Feb. 27, 1951 M. Y. ROSENFELD 2,543,731

PERPETUAL CALENDAR

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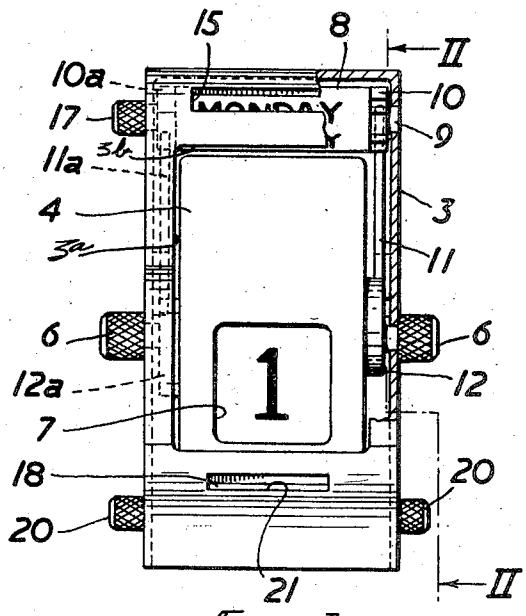


FIG. 1.

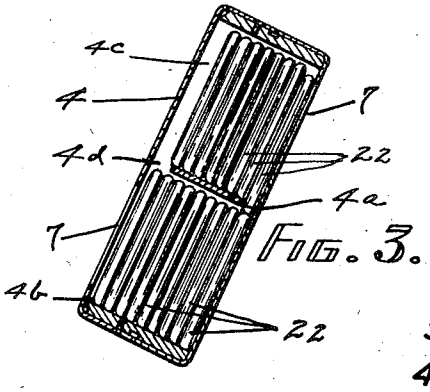


FIG. 3.

FIG. 2.

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PERPETUAL CALENDAR

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3 Claims. (Cl. 40—112)

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This invention relates to perpetual calenders or date indicators of the kind comprising a box or casing rotatable about a horizontal axis and divided by means of a transverse partition into two compartments communicating with one another and each provided with an aperture or window through which the date is displayed. Each compartment contains a number of indicating plates or cards, one of which passes from one compartment to the other through suitably located openings in the partition wall, when the box or casing is rotated, and is exposed at one or other of the windows or apertures.

The object of the present invention is to provide an improved construction of calendar or date indicator of this kind in which not only the date but the day of the week (and if desired the month of the year) also is indicated; the day of the week and the date being changed simultaneously and automatically by the rotation of the box or casing.

The invention consists broadly in providing a rotary drum or roller bearing the days of the week, said drum or roller being operatively connected with the rotary box or casing in such a manner that rotation of said box or casing to change the date also causes rotation of the drum or roller simultaneously and automatically to change the day of the week.

In order that the invention may be more clearly understood one particular embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings wherein—

Figure 1 is a front elevation, partly in section of a calendar according to the invention, and

Figure 2 is a part sectional side elevation thereof taken on lines II—II of Fig. 1.

Figure 3 is a longitudinal view in cross-section of the card holding box.

Referring to these drawings the calendar comprises a housing 3, which housing is provided with an enlarged front opening generally designated at 3a, the opening being defined at its upper edge at 3b and at its lower edge at the broken line 3c, seen in Figure 2. A box or card-containing casing 4 is rotatably mounted within the housing 3 as by means of oppositely disposed stub shafts 5 which extend through the opposite walls of the housing and are fixed to the casing 4 at the medial line thereof. The rotation of the casing 4 is accomplished by means of knurled finger knobs 6 mounted one on each end of the stub shafts 5. The box or casing 4 is divided in known manner by means of a transverse partition

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4a into two compartments, a lower compartment 4b and an upper compartment 4c, as seen in Figure 3, and communicating with one another through passages 4d which are formed by spacing the longitudinal edges of the partition plate away from the opposite walls of the box 4, and each compartment is provided with an aperture or window 7. When the box or casing 4 is in the position shown in Figure 1 one window 7 is at the lower end of the front face of the box 4 and the other window, seen in Figure 3, is at the upper part of the rear face of said box so that when the box is rotated by the stud shafts 5 the window in the rear face is moved into the front position shown in Figure 1 while the window in the front face is moved to the rear. Each compartment of the box 4 contains a number of indicating cards 22, one of which passes from one of the internal compartments to the other through the suitably arranged openings 4d in the partition wall 4a when the box or casing 4 is rotated one half a revolution about its medial axis on the shafts 5, and is thereby exposed at one or other of the windows 7.

In accordance with the present invention a drum or roller 8, having the days of the week indicated thereon, is rotatably mounted on a horizontal shaft 9 in the housing 3 above the box or casing 4. On each end of said shaft 9 is rigidly mounted a ratchet wheel 10 having seven teeth with which engages the hooked end of a vertically reciprocating lever 11 which operates as an actuating pawl as hereinafter described. The opposite or lower end of said lever 11 is connected with a ring or annulus 12 rotatably mounted on eccentrics 13 rigidly mounted on the shafts 5. The hooked end of the reciprocating lever 11 is held in contact with the ratchet wheel 10 by means of a spring 14. A ratchet wheel and an eccentrically mounted actuating lever similar to those shown at 10, 11 and 12 respectively are mounted in a similar manner on the opposite side of the housing 3 as shown at 10a, 11a and 12a on the left hand side of Figure 1.

In operation the date indicated by the calender is altered by rotating the box or casing 4 about its medial axis on the shafts 5 by means of the knurled knobs 6 by one half revolution, that is, by rotating the shafts 5 180°. This brings the window 7 at the rear of the box or casing 4 to the position shown in Figure 1 and at the same time causes a new indicating card to be moved in front of the exposed window in known manner and as above described. Rotation of the shafts 5 as above described will cause the actuating lever

11 to be moved downwards, by reason of its eccentric mounting 12, 13, whereby the ratchet wheel 10, the shaft 9 and drum 8 mounted on it will be rotated by one seventh of a revolution by reason of the engagement of the ratchet wheel 10 by the hooked end of the lever 11. Thus the day of the week indicated in front of window 15 will be changed simultaneously and automatically with the changing of the date indicated in front of window 7. The two eccentrics 13, 13*a* are mounted on the shaft 5 in diametrically opposite position as shown in Figure 2, whereby one only of the two actuating levers 11, 11*a* comes into operation to rotate the drum 8 one seventh of a revolution as above described, during each half revolution of the box or casing 4, that is during each change of date. While one lever 11 or 11*a* operates the "day" indicating drum 8 the other lever 11*a*, 11 is moved into position to operate the "day" drum during the next half revolution of the box or casing 4, or next change of date. In order to ensure that the "day" drum 8 is accurately held in each of its seven positions a spring pawl or catch 16 is provided to engage the ratchet wheel 10 as shown in Figure 1 and said drum 8 is provided with a hand control knob 17 for setting the calender as and when desired.

In the embodiment of the invention shown in the drawings the calender is also provided with a "month" indicator which comprises a drum or roller 18, having the months of the year indicated thereon, rigidly mounted on a shaft 19 rotatable in the housing 3 by means of knurled control knobs 20. The housing 3 is of course provided with a window or aperture 21 through which the "month" is indicated.

I claim:

1. A calender comprising in combination a housing having upper and lower openings in its front face and having an intermediate enlarged opening therein, a box having a window opening in the front wall thereof and positioned below the medial line of the box and a rear window opening in the rear wall of the box positioned above the medial line thereof, and a plurality of indicia-containing cards within the box, rotary stub shafts passing through the housing and fixed to the box along its medial line and on which the latter may be rotated, a rotary drum having indicia printed thereon mounted within the upper portion of the housing and in alignment with the upper opening, ratchets mounted at each end of the drum, and two operating levers eccentrically mounted at each end upon the respective box-carrying stub shafts, the other end of the levers engaging the drum ratchet whereby the drum is moved one step upon each half revolution of the box-carrying shaft.

2. A changeable calendar indicator comprising in combination a supporting housing having an enlarged opening therein, a box having a medial partition therein and containing a plurality of cards said box having an opening in the front wall thereof below the medial line of the box and an opening in the rear wall thereof above the medial line, rotary stub shafts in the housing to which the box is rigidly attached, a rotary drum having a ratchet integral with each end thereof, and operating levers eccentrically mounted on the shafts carrying the box, the upper ends of the levers engaging the respective ratchets to rotate the drum one step upon each half revolution of the box-carrying shafts.

3. The combination recited in claim 2, and a spring pawl mounted on the casing and in engagement with the ratchet to lock the same against reverse rotation.

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The following references are of record in the file of this patent:

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