ratchet-wheels 12.

While I have described in the foregoing description the peculiar construction of the dial mechanisms which are employed in the present invention and also the coöperating elements employed in the construction of a complete machine, it will be obvious to one versed in the art to which this invention relates that deviations may be made in the manufacture of devices constructed according to the present invention, and I therefore reserve the right to make such alterations, modifications, and changes as shall fairly fall within the spirit and scope of the present invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device of the character described, comprising a casing, a plurality of dial mechanisms assembled with said casing, each mechanism comprising a movable shaft, a dial carried thereby near one end thereof, a plurality of keys secured to said dial, a stationary dial having an integral arched member and an aperture secured to said casing and mounted above said dial provided with keys, a ratchet-wheel and a cam member carried by said shaft, a lever mechanism comprising an approximately rectangular frame, having a right-angle extension assembled with and engaging the cam member, a lever movably mounted upon said frame comprising a body portion bent intermediate its length and provided with a hooked end, and flexible means assembled with said lever for retaining the same in an engaging position with the ratchet-wheel of an adjacent dial mechanism.

2. In a device of the character described, the combination with a casing, of revoluble key-carrying means, stationary means having openings and arched portions secured to said casing above said key-carrying means, lever means assembled with said casing and coacting with said revoluble means, flexible means for normally retaining said revoluble and lever means in a stationary position.

3. A device of the character described, comprising a casing, stationary arched, indicating means assembled with said casing, a plurality of key-carrying members carried by said casing and assembled with said arched indicating means, ratchet means assembled within said casing and with each of said key-carrying members, a frame secured contiguous to and in engagement with each of said ratchet means, a lever assembled with each of said frames, and flexible means normally retaining said levers and frames in a stationary, engaging position with said ratchet means.

4. A mechanism of the class described, comprising a casing, a plurality of pairs of dials secured exteriorly of said casing, each pair of dials comprising a revoluble key-carrying dial having indicating means, an arched stationary dial having an aperture and indicating means secured upon said revoluble dial, a shaft secured to said movable dial, a plurality of members provided with teeth carried by said shaft, a plurality of lever mechanisms carried by said casing contiguous to said members and normally in engagement therewith, each lever mechanism comprising a stationary guide, a frame slidably mounted upon said guide, a lever mounted upon said frame and normally in engagement with a ratchet-wheel, and means for normally retaining said lever mechanism in a stationary position.

5. In a device of the character described, the combination with a casing, of a ratchet mechanism mounted within said casing, a plurality of dials mounted upon the outside of said casing

and provided with connecting means securing the same in engagement with said ratchet mechanism, and means for positively retaining said ratchet mechanism in coacting position with said dials.

6. In a device of the character described, the combination with a casing, of a plurality of pairs of dials mounted exteriorly thereof, one of said dials in each pair provided with an extension, ratchet means carried by said extension, and lever means secured in an operative position with said ratchet means permitting of snychronous movement of one dial in each pair.

7. In a device of the character described, the combination with a support of a plurality of pairs of dials mounted upon said support, and slidable lever means coöperating with each pair of said dials permitting of snychronous actuation of one dial in two or more of the pairs.

8. A device of the character described comprising a base, a plurality of shafts journaled thereon, a cam member and a ratchet-wheel journaled upon each shaft, dials carried by said shafts, a frame and a lever secured upon said base contiguous to each shaft and in engagement with said cam member and ratchet-wheel, and means normally holding said shafts in a stationary position.

9. In a device of the character described, the combination with a casing, of a dial mechanism carried thereby, comprising revoluble key-carrying means, stationary means having an opening and an integral angular extension secured to said casing above said key-carrying means, lever means carried by said casing and coacting with said revoluble means, and flexible means for normally retaining said revoluble and lever means in a stationary position.

10. In a device of the character described, the combination with a support, of a pair of dials mounted thereon, one of said dials provided with an angular extension secured to said support, ratchet means mounted upon said support and coacting with said dials, an auxiliary dial mechanism carried by said support, and connecting means engaging said ratchet means and coöperating with said auxiliary dial mechanism.

11. In a device of the character described, the combination of a casing, a plurality of shafts journaled upon said casing, revoluble key-carrying means secured to said shaft exteriorly of said casing, ratchet means secured to each of said shafts within said casing, lever means positioned within said casing and coacting with the ratchet means, and means normally retaining said lever means in an operative position, whereby the same may be actuated for causing movement of two or more of said key-carrying means.

12. The combination with a support, of shafts journaled in alinement thereon, ratchet means secured to each of said shafts, key carrying and indicating means secured to each of said shafts, lever mechanisms secured in alinement upon said support and coacting with the ratchet means, and means for retaining said lever mechanisms and ratchet means in their normal stationary position.

13. The combination with a suitable support, of a plurality of revoluble indicating means positioned in alinement upon said support, longitudinally-slidable lever means positioned in alinement upon said support and coacting with said revoluble indicating means, whereby two or more of said revoluble indicating means may be actuated.

14. The combination with a support, of a plurality of movable indicating means carried by said support, movably-connected, slidably-mounted members secured to said supports contiguous to each of said movable indicating means, and means for retaining said members and movable indicating means in an operative position.

15. The combination with a flat support, of movable indicating means carried by said support, movably-connected, approximately flat members secured to said support and coacting with said movable indicating means, and means normally retaining said members and movable indicating means in a stationary position.

16. In a mechanism of the class described, the combination with a support, of pairs of dials mounted upon said support, and a bodily-slidable lever mechanism comprising a frame and a lever coacting with each pair of dials and permitting of synchronous movement of one dial in two or more of the pairs.

17. The combination with a support, of a plurality of revoluble indicating means positioned in alinement upon said support, longitudinally, bodily slidable lever means positioned in alinement upon said support and coacting with said revoluble indicating means, whereby two or more of said indicating means may be actuated.

18. In a mechanism of the class described, the combination with a support, of a plurality of revoluble indicating members positioned in alinement upon said support, longitudinally, bodily slidable lever mechanisms positioned in alinement upon said support contiguous to and coacting with said dials capable of causing synchronous movement of part of the dials.

19. In combination with a support, of a series of revoluble indicating members positioned in alinement upon said support, and a series of longitudinally, bodily slidable lever means secured in alinement upon said support and capable of causing movement of one or more of said members.

20. In a mechanism of the class described, the combination with a support, of a plurality

of movable indicating means positioned in alinement upon said support, longitudinally-slidable mechanisms positioned in alinement upon said support and coacting with said indicating means for actuating the same.

21. In a mechanism of the class described, the combination with a support, of a plurality of dial mechanisms spaced apart upon said support, longitudinally, bodily, movable lever mechanisms carried by said support and coacting with said dial mechanism.

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

AUGUSTIN MARION BENEDIC.

Witnesses:
JOS. A. SCHINDLER,
FRED ZENGEL.