

March 27, 1962

H. HANDELMAN

3,027,073

COUNTER

Filed Aug. 27, 1957

2 Sheets-Sheet 1

Fig. 1.

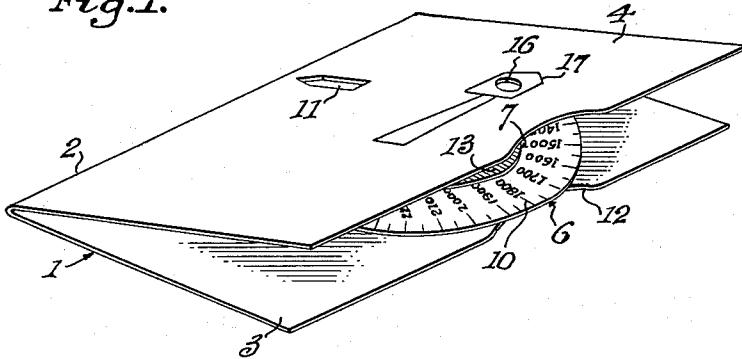


Fig. 2.

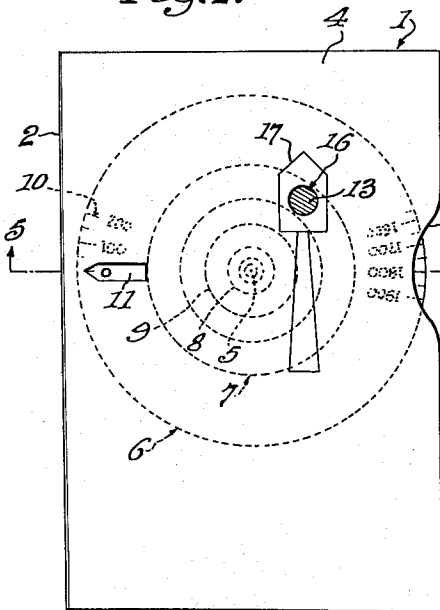


Fig. 3.

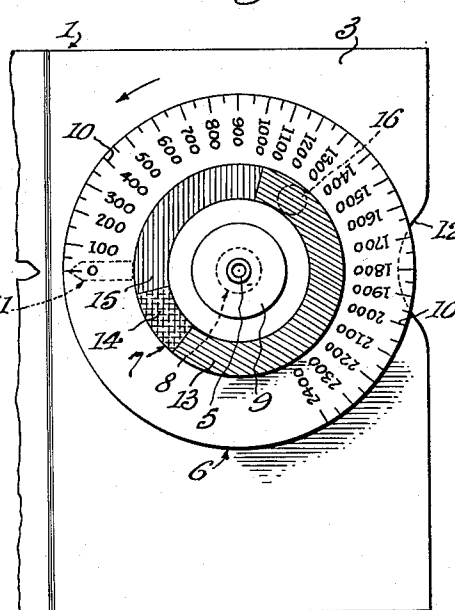
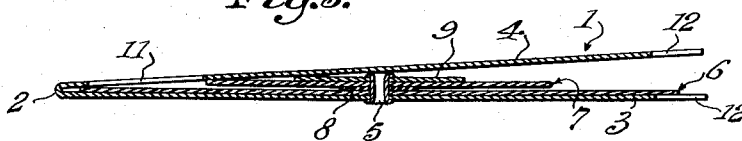


Fig. 5.



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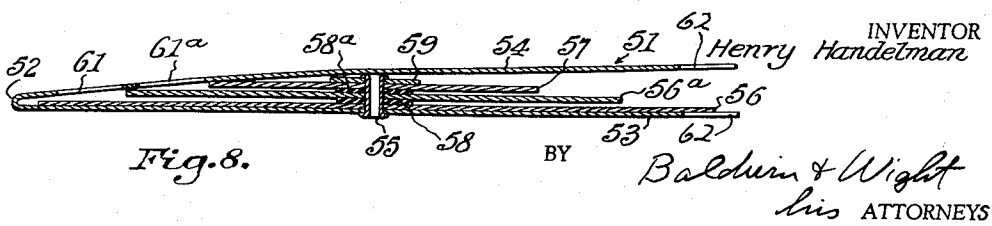
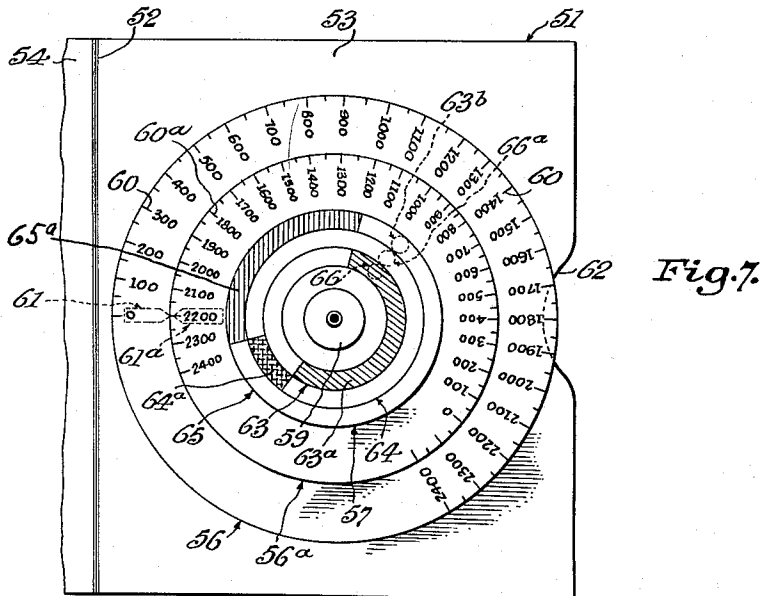
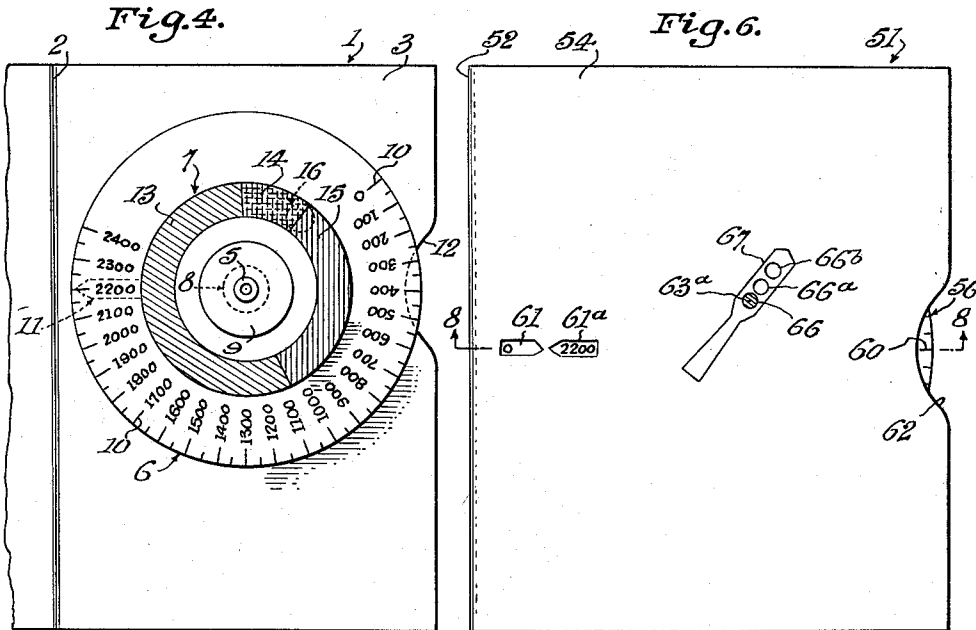
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2 Sheets-Sheet 2



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3,027,073
COUNTER

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3 Claims. (Cl. 235-83)

This invention relates to counters, and more particularly to counters of the general class in which a disk or disks is or are rotatable for bringing different indicia values or markings into registration with a reference point, for example a viewing opening or window in a cover, for exhibiting a running count as it progresses. The invention is especially suited for assisting in keeping a running count of the caloric value of food consumed, say in a day.

Many persons restricted by a doctor's prescription as to diet, particularly with respect to the safe or allowable caloric value of food consumed, have difficulty, sometimes more or less conveniently, in remembering the caloric value of food consumed from time to time during a day. Heretofore, there have been proposed several so called "calorie counters" comprising in general some kind of means for counting or evaluating the caloric values of foods. A general object of the present invention is to provide a counter of the general character referred to which is of improved and simplified construction and scale or indicia markings, which is easy to use, and which is unusually effective in keeping the user informed as to food consumed and the approach to or attainment of the limit allowed for the particular user.

Another object of the invention is to provide a counter of the kind referred to including a scale or scales of caloric values readable in connection with a reference point or points for indicating the caloric value of food consumed, and remaining to be consumed within the prescribed limit, and additionally means for supplementing the scale indication or indications by displaying differently appearing emphasis signals, e.g. green before the caloric value limit is approached, yellow as this limit is being approached, and red when the limit has been reached.

Other objects of the invention will become apparent from the following description, the appended claims, and the accompanying drawings, in which:

FIGURE 1 is a perspective view of one form of counter embodying the invention, a folded base cover or top part being partially open to show interior parts;

FIGURE 2 is a top plan view of the construction shown in FIGURE 1, with the cover closed;

FIGURE 3 is an interior plan view of the base back and parts mounted thereon, a portion of the cover being shown in opened or unfolded position, disk parts mounted on the base back being shown in the positions at which they are set before counting is begun;

FIGURE 4 is a view similar to FIGURE 3 but showing the disk parts in the positions occupied after counting to a predetermined "stop" or limit;

FIGURE 5 is a section on the line 5-5 of FIGURE 2, drawn on an enlarged scale;

FIGURE 6 is a top plan view of a modified construction with the base top or cover closed;

FIGURE 7 is an interior plan view of the construction shown in FIGURE 6, showing the interior disk parts and showing a portion of the base cover unfolded or opened; and

FIGURE 8 is a section on the line 8-8 of FIGURE 6, drawn on an enlarged scale.

The counter construction shown in FIGURES 1-5 includes a base member 1 which may be formed of cardboard, plastic, or similar light sheet material, folded or

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hinged at 2 to provide a base back portion 3 and a base cover or top portion 4, the arrangement being such that the top or cover 4 may be closed upon the back 3 as shown in FIGURES 1, 2 and 5, or may be opened about the hinge 2 as shown in FIGURES 3 and 4.

A pintle constituted, for example, by a grommet 5 secured to the base back 3 mounts two disks 6 and 7 for concentric rotation on the base. A rubber or the like friction material washer 8 is interposed between the disks 6 and 7 and is held in frictional engagement with each of the disks by the grommet or pintle 5 and a retaining washer 9 surmounting the disk 7, the arrangement being such that the washer 8 frictionally couples the disks 6 and 7 for conjoint rotation but permits friction-overcoming relative rotation of the disks when one is held stationary and the other is turned.

The larger disk 6 is provided with arcuately extending scale 10 of indicia values ascending clockwise from a starting reference, as shown "0," over 240° of the disk circumference, the indicia being in increments of 100 from 0 to 2400. The scale is particularly selected for indicating varying numbers of food calories.

The base cover 4 is provided with a registration point which, in the form shown, is constituted by a window or viewing opening 11 positioned to overlie the scale 10. Accordingly, when the disk 6 is first set so that the value "0" registers with the window 11, and when thereafter the disk is rotated counterclockwise an amount corresponding to the number of calories consumed from time to time during the day, the total calories consumed will be indicated by registration of the total caloric value with the window 11. Rotation of the disk 6 is facilitated by forming the base back 3 and cover 4 with notches 12 leaving an edge of the disk easily engageable by a finger.

In accordance with the invention, a signal or emphasizing indication is displayed when the total number of calories consumed has reached a predetermined "stop" consumption value and the disk 6 has been positioned accordingly by successive incremental rotations. By the displaying of such a signal or emphasis indication, a person who might be inclined to miss seeing the approach of the calorie "stop" consumption index on the scale 10 will be abruptly reminded that the limit has been reached and will have no plausible excuse for exceeding the limit. In the construction shown in FIGURES 1-5, the signalling or emphasis indicating means comprises a circle of differently appearing band areas on the disk 7. Preferably, there are provided a green area 13 of 200° circumferential extent, a yellow area 14 of 40° circumferential extent, and a red area 15 of 120° circumferential extent, these colored areas being viewable in connection with a registration point on the cover 4, preferably an opening or window 16.

In considering a typical use of the counter shown in FIGURES 1-5, it may be assumed that the prescribed or selected calorie consumption for a day by a particular user by 2200 calories. To set or prepare the counter for keeping track of calories consumed throughout the day and for insuring that the emphasis signal will be effective when the limit has been reached, the indicia disk 6 may first be positioned to cause the starting reference "0" to show through the indicia disk window 11. The cover 4 is then raised or opened only enough to provide access to the signalling disk 7 which is then turned against the frictional resistance offered by the rubber washer 8 until the clockwise-most end of the red area 15 is a little to the left of the signal window 16, as indicated in FIGURE 3. This setting of the signalling disk 7 is effected while the indicia disk 6 is held stationary with its indicia value "0" registering with the window 11. The parts having been thus relatively positioned, the counter will be pre-

pared for operation. Each time a known amount of calories has been consumed, the indicia disk 6 is turned counterclockwise a corresponding amount. For example, if during the first meal 400 calories are consumed, the disk 6 will be turned counterclockwise until the indicia value "400" appears at the window 11. When another 300 calories has been consumed, the disk 6 is turned counterclockwise 300 more units until the value "700" registers with the window 11, and so on. Thus, the user will be kept informed as to the total calories consumed during the day, and by subtracting the value appearing at the window at any time from the "stop" value such as 2200, may know how much latitude remains for the day.

While the indicia disk 6 is being turned counterclockwise, the signal disk 7 will be turned counterclockwise to the same extent by the frictional connection afforded by the washer 8. Because of the disks 6 and 7 having been relatively positioned or set as previously explained, the yellow area 14 will move in under the signal window 16 just before the 2200 calorie stop limit has been reached. For example, the yellow area will move into registration with the window 16 when about 1800 calories have been consumed, thus signalling or warning the user that about 400 calories will have to do for the remainder of the day. As the remaining 400 or so more calories are thereafter consumed and the disks 6 and 7 are turned accordingly, the yellow area 14 will remain registered with the window 16 so as to afford continuing warning to slow down. Just after the calories consumed and the turning of the disks brings the "stop" value 2200 calories into view through the window 11, the red band area 15 moves into registration with the signalling window 16, sharply informing the user that the total allowable calories have been consumed.

The procedure for pre-setting the disks 6 and 7 described above is applicable specifically only when conditioning the counter with reference to a calorie allowance of 2200. This procedure may, however, be used as a reference basis for determining other settings for different calorie allowances. Suppose, for example, that the counter is to be set for an allowance of 1500 calories. Firstly, it is to be recalled that in the 2200 calorie setting explained above, the disk 6 was set with the "0" at the window 11, and the disk 7 was set relatively to the disk 6 so that the clockwise most edge of the red signal area 15 was just above the window 16. It is noted that when the disk 7 was set in this position, the clockwise most edge of the red area 15 was at 1050 on the scale 10 of the disk 6. This may be used as a reference basis for determining other settings of the disk 7, according to the calorie allowance. Secondly, for conditioning the counter for an allowance of 1500 calories, it is known that the allowance will be $2200 - 1500 = 700$ less than the 2200 reference setting described above. Hence, the "0" on the disk 6 again being initially at the window 11, by setting the disk 7 counterclockwise 700 units from its basic reference setting (1050), the clockwise most edge of the red area 15 will register with 350 on the scale 10. With the disk 7 so set relatively to the disk 6, conjoint counterclockwise rotation of the two disks will bring the red area 15 into registration with the window 16 just as the calorie allotment designation 1500 is brought into registration with the window 11.

Consider a further example, in which the calorie allowance is to be 900. It is readily determined that the disk 7 must be set further in a counterclockwise direction with respect to the disk 6, specifically $2200 - 900 = 1300$ than in the basic reference setting described above. This means that the disk 7 will be turned counterclockwise through 1300 units from the basic reference of registration of the clockwise most edge of the red area 15 with the scale value 1050. This may be accomplished, with the "0" on the disk 6 at the window 11, by turn-

ing the disk counterclockwise until the clockwise most edge of the area 15 registers with "0" on the scale (through 1050) units and then turning the disk 250 scale units beyond "0." This may be accomplished by estimating the extra 250 units, or by observing the movement of another area dividing line on the disk 7, for example the clockwise most edge of the green area 13, through 250 units on the scale. Thus, when the disk 7 has been turned through 1050 units on the disk 6 scale, the clockwise most edge of the red area 15 will be at "0," and the clockwise most edge of the green area 13 will be at approximately 2000. When the disk 7 is turned through the required additional 250 units, the clockwise most edge of the green area 13 will be at 1750. With the disks 7 and 6 so relatively positioned, concurrent rotation of the disks bringing the scale value 900 into registration with the window 11 will simultaneously bring the red area 15 into registration with the window 16.

An even simpler method may be used for setting the disk 7 relatively to the disk 6 so as to cause the red area 15 to show at the window 16 when the prescribed calorie allowance registers with the window 11. Again suppose the allowance to be 900. The disk 6 is first set with the value 900 registering with the window 11. While the disk 6 is held in this position, the disk 7 is set so that the counterclockwise most edge of the red area 15 shows through the window 16. With the disks 6 and 7 remaining in these relative positions, they are turned conjointly until the "0" on the disk 6 shows through the window 11 in the starting position. When the two disks are thereafter conjointly turned counterclockwise, arrival of the scale figure 900 at the window 11 will be accompanied by arrival of the red area 15 at the window 16. Obviously, for any selected calorie allowance, the disk 6 may be set initially with the particular calorie allowance showing at the window 11, the disk 7 then set with the counterclockwise most edge of the red area 15 showing in the window 16, the two disks 6 and 7 then being turned conjointly, with their relative positions maintained, until the starting position is reached with "0" at the window 11.

While the window 13 can serve directly as a starting guide for setting the disk 7 only when the latter is to be set for a calorie allowance of 2200, the disk 7 may nevertheless be set relatively to the disk 6 for other calorie allowances by following procedures similar to those described above with reference to the 1500 and 900 allowances.

Some users may prefer to set the device by trial and error, which would be no great problem, instead of by the more or less analytically based methods described above.

The general appeal and interest arousing qualities of the counter may be enhanced and the warning signals rendered more effective by providing the cover 4 with a representation of a traffic light 17 of which the window 16 may be considered as the usual lens. The particular significance of the colors green, yellow and red appearing at the window 16 in succession will, of course, be well understood by motorists and even pedestrians in whose daily lives traffic lights play such an important part.

The modified construction shown in FIGURES 6, 7 and 8 is basically or generally similar to that described above with reference to FIGURES 1-5, but includes an additional indicia disk for keeping the user informed by a direct reading as to how many of a prescribed number of calories remain for permissible consumption; and also includes a signalling disk marked somewhat differently from the disk 7 so as to cooperate with a base window arrangement including three windows or "lights" more closely simulating common forms of traffic light constructions. The modified construction includes a base 51, again of cardboard or suitable plastic or the like sheet material, folded at 52 to provide a hinge between

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the base back 53 and cover 54. A grommet or other suitable pintle 55 secured to the base back 53 serves rotatably to mount three concentric disks 56, 56^a and 57, a rubber friction washer 58 being interposed between the disks 56 and 56^a, and a rubber friction washer 58^a being interposed between the disks 56^a and 57. A retaining washer 59 surmounting the disk 57 cooperates with the pintle 55 for holding the parts in assembly and for maintaining the disks in frictional engagement with the interposed rubber washers.

The largest disk 56 is provided with an arcuately extending scale 60, similar to the scale 10 shown in FIGURES 3 and 4, which starts at the reference "0" and ascends clockwise through 240° in units of 100 to an extreme upper limit of 2400. The disk 56^a of intermediate diameter, which is positioned between the disks 56 and 57, is formed with a reversed scale 60^a which extends from the reference "0" counterclockwise in units of 100 through 240° to an end limit value of 2400. The base cover 54 is provided with two reference points, as shown openings 61 and 61^a, positioned over the arcuate indicia scales on the disks 56 and 56^a respectively. Rotation of the disks 56 and 56^a for bringing successive values on the indicia scales into registration with their respectively associated openings is facilitated by the provision of notches 62 on the base back 3 and cover 4.

The signal disk 57 is marked with three concentric bands, namely a band 63 having a green band area 63^a of 200° arcuate extent, the remainder of the band 63 being of a neutral color; a band 64 having a yellow band area 64^a of 40° arcuate extent, the remainder of the band 64 being of a neutral color; and a band 65 having a red area 65^a of 120° arcuate extent, the remainder of the band 65 being of a neutral color. The band 63 including the green area 63^a is innermost, the band 64 including the yellow area 64^a is next radially beyond, and the band 65 including the red area 65^a is outermost.

A representation 67 of a conventional three-light traffic light is displayed on the cover 54, and first, second and third windows 66, 66^a and 66^b, appearing as or simulating the traffic light lenses, are located so as respectively to overlie the bands 63, 64 and 65.

In using the construction shown in FIGURES 6, 7 and 8 with the allowable calorie consumption the same as before, that is 2200 calories in a day, the indicia disk 56 of ascending values is positioned so that its value "0" registers with the opening 61, and the indicia disk 56^a of descending values is positioned with its value "2200" displayed at the opening 61^a, the value "2200" on the disk 56^a then also registering with the "0" on the disk 56. The signalling disk 57 is set so that the counterclockwise-most end of the green area 63^a will be just to the left of the traffic light window 66 as shown in FIGURE 7. With the signalling disk so positioned, the areas of neutral color in the bands 64 and 65 will be displayed through the associated windows 66^a and 66^b. Having "the green light" the user may consume calories and turn the disks 56, 56^a and 57 in unison so as to register the total number of calories consumed up to any given time through the opening 61, and concomitantly to register directly the permitted number of calories remaining to be consumed at the opening 61^a. For example, when the value "400" on the disk 56 is displayed at the opening 61 to indicate that 400 calories have been consumed, the value "1800" will be displayed at the opening 61^a to provide a direct indication of how many more calories may be consumed within the permitted allotment. While the three disks are being rotated in unison and before the calorie limit has been closely approached, the green area 63^a will be continuously seen through the first window 66, whereas neutral areas of the bands 64 and 65 will register with the second and third windows 66^a and 66^b respectively. When the calorie limit is approached rather closely, say at about 1800, the green area 63^a will move past the window 66 and the yellow or warning

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area 64^a will move under the window 66^a, thus warning the user that the permitted calorie consumption limit is fast approaching. When the calorie value "2200" arrives at the opening 61 and the value "0" on the reverse 60^a arrives at the opening 61^a, the red band area 65^a will be displayed through the traffic light window 66^b, giving abrupt and final indication that the total permissible calories have been consumed.

In order to condition the counter shown in FIGURES 6, 7 and 8 for calorie allowances other than 2200, e.g. allowances of 1500 and 900, the disks 56 and 57 may be preset relatively to one another, and to the openings 61 and 61^a and to the windows 66, 66^a and 66^b, similarly to the presetting of the disks 6 and 7 relatively to one another and to the windows 11 and 16 as described above with reference to FIGURES 1 to 5. For any presetting of the disks shown in FIGURES 6, 7 and 8, the descending value disk 56^a will be set initially with the calorie allowance thereon registering with the "0" on the disks 56.

Counters embodying the present invention may be so simply and inexpensively constructed of sheet material as to be sold profitably at moderate prices. They provide continuing and easily read indications of the calories consumed to a given time and the calories which may permissibly be consumed during the rest of the day. The warning and stop signals operating in simulation of traffic lights not only provide an extra safeguard against overconsumption, but are capable of creating and maintaining interest in the use of the device with its obvious benefits.

The constructions disclosed embody the invention in preferred forms, but it is intended that the disclosure be illustrative rather than definitive, the invention being defined in the claims.

I claim:

1. In a counter, a base comprising a folded card having a back portion and a front portion freely hinged to said back portion where said card is folded to be movable selectively to closed position substantially parallel to and overlying said back portion and to open position to uncover said back portion; a pair of concentric disks of different diameters; means mounting said disks for rotation on said base back portion with the larger diameter disk between the smaller diameter disk and said base back portion; and a soft rubber or the like friction washer interposed between and separating and frictionally coupling said disks for conjoint rotation but enabling angular adjustment of said disks relatively to each other, said base back and front portions being of a size completely to encompass said small diameter disk when said base front portion is in closed position, and both said disks being rendered accessible for relative rotational adjustment when said base front portion is in open position, one of said disks being an indicia disk provided with arcuately extending scale indicia values ascending from a starting reference and the other of said disks being a signal disk having three concentric band areas, a first of said band areas comprising a portion of neutral color and a green portion, a second of said band areas comprising a portion of neutral color and a yellow portion having one end adjacent one end of said green portion and extending therefrom circumferentially in the direction of ascension of indicia values on said indicia disk, and a third of said band areas comprising a portion of neutral color and a red portion having one end adjacent the other end of said yellow portion and extending therefrom circumferentially in the direction of ascension of indicia values on said indicia disk, said base front portion being formed with an opening for viewing successive individual indicia during rotation of said indicia disk, and first, second and third windows positioned respectively over said signal disk band areas for viewing said band areas during rotation of said signal disk, said windows being so positioned relatively to each other

and to said disks that, when said indicia disk has been set to display said starting reference at said opening and said signal disk has been set relatively to said indicia disk according to a predetermined indicia disk "stop" value, conjoint rotation of said disks will cause ascending value indicia to register successively with said opening while said green band area portion registers continuously with said first window until the indicia disk "stop" value approaches said opening at which time said yellow band area portion moves into registration with said second window, after which said red band area portion moves into registration with said third window substantially simultaneously with arrival of the indicia disk "stop" value at said opening.

2. In a counter, a base comprising a flexible card folded along an intermediate line to form front and back portions of substantially the same areas hingedly connected by the fold therebetween to be moved selectively to closed position substantially parallel to each other and to open position to uncover said back portion, a pair of concentric disks of different diameters, a pivot member passing axially through said disks and through said back portion, and a soft friction washer interposed between said disks and surrounding and contacting said pivot member, said pivot member having one end overlying the face of said back portion remote from said front portion and its other end overlying the face of the disk remote from said back portion, said overlying ends holding said disks and said back portion to each other and maintaining frictional engagement between said washer and the adjacent faces of said disks whereby said disks are conjointly rotatable or separately rotatable against the friction of said washer, the smaller of said disks lying over the larger of said disks at the side thereof remote from said back portion, one disk being an indicia disk having scale indicia values ascending from a starting reference and the other disk being a signal disk having at least two arcuately extending differently appearing band areas, said front portion being formed with windows one of which is for

viewing successive individual indicia during rotation of said indicia disk and the other for viewing said band areas during rotation of said signal disk, said windows being so positioned relative to each other and to said disks that when said indicia disk has been set to display said starting reference and said signal disk has been set relative to said indicia disk according to a predetermined indicia disk "stop" value, conjoint rotation of said disks will display ascending indicia disk values while one signal disk band area continuously registers with its window until the predetermined indicia disk "stop" value is displayed, at which time the other of said signal disk band areas will be displayed to signal the attainment of the "stop" value position of said indicia disk.

3. A counter according to claim 2 wherein said front and back portions, when in closed position, are of such size as to completely house said larger disk, the free edges of said front and back portions being notched to expose an edge portion of said larger disk.

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