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COUNTER ACTUATING MECHANISM

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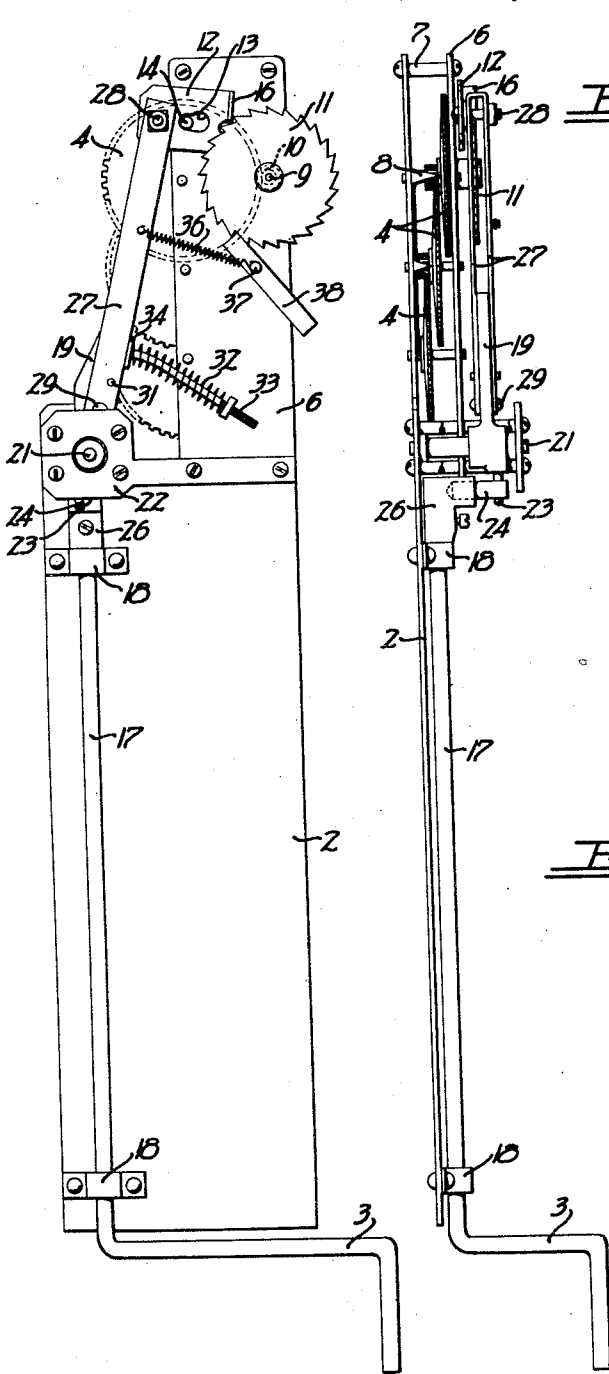


Fig. 1

Fig. 2

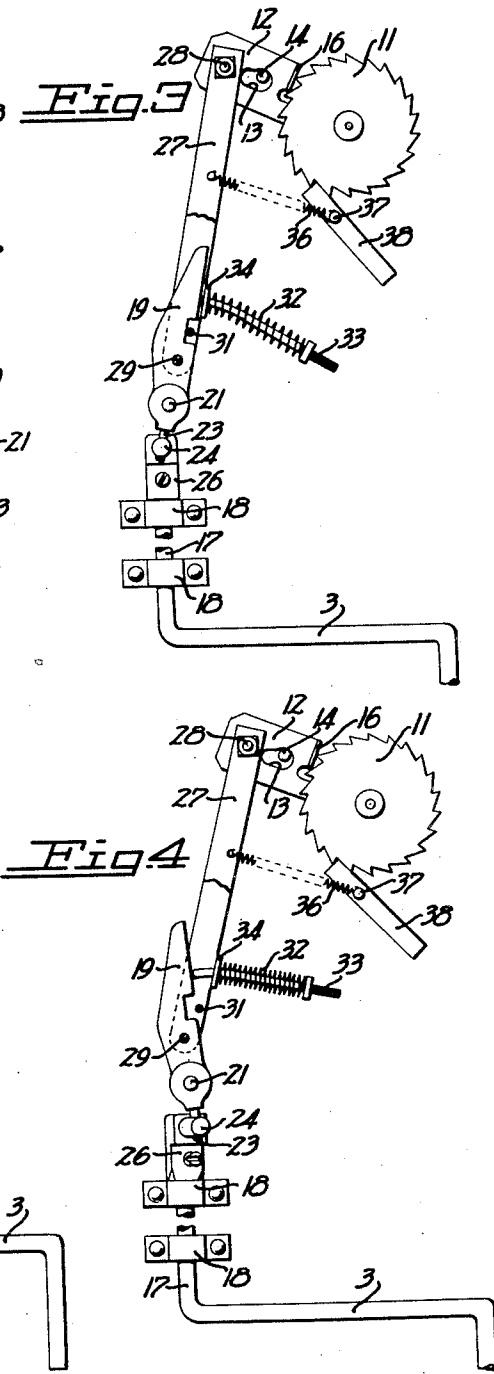


Fig. 3

Fig. 4

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COUNTER ACTUATING MECHANISM

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2 Claims. (Cl. 74-142)

My invention relates to a device for counting articles, such as fruit; and the broad object of the invention is to provide a counter which operates during the initial fractional part of an actuating element movement, so that the latter element is free to move out varying distances, depending upon the size of article passing the element, without interfering with the operation of the counter.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of my invention. It is to be understood that I do not limit myself to this disclosure of species of my invention, as I may adopt variant embodiments thereof within the scope of the claims.

Referring to the drawing:

Figure 1 is a rear elevational view of a counter actuating mechanism embodying the improvements of my invention, showing the pawl and compensating arms in the normally extended position; and

Figure 2 is a side view of the same.

Figure 3 is a fragmentary view showing the operating linkage, portions of the actuating element and connected shaft being omitted to shorten the view, and the outer half of upper compensating arm being broken away to show the linkage more clearly. In this view the pawl is shown retracted but the compensating arms still extended, as would be the condition during the first portion of the actuating element movement.

Figure 4 is a view similar to Figure 3, but showing the compensating arm separated, as would be the condition when the actuating element has moved out further.

In terms of broad inclusion, the counter actuating mechanism embodying my invention comprises a ratchet wheel operatively connected to a counter. A pawl having a relatively short path of movement is provided for turning the wheel, and an element movable by an article to be counted and having a relatively longer path of movement than the pawl, is provided for shifting the latter. Connecting means are provided between the actuating element and pawl, and compensating means is interposed in the connecting means, whereby the pawl is shifted during an initial fractional part of the actuating element movement.

In greater detail, and referring to the drawing, the counter actuating mechanism embodying my invention comprises a plate 2 upon which the counting mechanism and actuating element 3 are mounted. This mounting plate may be arranged

in any suitable position so that the depending portion of the crank shaped actuating element 3 lies in the path of movement of articles to be counted. Thus, for example, the plate 2 may be fastened to a fruit pitting machine, with the depending portion of the actuating element or crank 3 so positioned as to be pushed outwardly when a piece of fruit passes.

A suitable counting mechanism, preferably comprising a series of meshed counting disks 4, 10 is mounted at the upper end of plate 2; and these disks are journaled between the plate 2 and a second plate 6 spaced therefrom by fasteners 7. These disks are suitably marked and cooperate with pointers 8 to count in units and multiples thereof. Shaft 9 of the pinion 10 extends through the back plate 6 and carries a ratchet wheel 11.

This wheel is turned by a pawl 12 which is in the form of a plate having a slot 13 riding on a pin 14 projecting from the back plate 6. A portion of the pawl plate lies behind the ratchet wheel, holding the pawl on its pin, and an out-turned edge 16 of the pawl plate engages a ratchet tooth. Slot 13 limits the pawl to a relatively short path of movement; that is, just enough to drop behind the preceding tooth when the pawl is retracted and rotate the counter disk head one unit when the pawl is extended.

The pawl is controlled by the actuating element 3 through a linkage including a shaft 17 upon which the actuating element is mounted. Shaft 17 extends longitudinally of the plate and is journaled in suitable bearings 18. The linkage also includes compensating means comprising an arm 19 mounted on a shaft 21 extending perpendicular to shaft 17. This shaft is journaled between plate 2 and an extension 22 of back plate 6. Arm 19 derives its movement from shaft 17 by a pin 23 extending through an apertured lug 24 projecting from a fitting 26 fastened to the end of the shaft. By this arrangement arm 19 swings in an arc when shaft 17 is oscillated.

The compensating means also includes a second arm 27 pivotally connected between pawl 12 and the first arm 19. This second arm comprises two side pieces connected at one end to pawl 12 by a pin 28, and at the other end to the intermediate portions of arm 19 by a pin 29. Arm 27 normally lies extended from arm 19, and carries a stop pin 31 against which arm 19 rests in the extended position of the arms. The compensating arms are resiliently held together in extended position by a spring 32 encircling a rod 33 extending from arm 19, the spring being compressed between the outer end 55

