April 20, 1937. M. H. MORSE, JR 2,077,767

AUTOMATIC CHECKING OR COUNTING DEVICE

Filed Sept. 20, 1935 2 Sheets-Sheet 1

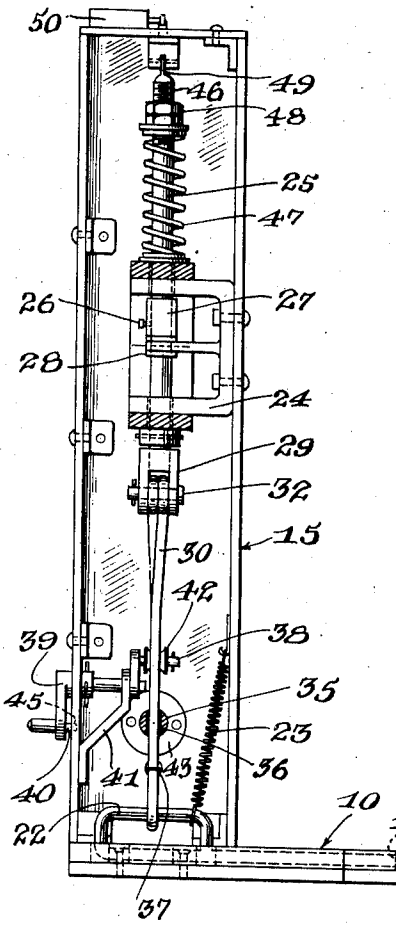


Fig. 1.

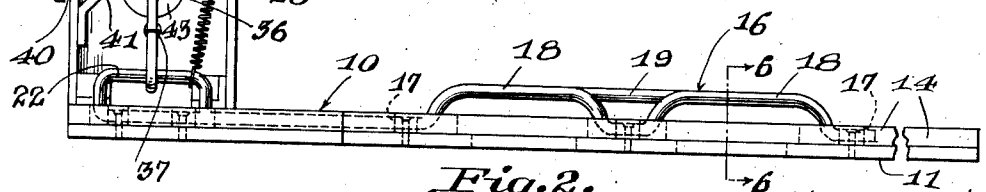
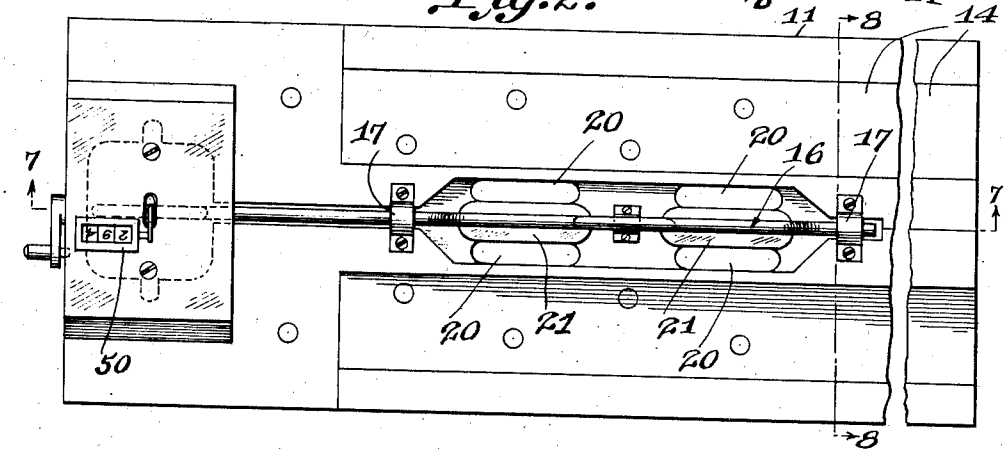


Fig. 2.



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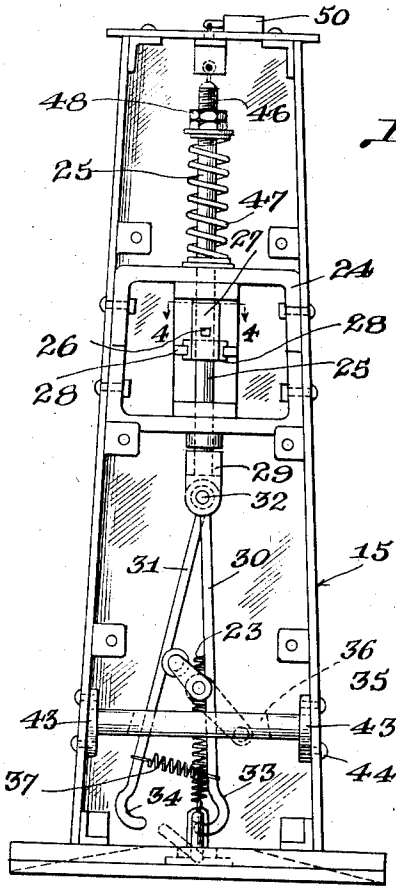


Fig. 3.

Fig. 4.

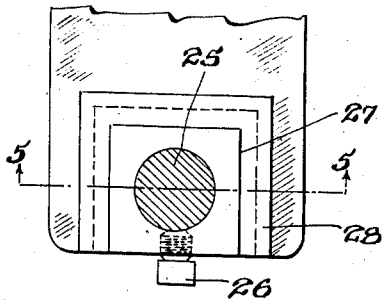


Fig. 5.

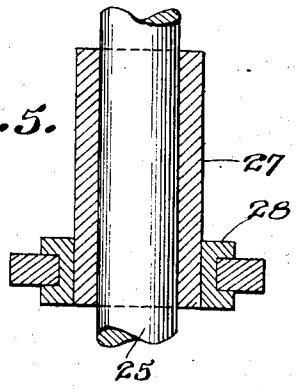


Fig. 6.

Fig. 7.

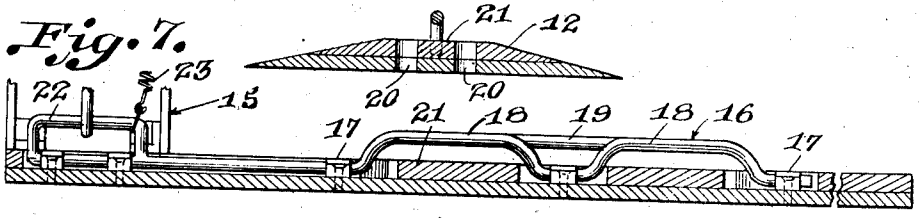
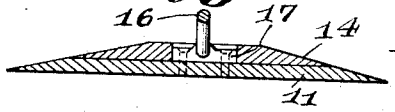


Fig. 8.



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UNITED STATES PATENT OFFICE

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AUTOMATIC CHECKING OR COUNTING DEVICE

Matthew H. Morse, Jr., New Orleans, La.

Application September 20, 1935, Serial No. 41,455

3 Claims. (Cl. 235—99)

This invention relates to automatic checking or counting devices, and more particularly to devices designed to check or count the individual number of articles passing a particular point.

An object of this invention is to provide a checking or counting device which will automatically check the number of persons or conveyances passing a particular point in one direction, the device being so constructed that persons or conveyances passing in the opposite direction will not register on the device.

Another object of this invention is to provide a device of this character which is portable so that it may be used at any point where material is being moved or persons are passing, the device including means whereby the operation of the device can be readily adjusted to count or check material or persons in first one direction and then in the opposite direction.

A further object of this invention is the provision of an automatic checking or counting device which can be readily adjusted so as to check or count material or persons of a given weight or over, the device being inoperative for checking or counting of material or persons of a less weight than that for which the device has been set.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views,

Figure 1 is a detail side elevation, partly in vertical section, of a device constructed according to an embodiment of this invention, one wall of the vertical casing or housing being removed.

Figure 2 is a top plan, partly broken away, of the device.

Figure 3 is an end elevation of the device with the end wall of the housing removed.

Figure 4 is a sectional view taken on the line 4—4 of Fig. 3.

Figure 5 is a sectional view taken on the line 5—5 of Fig. 4.

Figure 6 is a sectional view taken on the line 6—6 of Fig. 1.

Figure 7 is a sectional view taken on the line 7—7 of Fig. 2, and

Figure 8 is a sectional view taken on the line 8—8 of Fig. 2.

Referring to the drawings, the numeral 10 designates generally a base structure which may be made out of a single casting or may be laminated, being constructed with a bottom plate 11 and a pair of spaced apart top plates 12 which may be secured to the bottom plate 11 by rivets 13, by welding or by any other suitable fastening means.

Preferably the base 10 has inclined faces 14 so that a wheeled conveyance may readily run up on the base for checking or registry by the hereinafter described mechanism.

A housing 15 is secured to the base 10 adjacent one end thereof, and this housing may be secured to the base by any suitable means so that the housing 15 will be fixed relative to the base 10.

The base 10 is provided with a treadle or rockable member 16 which is journalled in bearings 17 carried by the base. This treadle or rockable member 16 is constructed in the present instance of an elongated bar or shaft provided with offset portions 18 which will be normally disposed above the surface of the base 10. The adjacent loops or offset portions 18 are connected by a connecting bar 19 so that a relatively straight obstruction will be provided which is adapted to contact with a wheel or wheels of a conveyance or to be otherwise tripped by the passage of a person or persons over the base 10. The base 10 is provided with recesses 20 so that any dirt or other material falling between adjacent edges of the top plates 12 may be readily cleaned out. Filler members 21 are provided between the arms of the offset portions 18 so as to provide a relatively smooth top surface over which the material may be moved.

The member 16 comprises an operating member for the counting or checking mechanism, and one end of the operating member 16 has a crank portion 22 disposed within the housing 15, and a spring 23 is secured at one end to the crank portion 22 and at the other end to the housing 15 in a manner to maintain the crank 22 and the offset portions 18 in raised position at all times.

The housing 15 has a frame structure 24 disposed therein at a point above the bottom thereof, and a vertically slidable rod 25 is slidably carried by the frame 24. Preferably the rod 25 is round, and is secured as by a set screw 26 to a block 27 which slidably engages a guide 28 carried by the frame 24.

The rod 25 is provided at its lower end with a forked member 29, and a pair of reach rods or adjustable connecting links 30 and 31 are secured to the fork 29 by a pin 32, the rods 30, 31 being provided at their upper ends with eyes through which the pin 32 passes.

The rods 30, 31 are of similar construction and are provided at their lower ends with crank engaging hooks 33 and 34 respectively. A guide member 35 extends across the housing 15, being secured to opposite walls of the housing, and this guide member 15 is provided with an elongated slot 36 in which the rods 30, 31 are slidable. A spring 37 is secured at one end to the rod 30 and at the other end to the rod 31, and operates to maintain one or the other of these rods in operative position for engagement with the crank 22. A bell crank 38 is carried by the housing 15 with one portion thereof disposed between the rods 30, 31, and this bell crank 38 is adjusted by means of a second bell crank 39 in the form of a crank handle which extends outwardly of the housing 15. The crank 39 is held in adjusted position by means of a spring-pressed pin 40 engaging in a selected recess provided in a wall of the housing 15. The crank 38 is braced by means of a bracket or bracing member 41. In the present instance the crank 38 has a grooved wheel 42 mounted thereon which is adapted to engage one or the other of the rods 30, 31 so as to hold such rod in inoperative position, as shown in Figure 3. The opposite ends of the guide member 35 are provided with flanged portions 43 which may be secured as by bolts or rivets 44 to the opposite walls of the housing 15. The guide member 35 may also be provided with a stop member 45 at substantially the center thereof so as to maintain one of the rods 30, 31 in vertical operative position while the other rod is held in inoperative position by the holding member 38.

The upper end of the slidable rod 25 is threaded as at 46, and a tensioning spring 47 is disposed about the rod 25, being tensioned by tensioning nuts 48 mounted on the threaded portion 46. The lower end of the spring 47 bears against the top of the frame 24. The upper end of the rod 25 has an eye 49 secured thereto, and this eye 49 is connected to a counting mechanism 50 of conventional character which is mounted on the top wall of the housing 15.

In the operation of this device, the base 10 and the housing 15 are placed in the path of the movement of the material or persons, and the adjusting member 39 is adjusted so as to hold the desired rod 30, 31 out of the path of the crank 22. In this manner rocking of the treadle or operating member 16 in one direction will cause the crank 22 to engage one of the hooks 33, 34, whereas rocking of the operating member 16 in the opposite direction will carry the crank 22 away from the previously engaged hook. For instance if, as shown in Fig. 3 the rod 30 is selected as the operating member for the counting mechanism 50, the hook 33 will be disposed in operative position, whereas the hook 34 carried by the rod 31 will be held in inoperative position by the holding member 38. The spring 47 can be adjusted as to tension by the nuts 48 so that the treadle or operating member 16 will not be active except under a predetermined weight or a weight in excess of the predetermined weight. The bearings for the treadle or operating member 16, and the bearings for the other moving parts may be of an anti-friction construction so that the moving parts may freely move.

This device may be made stationary by fastening the base 10 to a floor or other surface, or if desired the device may be readily moved from one point of operation to another, so that counting or checking may be made at any desired point and without requiring the persons or material to move in any particular path, especially a path which is not a convenient or usual path.

It will be obvious that various changes may be made in the construction, combination and arrangement of parts which could be used without departing from the spirit of our invention, and I do not mean to limit the invention to such details except as particularly pointed out in the claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States is:—

1. In an automatic checking device wherein a rockable operating member actuates a counter through interconnecting means, the combination as a part of said interconnecting means of two movably mounted hooks adapted to engage said rockable operating member from opposite sides, and means positioned relatively to said hooks for selectively moving one or the other hook out of operative engagement with said operating member.

2. In an automatic checking device of the class wherein a rockable operating member actuates a counter through interconnecting means, said interconnecting means including a pair of hooks adapted to engage said rockable operating member from opposite sides and movably mounted to engage and disengage said rockable operating member, yieldable means normally tending to draw both said hooks together into operative engagement with said rockable operating member, and a control means positioned between said hooks and movable in one or the other direction to cause movement of one or the other hook out of engagement with said rockable operating member.

3. In an automatic checking device of the class wherein a rockable operating member actuates a counter through interconnecting means, said interconnecting means including a pair of pivotally mounted hooks having oppositely disposed bills and adapted to swing in opposite directions into and out of operative engagement with said rockable operating member, a manually adjustable control shaft mounted adjacent said hooks, and a crank on said shaft extending between the hooks and operable through said shaft to swing one or the other of the hooks, out of operative engagement with said rockable operating member.

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