March 20, 1951 C. W. BURNS 2,545,763

HOSIERY PAIRER COUNTER

Filed March 7, 1950 2 Sheets-Sheet 1

Fig-3

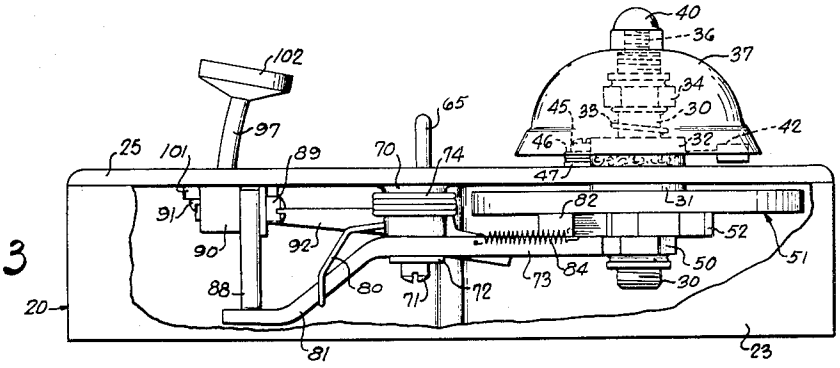


Fig-2

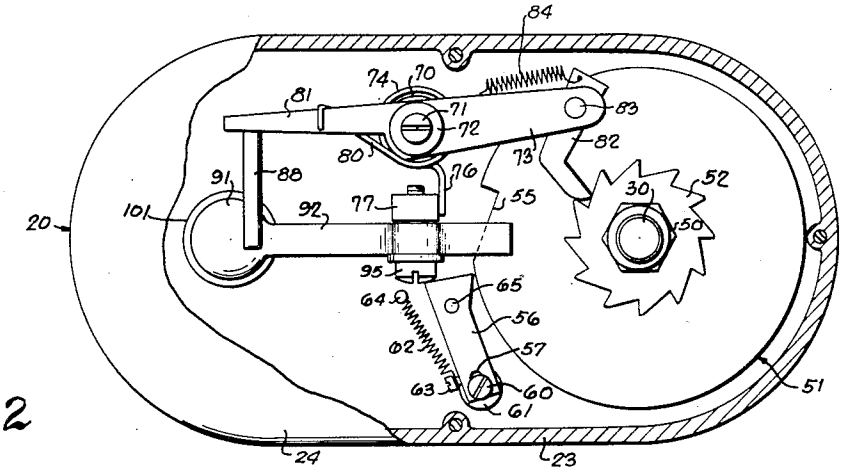
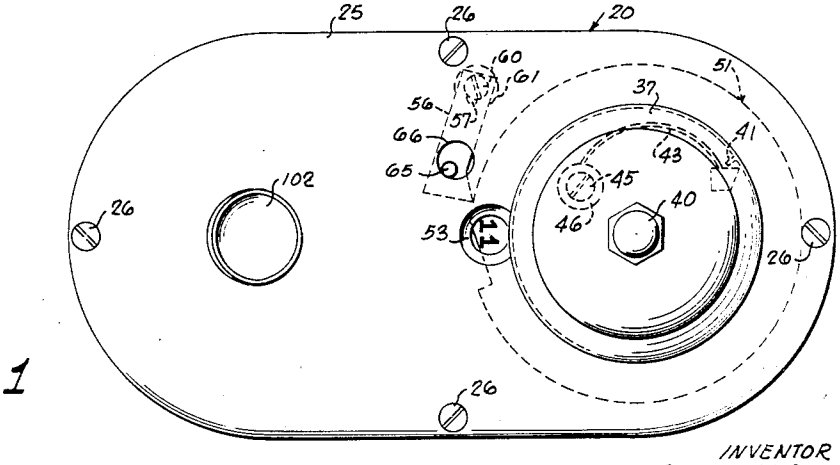


Fig-1



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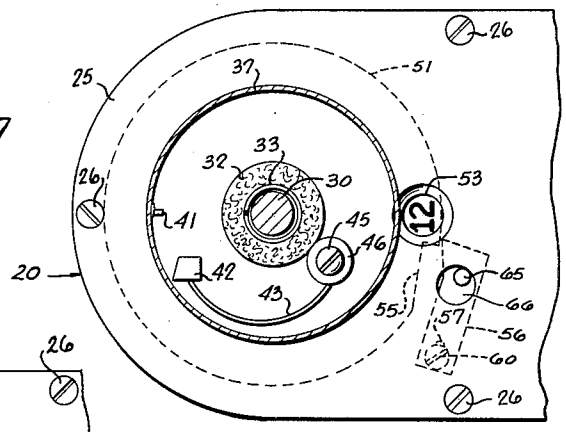
ATTORNEYS.

March 20, 1951 C. W. BURNS 2,545,763

HOSIERY PAIRER COUNTER

Filed March 7, 1950 2 Sheets-Sheet 2

Fig-7



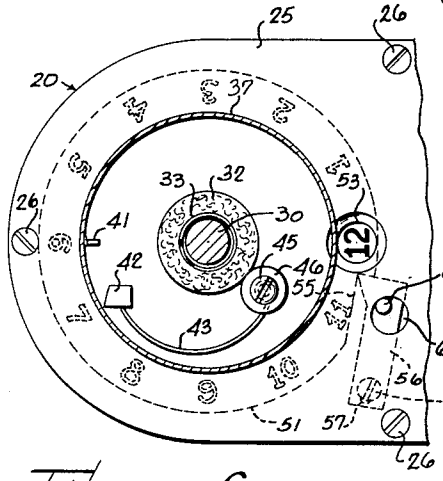


Fig-6

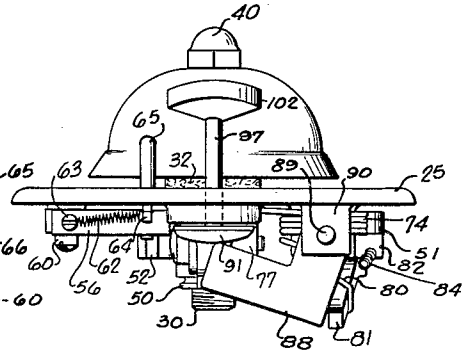


Fig-5

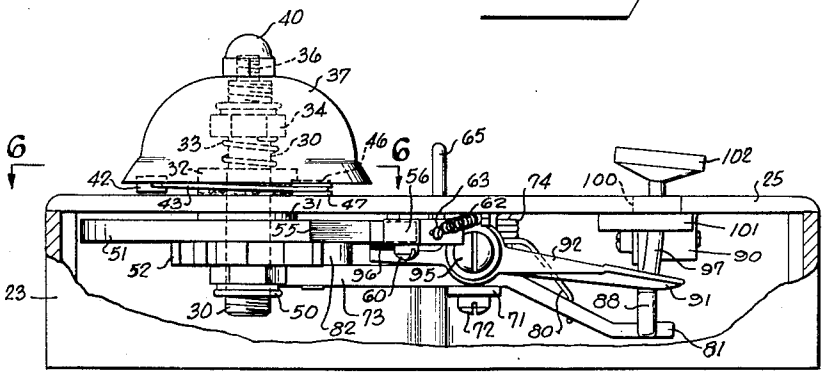


Fig-4

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HOSIERY PAIRER COUNTER

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Application March 7, 1950, Serial No. 148,124

11 Claims. (Cl. 235—128)

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This invention relates to an improved counter apparatus and more especially to a hosiery pairer counter, the primary object of which is to provide a manually operable counter comprising a housing having a cover provided with an opening past which a portion of a rotatable disk is adapted to move as step-by-step rotation is imparted thereto through a manually operable plunger projecting from the cover and the disk having numerals thereon to indicate the number of times the plunger has been depressed by an operator in counting production items such as pairs of hose.

In manufacturing hosiery, pairs of finished hose are packaged or boxed in specified quantities, usually a dozen to a package. Since a considerable number of pairs of hose are processed by a single operator in rapid succession, the operator can very easily make an error in counting the number of pairs stacked to be packaged or processed.

It is, therefore, another object of this invention to provide, in a counter of the type heretofore described, a bell or other signal means automatically operable upon the plunger being depressed a predetermined number of times, say, twelve times, to serve as a warning to the operator that said predetermined number of pairs of hosiery have been processed.

It is another object of this invention to provide, in an apparatus of the type described, means automatically operable, upon the plunger thereof being depressed a predetermined number of times, to automatically lock the disk having the numerals thereon against further step-by-step rotation thereof and to lock the plunger against being depressed and to, further, provide means for quickly releasing the locking means to permit step-by-step rotation to again be imparted to the disk having the numerals thereon as the plunger is depressed in counting the number of pairs processed by an operator.

More specifically, it is another object of this invention to provide a counter comprising a housing having a cover thereon provided with an opening through which a portion of a disk having numerals thereon may be observed and to provide a spring loaded plunger projecting from said cover for manipulation by an operator and having connections between the spring loaded plunger and a ratchet wheel fixed to the disk for imparting step-by-step rotation to the disk. The disk also is fixedly mounted on a shaft projecting through said cover which has a bell or other signaling device mounted on one end thereof, the cover having a suitable hammer or means

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for actuating the signaling device upon a revolution being imparted to the disk and the numerals being arranged in a circle, the diameter of which is such that a complete revolution of the disk will complete a cycle in the series of numerals appearing thereon, moving successively past said opening in the cover.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings in which—

Figure 1 is a top plan view of the improved hosiery counter, showing the hammer for the bell, the indicating disk and the locking means therefor in dotted lines;

Figure 2 is an inverted plan view looking at the opposite side of the hosiery counter shown in Figure 1 with the bottom wall of the hosiery counter being broken away for purposes of clarity;

Figure 3 is a side elevation of the hosiery counter looking at the lower side of Figure 1 with the housing broken away so as to show the parts disposed within the housing;

Figure 4 is an elevation looking at the opposite side of Figure 3 with the housing broken away and showing the plunger and associated parts in a different position;

Figure 5 is an end elevation of the hosiery counter looking at the left-hand side of Figure 3 but omitting the side and bottom walls of the housing;

Figure 6 is a fragmentary top plan view but showing the bell in cross-section and being taken substantially along the line 6—6 in Figure 4;

Figure 7 is a view similar to Figure 6 but showing the locking means for the indicating disk in a different position.

Referring more specifically to the drawings, the numeral 20 broadly designates a casing or housing of the improved hosiery pairer counter and which comprises an endless wall 23 extending upwardly from a bottom 24 preferably cast integral therewith. The upper edge of the endless wall 23 has a cover 25 secured thereon, as by screws 26. The endless wall 23 is shaped to conform to the periphery of the bottom 24 and the cover 25, the bottom 24 and the cover 25 being semi-circular in shape at opposed ends thereof and being flattened at opposed sides thereof. The counting mechanism and the entire operating mechanism therefor is mounted on the cover 25.

Mounted for rotation in the cover 25 is the medial portion of a stub shaft 30 having an

enlarged annular portion 31 integral therewith, the upper surface, in Figures 3 and 4, of which engages the lower surface of the cover 25. A suitable friction washer 32 surrounds the shaft 30 and bears against the upper surface of the cover 25 and is held in frictional engagement therewith by a compression spring 33 encircling the stub shaft 30. The upper end of the compression spring 33 bears against the lower surface of a self-locking nut 34 threadably mounted on the upper portion of the stub shaft 30.

The stub shaft 30 has a restricted threaded upper end portion 36 integral therewith on which a suitable bell 37 is fixedly secured as by a cap nut 40 threadably mounted on the upper end of the restricted threaded portion 36. The bell 37 bears against the shoulder formed by the restricted portion 36 and the lower portion thereof terminates in closely spaced relation to the upper surface of the cover 25. A projection, such as a pin 41, is welded to the interior surface of the bell 37 adjacent the lower edge thereof and, upon rotation being imparted to the bell 37, in a manner to be presently described, the projection 41 will engage a hammer 42 fixed on one end of a spring wire arm 43. The end of the spring wire arm 43 remote from the hammer 42 is fixedly secured to the upper surface of the cover 25, as by a screw 45 having washers 46 and 47 thereon, the wire 43 encircling the screw 45 between the washers 46 and 47 (Figures 3 and 4).

It is thus seen that as the bell 37 moves in a clockwise direction from the position shown in Figure 1 to the position shown in Figure 6, the projection 41 will engage the trailing edge of the hammer 42 flexing the spring wire 43 until the projection 41 will move out of engagement with the hammer 42 thus releasing the hammer 42 to strike the interior surface of the bell 37.

Also fixedly mounted on the shaft 30, as by a self-locking nut 50 threadably mounted on the lower end thereof, is an indicating disk 51 and a ratchet wheel 52. The indicating disk 51 frictionally engages the lower surface of the enlarged annular portion 31 of the shaft 30 and the ratchet wheel 52 engages the lower surface of the indicating disk 51. It is evident that the disk 51 and the ratchet wheel 52 may be keyed to the shaft 30 if so desired, the nut 50 serving to fixedly secure the disk 51 and the ratchet wheel 52 on the stub shaft 30.

The cover 25 has an opening 53 therethrough past which the outer portion of the disk 51 passes as step-by-step rotation is imparted thereto in a manner to be presently described. The upper surface of the disk 51 has a plurality of circularly arranged numerals thereon, the number of numerals coinciding with the number of teeth in the ratchet wheel 52 and there preferably being the numerals from 1 to 12 superimposed thereon. The diameter of the circle formed by the numerals 1 through 12 appearing on the upper face of the disk 51 is such that these numerals will successively pass by the opening 53 to be observed by the operator.

The bell 37 and the disk 51, as well as the ratchet wheel 52, are adjusted relative to each other about the shaft 30 so the highest numeral appearing on the disk 51, which is the numeral 12 in this instance, will be visible through the opening 53 in the cover 25 immediately following the time at which the projection 41 on the bell 37 moves out of engagement with the hammer 42 so the hammer 42 will strike the bell 37 at precisely the time that the numeral 12 appears at the opening 53 as a warning to the operator.

The indicating disk 51 has a notch 55 cut in its periphery and this notch 55 is so positioned on the disk 51 relative to the highest numeral 12 and the projection 41 on the bell 37 so as to be engaged by a locking means comprising the free end of a dog 56 as the disk 51 moves in a clockwise direction in Figures 1, 6 and 7. The dog 56 has a longitudinally extending slot 57 therein which is slidably penetrated by a screw 60, the screw 60 also slidably penetrating a washer 61 and holding the dog 56 in sliding engagement with the washer 61. The screw 60 is threadably embedded and then staked in the top 25 of the housing 20.

The dog 56 is normally urged toward the center of the housing 20 by a tension spring 62 connected, as at 63, to the dog 56 adjacent its slot 57 and connected at its other end, as at 64, to the bottom surface of the cover 25 of the housing 20. The tension spring 62 also urges the free end of the dog 56 into engagement with the peripheral edge of the indicating disk 51 and causes the free end thereof to enter the notch 55 provided therefor in the disk 51 thus restricting rotation of the disk 51 until the dog 56 is moved in a partial clockwise direction in Figure 6 to the position shown in Figure 7, by means of a pin 65 projecting upwardly therefrom. The cover 25 has an opening 66 therein through which the pin 65 extends so as to be accessible to the operator.

Now, as the notch 55 of the disk 51 moves into engagement with the free end of the dog 56, the dog 56 is moved in the direction of rotation of the disk 51 until the wall of the slot 57 therein nearest the free end thereof engages the screw 60. This will restrict further rotation of the disk 51 until the locking means is released by an operator grasping the upwardly projecting pin 65 and moving the same from left to right in Figure 6 or to the position shown in Figure 7, at which time the spring 62 will urge the dog 56 upwardly, in Figure 7, or in a direction opposite to the direction of rotation of the disk 51 with the result that, upon the pin 65 being released by the operator, the free end of the dog 56 will engage the periphery of the disk 51 adjacent the notch 55 and will fail to enter the notch 55. This permits the disk 51 to again be rotated in a step-by-step manner for a complete revolution in a manner to be presently described.

Referring to Figures 2 and 3, it will be observed that the cover 25 has a projection 70 integral therewith and projecting downwardly therefrom which is threaded for reception of a shoulder screw 71 having a washer 72 slidably mounted thereon. The washer 72 is engaged at its upper surface by an oscillatable arm 73 and holds the arm 73 against the lower surface of the projection 70. The projection 70 is encircled by a torsion spring 74, the end adjacent the lower surface of the cover 25 being bent inwardly, as at 76, and engaging a second projection 77 extending from the lower surface of the cover 25. The lower end of the tension spring 74 is bent downwardly and outwardly, as at 80, and engages a downwardly and outwardly projecting portion 81 of the oscillatable pawl arm 73.

The pawl arm 73 has a ratchet pawl 82 oscillatably mounted thereon, as at 83, the free end of which is urged against the teeth of the ratchet wheel 52 by a tension spring 85. The tension spring 84 is connected at one end to a portion of

the ratchet pawl 82 remote from its free end and the other end of the tension spring 84 is suitably connected to the pawl arm 73. The left-hand end of the pawl arm, in Figures 2 and 3, is urged by the torsion spring 74 against the vertical leg of a substantially L-shaped cam member 88, the substantially vertical leg of which is pivotally connected, as by a shoulder screw 89, to a third downwardly extending lug or projection 90 integral with the cover 25. The torsion spring 74 urges the left-hand or free end of the L-shaped cam member 88, in Figure 5, into engagement with a substantially circular end portion 91 of a brake lever 92.

The brake lever 92 is oscillatably mounted intermediate its ends on a screw 95, threadably embedded in the projection 77, and its end remote from the substantially circular portion 91 extends beyond the peripheral edge of the disk 51 and has a suitable friction liner 96 adhesively applied thereto for purposes to be presently described.

Projecting upwardly from the substantially circular portion 91 of the brake lever 92 is a plunger 97, the cover 25 having a slot 100 therein which also extends through a fourth projection 101 on the lower surface of the cover 25 and which slot 100 is loosely penetrated by the plunger 97. The plunger 97 has a finger cap on the upper end thereof which is adapted to be engaged by the forefinger of an operator for moving the plunger 97 downwardly from the position shown in Figure 3 to the position shown in Figure 4.

The plunger 97 is returned from the position shown in Figure 4 to the position shown in Figures 3 and 5 by virtue of the pawl carrying arm 73, the L-shaped cam member 88 and the torsion spring 74, thus causing the substantially circular portion 91 of the brake lever 92 to bear against the lower surface of the projection 101 on the cover 25.

It is thus seen that upon an operator moving the plunger 97 from the position shown in Figure 3 to that shown in Figure 4 and, presuming the free end of the locking dog 56 to be in substantially the position shown in Figures 1, 2 or 7, the substantially circular portion 91 of the brake lever 92 will cause the L-shaped cam member 88 to move in a counterclockwise direction, in Figure 5, thus transmitting movement in a partially clockwise direction to the pawl carrying arm 73 and its associated pawl 82 in Figure 2. The pawl 82 will then impart a step in rotation to the ratchet wheel 52 as well as the other parts fixed on the stub shaft 30, including the disk 51 and the bell 37 (Figure 4).

The length of stroke of the plunger 97 is restricted due to the fact that the friction liner 96 at the end of brake lever 92 remote from the substantially circular portion 91, will engage the lower surface of the disk 51 thus braking the disk 51 and preventing the disk 51 from continuing rotation beyond the stroke imparted thereto by the pawl 82. The stroke of the pawl 82 is such as to move the equivalent of one of the teeth in the ratchet wheel 52. The operator continues to manipulate the plunger 97 by repeatedly depressing the finger cap 102 and then releasing the same to permit the parts to return to the position shown in Figure 3, in the manner heretofore described, until the notch 55 in the periphery of the disk 51 moves into engagement with the free end of the dog 56 to move the same from the position shown in Figure 2 to the position shown in Figure 6 in the manner heretofore described. This will prevent further rotation of the disk 51 at the same time that the projection on the inner surface of the bell 37 causes the hammer 42 to strike the bell 37 to indicate to the operator that the desired number of pairs of hose or other items have been processed.

It will then be necessary for the operator to grasp the pin 65 and move the locking dog 56 from the position shown in Figure 6 to that shown in Figure 7, in the manner heretofore described, to repeat the cycle of operation of the apparatus. It might be stated that the friction material 32 is provided along with the compression spring 33 and the nut 34 (Figures 4, 6 and 7) to resist rotation of the stub shaft 34 and the parts mounted thereon during the interim in which the dog 56 is not in engagement with the notch 55 and during which time the counter may not be in use.

It is thus seen that there is provided an improved counting mechanism having means thereon for indicating, visually, to the operator the quantity of items processed as well as simultaneously sounding a warning and preventing the depressing of the plunger 97 upon a desired number of pairs of hose or other items being processed.

In the drawings and specification, there has been set forth a preferred embodiment of the invention and although specific terms are employed, they are used in a generic and descriptive sense only, the scope of the invention being defined in the claims.

I claim:

1. An improved counter for indicating a predetermined quantity of items as they are processed comprising a housing provided with a cover having at least one opening therein, a shaft rotatably mounted in the housing, an indicating disk fixedly mounted on said shaft within the housing and having a series of numerals thereon, said numerals being arranged in a circle, the radius of which is equal to the distance from the center of said shaft to said opening in the cover, manually operable means for imparting step-by-step rotation to the disk, each step in rotation being equivalent to the distance from center to center of each of said circularly arranged numerals appearing thereon, sound emitting means fixed on said shaft, spring means fixed on said cover and bearing against the sound emitting means and means on said sound emitting means for engaging and flexing said spring means and for releasing said spring means for causing the emission of sound from the sound emitting means at precisely the time that a predetermined numeral on said disk registers with said opening in the cover.

2. An improved counter for counting hosiery and the like comprising a housing having a cover provided with an opening, a shaft rotatably mounted in said cover, a disk fixedly mounted on said shaft and having numerals thereon adapted to successively register with said opening in the cover upon movement of the disk, means for imparting step-by-step rotation to the disk comprising a ratchet wheel fixedly mounted on said shaft, a pawl carrying arm oscillatably mounted on said cover, spring means normally urging said pawl carrying arm away from the ratchet wheel, a spring loaded ratchet pawl oscillatably mounted on one end of said pawl carrying arm and being adapted to be moved into engagement with the ratchet wheel, a substantially

L-shaped cam member slidably engaging the pawl carrying arm at its end remote from the spring loaded pawl and being pivotally connected to said cover and a plunger adapted to engage the L-shaped member for imparting partial rotation thereto and to, in turn, transmit partial rotation to the pawl carrying arm with its pawl thereon to cause the pawl to engage and transmit a step in rotation to the ratchet wheel and the disk having the numerals thereon.

3. An improved counter for counting hosiery and the like comprising a housing having a cover provided with an opening, a shaft rotatably mounted in said cover, a disk fixedly mounted on said shaft and having circularly arranged numerals thereon adapted to successively register with said opening in the cover, means for imparting step-by-step rotation to the disk comprising a ratchet wheel fixedly mounted on said shaft, a pawl arm oscillatably mounted on said cover, spring means normally urging said pawl carrying arm away from the ratchet wheel, a spring loaded ratchet pawl oscillatably mounted on one end of said pawl carrying arm and being adapted to be moved into engagement with the ratchet wheel, a substantially L-shaped cam member slidably engaging the pawl carrying arm at its end remote from the spring loaded pawl and being pivotally connected to said cover, a plunger adapted to engage the L-shaped member for imparting partial rotation to the pawl carrying arm with its pawl thereon to cause the pawl to engage and transmit a step in rotation to the ratchet wheel and the disk having the numerals thereon, a brake lever integral with the plunger and being oscillatably mounted on the cover, and a friction liner fixed on the brake lever and adapted to be moved into engagement with the disk as the plunger is moved manually in transmitting a step in rotation to the disk to restrict rotation of said disk beyond the point to which it is rotated by the pawl engaging the ratchet wheel.

4. An improved counter for counting hosiery and the like comprising a housing having a cover provided with an opening, a shaft rotatably mounted in said cover, a disk fixedly mounted on said shaft and having circularly arranged numerals thereon adapted to successively register with said opening in the cover, means for imparting step-by-step rotation to the disk comprising a ratchet wheel fixedly mounted on said shaft, a pawl arm oscillatably mounted on said cover and spring means normally urging said pawl carrying arm away from the ratchet wheel, a spring loaded ratchet pawl oscillatably mounted on one end of said pawl carrying arm and being adapted to be moved into engagement with the ratchet wheel, a substantially L-shaped cam member slidably engaging the pawl carrying arm at the end remote from the spring loaded pawl and being pivotally connected to said cover, a plunger adapted to engage the L-shaped member for imparting partial rotation thereto to, in turn, transmit partial rotation to the pawl carrying arm with its pawl thereon to cause the pawl to engage and transmit a step in rotation to the ratchet wheel and the disk having the numerals thereon, locking means for restricting further rotation of said disk upon a revolution being imparted thereto comprising said disk having a notch in its periphery located in a predetermined relation to the numerals appearing on the disk, a dog adapted to engage the periphery of said disk and to move into engagement with said notch upon a revolution being completed by the disk, said dog having a longitudinally extending slot therein and means slidably penetrating said slot whereby, upon the notch of said disk engaging the free end of said dog, the wall of said slot adjacent the free end of the dog will be moved into engagement with the means slidably penetrating same, to cause the dog to lock the disk in position, means projecting from said dog and adapted to be engaged by an operator for moving said dog out of engagement with said notch and spring means urging said dog in a direction opposite to the direction of rotation of the disk to move the wall of the slot remote from the free end of said dog into engagement with the means slidably penetrating the same to thus prevent the dog from again moving into said notch in the periphery of the disk until a succeeding revolution has been imparted thereto.

5. An improved counter for counting hosiery and the like comprising a housing having a cover provided with an opening, a shaft rotatably mounted in said cover, a disk fixedly mounted on said shaft and having circularly arranged numerals thereon adapted to successively register with said opening in the cover, means for imparting step-by-step rotation to the disk comprising a ratchet wheel fixedly mounted on said shaft, a pawl arm oscillatably mounted on said cover and spring means normally urging said pawl carrying arm away from the ratchet wheel, a spring loaded ratchet pawl oscillatably mounted on one end of said pawl carrying arm and being adapted to be moved into engagement with the ratchet wheel, a substantially L- shaped cam member slidably engaging the pawl carrying arm at the end remote from the spring loaded pawl and being pivotally connected to said cover, a plunger adapted to engage the L-shaped member for imparting partial rotation thereto to, in turn, transmit partial rotation to the pawl carrying arm with its pawl thereon to cause the pawl to engage and transmit a step in rotation to the ratchet wheel and the disk having the numerals thereon, locking means for restricting further rotation of said disk upon a revolution being imparted thereto comprising said disk having a notch in its periphery located in a predetermined relation to the numerals appearing on the disk, a dog adapted to engage the periphery of said disk and to move into engagement with said notch upon a revolution being completed by the disk, said dog having a longitudinally extending slot therein and means slidably penetrating said slot whereby, upon the notch of said disk engaging the free end of said dog, the wall of said slot adjacent the free end of the dog will be moved into engagement with the means slidably penetrating same, to cause the dog to lock the disk in position, means projecting from said dog and adapted to be engaged by an operator for moving said dog out of engagement with said notch and spring means urging said dog in a direction opposite to the direction of rotation of the disk to move the wall of the slot remote from the free end of said dog into engagement with the means slidably penetrating the same to thus prevent the dog from again moving into said notch in the periphery of the disk until a succeeding revolution has been imparted thereto, and a bell fixedly mounted on said shaft, a projection integral with said bell and a spring loaded hammer engaging the inner periphery of said bell and being secured to the housing, said projection on the bell being positioned in a predetermined re-

lation to the numerals appearing on said disk, which is also fixed on the shaft, whereby, upon step-by-step rotation being imparted to the shaft having the disk thereon and the bell thereon, the projection on the inner surface of said bell will engage and move the spring loaded hammer away from the bell and upon a succeeding step in rotation being transmitted to the shaft, the projection on the bell will move out of engagement with the hammer thus releasing the same and permitting the same to strike the interior surface of the bell causing resonance thereof.

6. An improved counter for counting hosiery and the like comprising a housing having a cover provided with an opening, a shaft rotatably mounted in said cover, a disk fixedly mounted on said shaft and having circularly arranged numerals thereon adapted to successively register with said opening in the cover, means for imparting step-by-step rotation to the disk comprising a ratchet wheel fixedly mounted on said shaft, a pawl arm oscillatably mounted on said cover and spring means normally urging said pawl carrying arm away from the ratchet wheel, a spring loaded ratchet pawl oscillatably mounted on one end of said pawl carrying arm and being adapted to be moved into engagement with the ratchet wheel, a substantially L-shaped cam member slidably engaging the pawl carrying arm at the end remote from the spring loaded pawl and being pivotally connected to said cover, a plunger adapted to engage the L-shaped member for imparting partial rotation thereto to, in turn, transmit partial rotation to the pawl carrying arm with its pawl thereon to cause the pawl to engage and transmit a step in rotation to the ratchet wheel and the disk having the numerals thereon, locking means for restricting further rotation of said disk upon a revolution being imparted thereto comprising said disk having a notch in its periphery located in a predetermined relation to the numerals appearing on the disk, a dog adapted to engage the periphery of said disk and to move into engagement with said notch upon a revolution being completed by the disk, said dog having a longitudinally extending slot therein and means slidably penetrating said slot whereby, upon the notch of said disk engaging the free end of said dog, the wall of said slot adjacent the free end of the dog will be moved into engagement with the means slidably penetrating same, to cause the dog to lock the disk in position, means projecting from said dog and adapted to be engaged by an operator for moving said dog out of engagement with said notch and spring means urging said dog in a direction opposite to the direction of rotation of the disk to move the wall of the slot remote from the free end of said dog into engagement with the means slidably penetrating the same to thus prevent the dog from again moving into said notch in the periphery of the disk until a succeeding revolution has been imparted thereto, and friction means for retarding rotation of said disk comprising an enlarged annular portion of said shaft adapted to slidably and frictionally engage one side of said cover, a friction washer surrounding said shaft and engaging the opposite side of said cover from that which is engaged by the annular portion of said shaft and spring means urging the friction washer into engagement with the corresponding surface of the cover.

7. An improved counter comprising a housing having a cover provided with an opening, a shaft rotatably mounted in the housing and having a disk mounted thereon provided with a plurality of numerals adapted to successively register with said opening, manually operable means for imparting step-by-step rotation to the disk, means for locking and restricting further rotation of the disk upon a revolution being imparted thereto and cooperating means responsive to the rotation of the disk to emit a warning signal at precisely the time that rotation of the disk is prevented by the locking means, said warning means comprising a bell fixed on said shaft and having a projection on the inner surface thereof disposed closely adjacent the cover, a spring loaded hammer adapted to engage the interior surface of said bell whereby as step-by-step rotation is imparted to said disk, like rotation will be imparted to the bell and the projection thereon will engage and move the spring loaded hammer out of engagement with the bell and, upon a succeeding step in rotation being imparted to the bell and the disk, the projection will move out of engagement with the spring loaded hammer to thus release the same, causing the same to strike the bell and to cause resonance thereof.

8. An improved counter comprising a housing having a cover provided with an opening, a shaft rotatably mounted in the housing and having a disk mounted thereon provided with a plurality of numerals adapted to successively register with said opening, manually operable means for imparting step-by-step rotation to the disk, means for locking and restricting further rotation of the disk upon a revolution being imparted thereto and cooperating means responsive to rotation of the disk to emit a warning signal at precisely the time that rotation of the disk is prevented by the locking means, said cooperating means for emitting a warning signal comprising a bell fixedly mounted on said shaft, a projection integral with said bell and a spring loaded hammer engaging the inner periphery of said bell and being secured to the housing, said projection on the bell being positioned in a predetermined relation to the numerals appearing on said disk, which is also fixed on the shaft, whereby, upon step-by-step rotation being imparted to the shaft having the disk thereon and the bell thereon, the projection on the inner surface of said bell will engage and move the spring loaded hammer away from the bell and, upon a succeeding step in rotation being transmitted to the shaft, the projection on the bell will move out of engagement with the hammer thus releasing the same and permitting the same to strike the interior surface of the bell causing resonance thereof.

9. An improved counter comprising a housing having a cover provided with an opening, a shaft rotatably mounted in the housing and having a disk mounted thereon provided with a plurality of numerals adapted to successively register with said opening, manually operable means for imparting step-by-step rotation to the disk, means for locking and restricting further rotation of the disk upon a revolution being imparted thereto and cooperating means responsive to the rotation of the disk to emit a warning signal at precisely the time that rotation of the disk is prevented by the locking means, said warning means comprising a bell fixed on said shaft and having a projection on the inner surface thereof disposed closely adjacent the cover, a spring loaded hammer adapted to engage the interior surface of said bell whereby as step-by-step rotation is imparted to said disk, like rotation will be imparted to the bell and the projection thereon will en-

gage and move the spring loaded hammer out of engagement with the bell and, upon a succeeding step in rotation being imparted to the bell and the disk, the projection will move out of engagement with the spring loaded hammer to thus release the same, causing the same to strike the bell and to cause resonance thereof, and friction means for retarding rotation of said disk comprising an enlarged annular portion of said shaft adapted to slidably and frictionally engage one side of said cover, a friction washer surrounding said shaft and engaging the opposite side of said cover from that which is engaged by the annular portion of said shaft and spring means urging the friction washer into engagement with the corresponding surface of the cover.

10. An improved counter for counting hosiery and the like comprising a housing having a cover provided with an opening, a shaft rotatably mounted in said cover, a disk fixedly mounted on said shaft and having numerals thereon adapted to successively register with said opening in the cover upon movement of the disk, means for imparting step-by-step rotation to the disk comprising a ratchet wheel fixedly mounted on said shaft, a pawl carrying arm oscillatably mounted on said cover, spring means normally urging said pawl carrying arm away from the ratchet wheel, a spring loaded ratchet pawl oscillatably mounted on one end of said pawl carrying arm and being adapted to be moved into engagement with the ratchet wheel, a substantially L-shaped cam member slidably engaging the pawl carrying arm at its end remote from the spring loaded pawl and being pivotally connected to said cover and a plunger adapted to engage the L-shaped member for imparting partial rotation thereto and to, in turn, transmit partial rotation to the pawl carrying arm with its pawl thereon to cause the pawl to engage and transmit a step in rotation to the ratchet wheel and the disk having the numerals thereon, said sound emitting means comprising a bell fixedly mounted on said shaft, a projection integral with said bell and a spring loaded hammer engaging the inner periphery of said bell and being secured to the housing, said projection on the bell being positioned in a predetermined relation to the numerals appearing on said disk, which is also fixed on the shaft, whereby, upon step-by-step rotation being imparted to the shaft having the disk thereon and the bell thereon, the projection on the inner surface of said bell will engage and move the spring loaded hammer away from the bell and, upon a succeeding step in rotation being transmitted to the shaft, the projection on the bell will move out of engagement with the hammer thus releasing the same and permitting the same to strike the interior surface of the bell causing resonance thereof.

11. An improved counter for counting hosiery and the like comprising a housing having a cover provided with an opening, a shaft rotatably mounted in said cover, a disk fixedly mounted on said shaft and having numerals thereon adapted to successively register with said opening in the cover upon movement of the disk, means for imparting step-by-step rotation to the disk comprising a ratchet wheel fixedly mounted on said shaft, a pawl carrying arm oscillatably mounted on said cover, spring means normally urging said pawl carrying arm away from the ratchet wheel, a spring loaded ratchet pawl oscillatably mounted on one end of said pawl carrying arm and being adapted to be moved into engagement with the ratchet wheel, a substantially L-shaped cam member slidably engaging the pawl carrying arm at its end remote from the spring loaded pawl and being pivotally connected to said cover and a plunger adapted to engage the L-shaped member for imparting partial rotation thereto and to, in turn, transmit partial rotation to the pawl carrying arm with its pawl thereon to cause the pawl to engage and transmit a step in rotation to the ratchet wheel and the disk having the numerals thereon, and friction means for retarding rotation of said disk comprising an enlarged annular portion of said shaft adapted to slidably and frictionally engage one side of said cover, a friction washer surrounding said shaft and engaging the opposite side of said cover from that which is engaged by the annular portion of said shaft and spring means urging the friction washer into engagement with the corresponding surface of the cover.

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