May 5, 1931. J. A. SMITH 1,803,658

INDICATING DEVICE

Filed July 14, 1928 2 Sheets-Sheet 1

Fig. 1

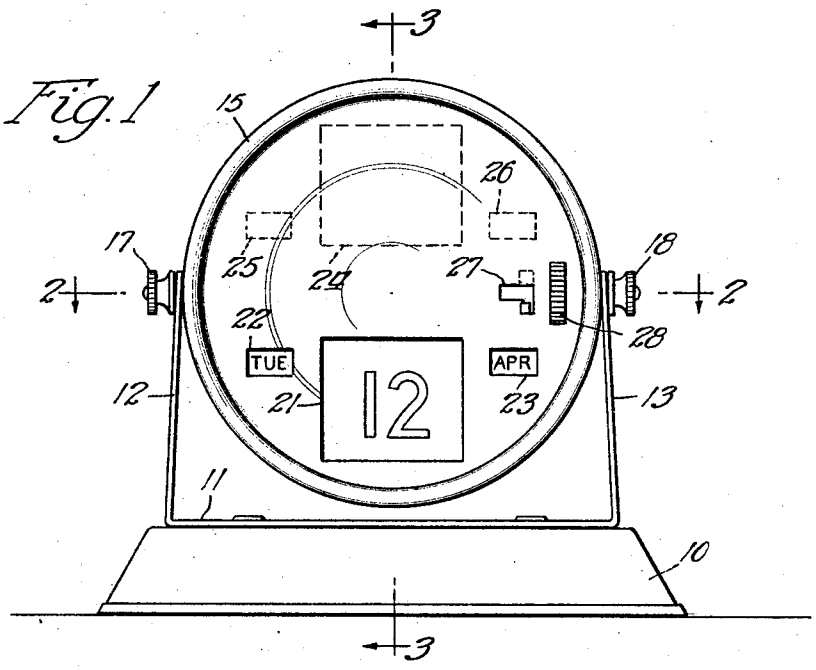
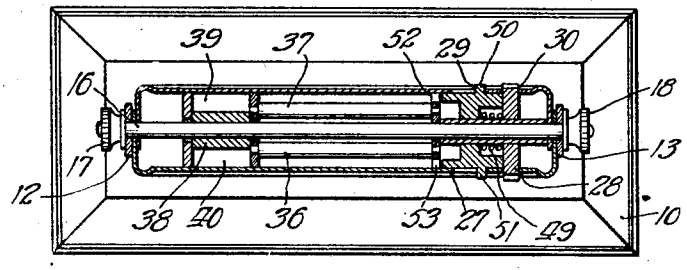


Fig. 2



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Fig. 4

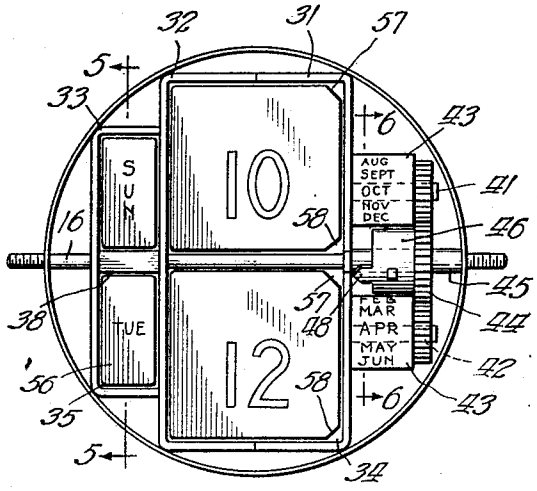


Fig. 3

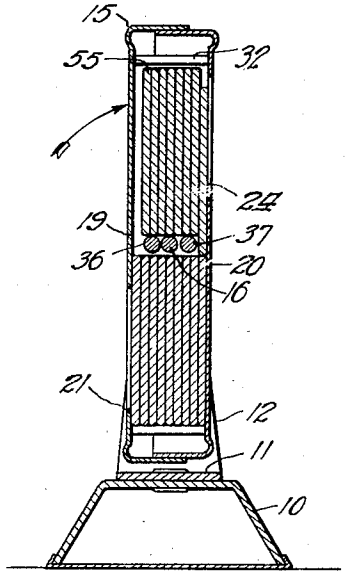


Fig. 5

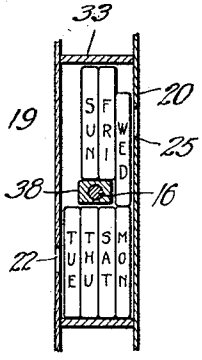


Fig. 6

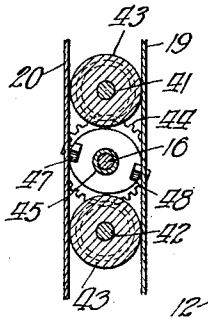
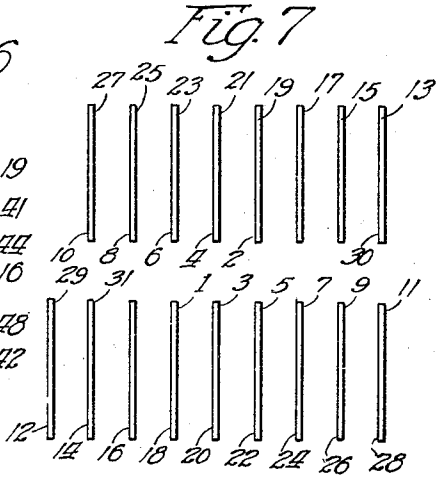


Fig. 7



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Patented May 5, 1931 1,803,658

UNITED STATES PATENT OFFICE

JACOB A. SMITH, OF RIVER FOREST, ILLINOIS, ASSIGNOR TO MAYER MANUFACTURING CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

INDICATING DEVICE

Application filed July 14, 1928. Serial No. 292,723.

My invention relates to indicating devices which are adapted to display a plurality of indications which bear a definite relation to each other such for instance as the days of the month and the days of the week.

It is a purpose of this invention to provide a device of this character which can be used continuously to accurately display its indications even though the relation between the various indications changes from time to time.

Another purpose of the invention is to provide a device of this character wherein the parts are easily assembled and when assembled may be held in place permanently by the same device which serves to mount the indicating means on a stand.

More particularly it is a purpose of this invention to provide an indicating calendar capable of indicating the days of the week and the days of the month for any month of the year together with means whereby the week days may be made to check with the month days by manually adjusting the device.

Another and more particular object of the invention is to provide a device of this character adapted to be pivoted on a shaft and to operate to change the indications thereon when it is rotated a half turn about said shaft.

Other objects and advantages of the invention will appear as the description proceeds in connection with the accompanying drawings. However, it is to be distinctly understood that I do not intend to limit myself to the exact details shown and described, but that I intend to avail myself of all such modifications as would occur to one skilled in this art and as fall within the scope of the claims.

In the drawings:

Fig. 1 is a side view of the device in operative position;

Fig. 2 is a section taken on the line 2—2 of Fig. 1 illustrating the manner of supporting the indicating device;

Fig. 3 is a vertical section on the line 3—3 of Fig. 1;

Fig. 4 is a side view similar to Fig. 1 with the cover removed;

Fig. 5 is a section on the line 5—5 of Fig. 4;

Fig. 6 is a section on the line 6—6 of Fig. 4; and

Fig. 7 is a diagrammatic view showing the manner in which the indicating numerals are applied to the movable indicating elements of the device.

Referring now in detail to the drawings, the numeral 10 indicates a supporting base which may be of sheet metal or any other suitable material and which has mounted thereon the U-shaped frame 11 and the legs 12 and 13 of which form the means for supporting the indicating device 15. As shown by Fig. 2 the legs 12 and 13 have apertures at their upper ends through which the rod 16 extends, this rod serving, as will be hereinafter pointed out more particularly, to maintain the indicating device and the various parts thereof assembled in proper relation at all times. The rod 16 may be secured against removal from the supporting stand by means of the nuts 17 and 18 at the opposite ends thereof.

The indicating device 15 as shown in Figs. 2, 3, and 4 has a housing formed of the two sections 19 and 20 which have cooperating annular flanges thereon adapted to fit one within the other and both apertured to receive the rod 16.

Housing 19 in the position illustrated in Fig. 1 and Fig. 3 has the aperture 21 in the lower central portion thereof through which the day of the month is to be displayed. At the left of the opening 21 is a smaller aperture 22 through which the day of the week is to be displayed while at the right of the opening 21 another small aperture 23 is adapted to have the month of the year displayed.

As illustrated in dotted lines in Fig. 1, and partially indicated in Figs. 3 and 5, the section 20 of the housing has corresponding apertures 24, 25, and 26 and these apertures are spaced an equal distance away from the center line drawn parallel to the rod 16 to the distance the corresponding apertures are spaced from a similar center line on the section 19 from the housing. Apertures 27, 28, 29, and 30 are also provided in the hous-

ing members 19 and 20 for the reception of certain adjusting devices which will be hereinafter described.

Within the housing and held in place by rod 16 there are a plurality of compartment forming partitions 31, 32, and 33 which are preferably made of relatively strong strips of metal and as shown in Fig. 4 bent to form a large rectangular compartment 34 and a smaller rectangular compartment 35 at one side thereof.

It will be noted from Fig. 4 that these members are so arranged within the housing that the compartments 34 and 35 are each divided substantially in half by a line along the axis of the supporting rod 16.

The partitions 31, 32, and 33 have apertures therein as indicated in Fig. 2 through which the rod 16 may pass and in addition a plurality of guiding rollers 36 and 37 connect the partitions 32 and 33 and are of such size and so spaced relative to the rod 16 as to leave comparatively large spaces between the rollers 36 and 37 and the walls of the housing, while substantially closing the space between the rollers and the rods 16. The rectangular piece 38 serves to divide the compartment 35 into a pair of duplicate sections but leaves spaces 39 and 40 between the member 38 and the walls of the housing.

The partition member 31 has on the right hand side, as shown in Fig. 4, a pair of stub shafts 41 and 42 each of which carries a roller such as 43 having marked thereon the twelve months of the year spaced around the circumference in such manner that they may be brought into position behind the apertures 23 and 26 to indicate the month of the year.

Each of these rollers has at the end thereof away from the partition member 31 a gear secured thereon in any suitable manner or made integral therewith. Gear 44 is mounted on the sleeve 45 and meshes with the gears of the rollers 43 so that by rotation of the gear 44 rollers 43 may be turned manually to change the month indication displayed through the apertures 23 and 26. From the arrangement of the abbreviations of the months on these rollers as shown in Fig. 4, it is apparent that when one of the rollers is showing a certain month through the aperture 23 the other roller is showing the same month through the aperture 26.

The sleeve 45 also has slidably mounted thereon the member 46, the diameter of which is substantially equal to the distance between sections 19 and 20. The member 46 has a pair of prongs 47 and 48 projecting from the end opposite the gear 44 and a spring 49 tends to urge the member 46 away from the gear 44 which is fixed to the sleeve 45. The member 46 also has the projections 50 and 51 thereon which extend through the apertures 27 and 29. The partition member 31 has slots 52 and 53 therein directly aligning with the rollers 36 and 37 through which the projections 47 and 48 may be projected into the compartments defined by the members 31 and 32 when the projections 50 and 51 are aligned with the elongated portions of the apertures 27 and 29. However, the member 46 may be retracted against the pressure of the spring by pressure upon the projections 50 and 51 and then the member 46 may be rotated slightly to bring the projections into the position shown in Fig. 1 where the member 46 will be held in position to prevent the portions 47 and 48 from projecting into the compartments defined by the members 31 and 32.

The plurality of indicating elements designated generally by the numeral 55 are located within the compartment 34 and a plurality of smaller indicating elements 56 are mounted in the compartment 35. These elements are, of course, loose and are held within the device by the application of the section 19 to the section 20. The elements 55 as shown have the corners 57 and 58 thereof bevelled for a purpose which will presently appear.

The arrangement of the various indicating elements and the way in which they are moved relative to each other will now be described in detail.

Referring to Fig. 7, the various numerals in this figure are to indicate the printed numerals on the opposite faces of the metallic plates 55. The numerals of course in actual construction are large as shown in Fig. 4 so that they may be readily seen through the apertures 21 and 24. On one face of the plates 55 they are numbered from 1 through the odd numbers such for instance as 3, 5, 7, etc. to 31 and as shown an extra plate has no odd number on its face. This plate is located in Fig. 7 between the plate bearing the numeral 31 and the plate bearing the numeral 1. The plates having the odd numerals 15 and 17 thereon have no numerals on the opposite side thereof but, beginning with the plate bearing the numeral 19, the other sides of the plates have the consecutive even numbers thereon such as 2, 4, 6, 8 up to 30 which is on the plate bearing the numeral 13 and on the opposite side thereof.

Small plates 56 which are to indicate the day of the week are arranged as shown in Fig. 5 and bear the same indications on opposite sides thereof.

Now assuming that in Fig. 3 the plates are arranged in the order shown in Fig. 7, the indication displayed through the apertures 21, 22, and 25 will be 12, Tue, and Apr, indicating that the day is Tuesday, April 12. When it is desired to change the indication to indicate the following day of the month, the indicating device 15 is turned in the direction of the arrow in Fig. 3 thru a half revolution to bring the aperture 24 into the

position of the aperture 21 as shown in Fig. 3. As a result of this operation the plate bearing the numeral 15 will slide from its position shown in Fig. 3 into the position along side of the plate bearing the numeral 10 and the plate bearing the numeral 13 will remain in position to display its numeral through the aperture 24.

At the same time the plate bearing the indication Tue in the small compartment 35 will slide into position along side the plate bearing the indication Sun while the plate bearing the indication Wed will remain in front of the aperture 25 so as to show through this aperture. The indication would then be Wed Apr 13.

On another half rotation in the same direction units will slide to change the indication from Wed Apr 13 to Thu Apr 14. In this manner the device will indicate the several days of the month and week in their correct positions.

When the end of a month, however, is reached, it will be necessary to adjust the device so that the indication displayed in the small compartment 35 will correspond to the actual week day for the first of the month. To do this the member 46 is moved to the left from the position shown in Fig. 4 by rotating it slightly to bring the projections 47 and 48 into alignment with the corresponding slots 52 and 53 in the frame member 31 whereupon the spring 49 will force the projections into the compartment 34 and they will engage along the adjacent bevelled edges 57 and 58 of the indicating plates 55 to prevent their sliding when the device is rotated. Upon each half rotation, however, the weekly indication will continue to change until it corresponds with the proper indication for the first day of the month. When this occurs, the member 46 is again manually moved to the right and rotated to bring the projections 50 and 51 into locking position as shown in Fig. 1 and the device will then be operated in the same manner as before.

It is obvious that it will be necessary to rotate the gear 44 a sufficient amount at the end of each month to bring the next succeeding month into alignment with the apertures 23 and 26.

From the above description it is thought that the construction and operation of this device will be clear to those skilled in this art and having thus described my invention tion what I claim as new and desire to secure by United States Letters Patent is:

1. A device of the character described comprising a pair of housing sections including annular flange portions telescoping with each other to form a housing, a supporting rod extending substantially centrally through said housing and through said flange portions to thereby lock said housing sections together, means for supporting said rod whereby said housing may rotate about said rod as a center, and indicating means in said housing adapted to change its indication upon each half rotation of said housing.

2. An indicating device having a pair of opposed housing sections having similar apertures in the side walls thereof, telescoping flanges on said sections, a support, a rod extending horizontally thru said flanges and locking said sections together, and carried by said support whereby said device may be rotated upon a horizontal axis, means forming a plurality of compartments between said sections, and indicating devices in said compartments adapted to display different indications through said apertures as said device is rotated.

3. An indicating device comprising a housing having its opposite sides provided with pairs of similar apertures, means for rotatably supporting said housing on a horizontal axis, substantially parallel to said apertured sides, indicating means within said housing associated with one pair of said apertures to indicate successively the days of the month as said housing is rotated a half turn at a time, and indicating means within said housing associated with another pair of said apertures to indicate successively the day of a week for each day of the month indicated by said first named indicating means.

4. An indicating device comprising a housing having its opposite sides provided with pairs of similar apertures, means for rotatably supporting said housing on a horizontal axis substantially parallel to said apertured sides, indicating means within said housing associated with one pair of said apertures to indicate successively the days of the month as said housing is rotated a half turn at a time, and indicating means within said housing associated with another pair of said apertures to indicate successively the day of a week for each day of the month indicated by said first named indicating means, and means for rendering one of said indicating means inoperative independently of the other.

5. An indicating device comprising a housing having its opposite sides provided with pairs of similar apertures, means for rotatably supporting said housing on a horizontal axis substantially parallel to said apertured sides, indicating means within said housing associated with one pair of said apertures to indicate successively the days of the month as said housing is rotated a half turn at a time, and indicating means within said housing associated with another pair of said apertures to indicate successively the day of a week for each day of the month indicated by said first named indicating means, and means for preventing said first named indicating means from changing the indications displayed thereby and permitting said second

named indicating means to change its indication.

6. A device of the character described comprising a housing mounted for rotation upon a horizontal axis, said housing having means in the opposite sides thereof whereby indications may be displayed in the same direction successively from said sides by turning said housing a half turn at a time, means within said housing operated by the rotation of said housing a half turn at a time for changing the indications displayed upon each half turn of the housing, and means for preventing the operation of said indication changing means by rotation of said housing.

7. A device of the character described comprising a housing mounted for rotation upon a horizontal axis, said housing having means in the opposite sides thereof whereby indications may be displayed in the same direction successively from said sides by turning said housing a half turn at a time, means slidable within said housing operated by the rotation of said housing a half turn at a time for changing the indications displayed upon each half turn of the housing, and means for preventing the operation of said indication changing means by rotation of said housing.

8. A device of the character described comprising a housing mounted for rotation upon a horizontal axis, said housing having means in the opposite sides thereof whereby indications may be displayed in the same direction successively from said sides by turning said housing a half turn at a time, slidable plates within said housing operated by the rotation of said housing a half turn at a time for changing the indications displayed upon each half turn of the housing, and manually operable means for preventing sliding of said plates when said housing is rotated.

9. A combination of the character described comprising a pair of opposed housing sections having flange portions adapted to cooperate to form a housing, members within said housing for forming a compartment therein, indicating means in said compartment, and a single securing device extending through said sections and members and holding said sections, members, and indicating means in assembled position.

10. A combination of the character described comprising a pair of opposed housing sections having flange portions adapted to cooperate to form a housing, members within said housing for forming a compartment therein, indicating means in said compartment, and a single securing device extending through said sections and members and holding said sections, members, and indicating means in assembled position, said device serving as a pivotal support about which said housing may be rotated.

11. An indicating device having a pair of opposed housing sections having similar apertures in the side walls thereof, telescoping flanges on said sections, a support, a rod extending horizontally thru said flanges, and carried by said support whereby said device may be rotated upon a horizontal axis, means forming a plurality of compartments between said sections, and indicating devices in said compartments adapted to display different indications through said apertures as said device is rotated, said rod holding said compartment forming means in assembled position.

In witness whereof, I hereunto subscribe my name this 18th day of June, A. D., 1928.

JACOB A. SMITH.