

May 28, 1940.

D. K. BOCK

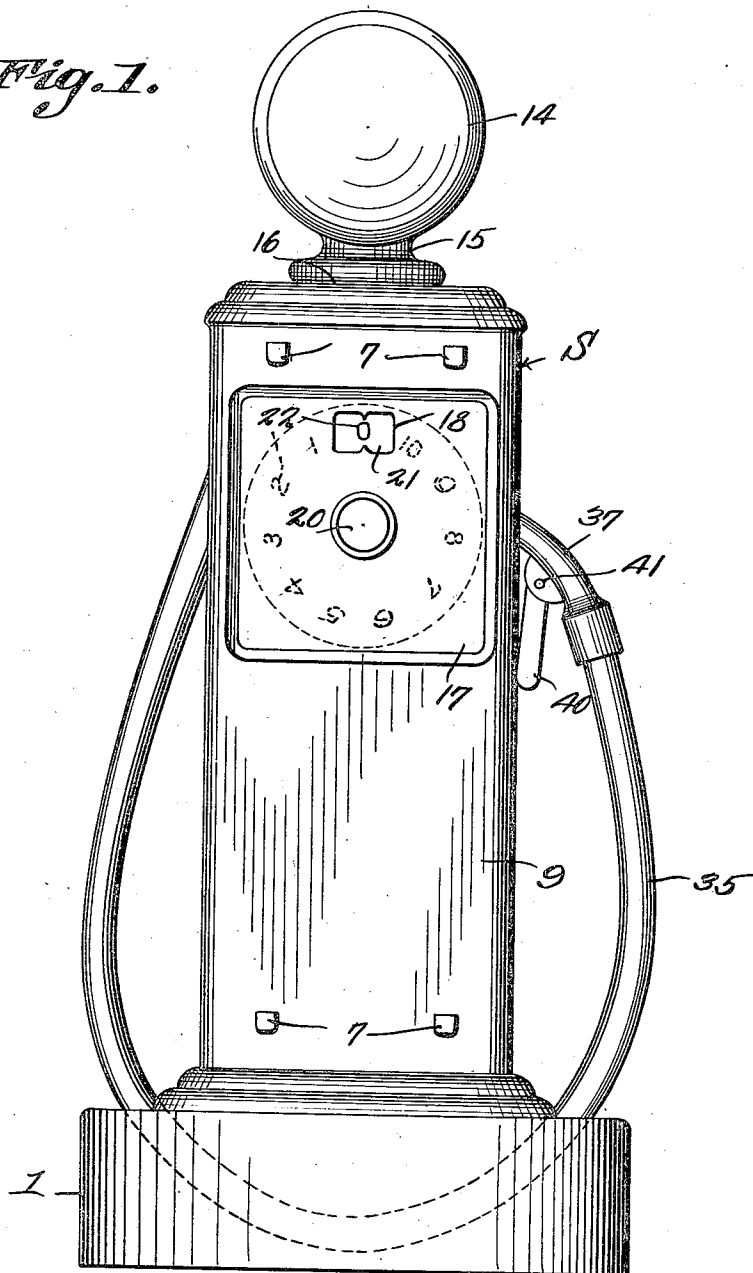
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Fig. 1.



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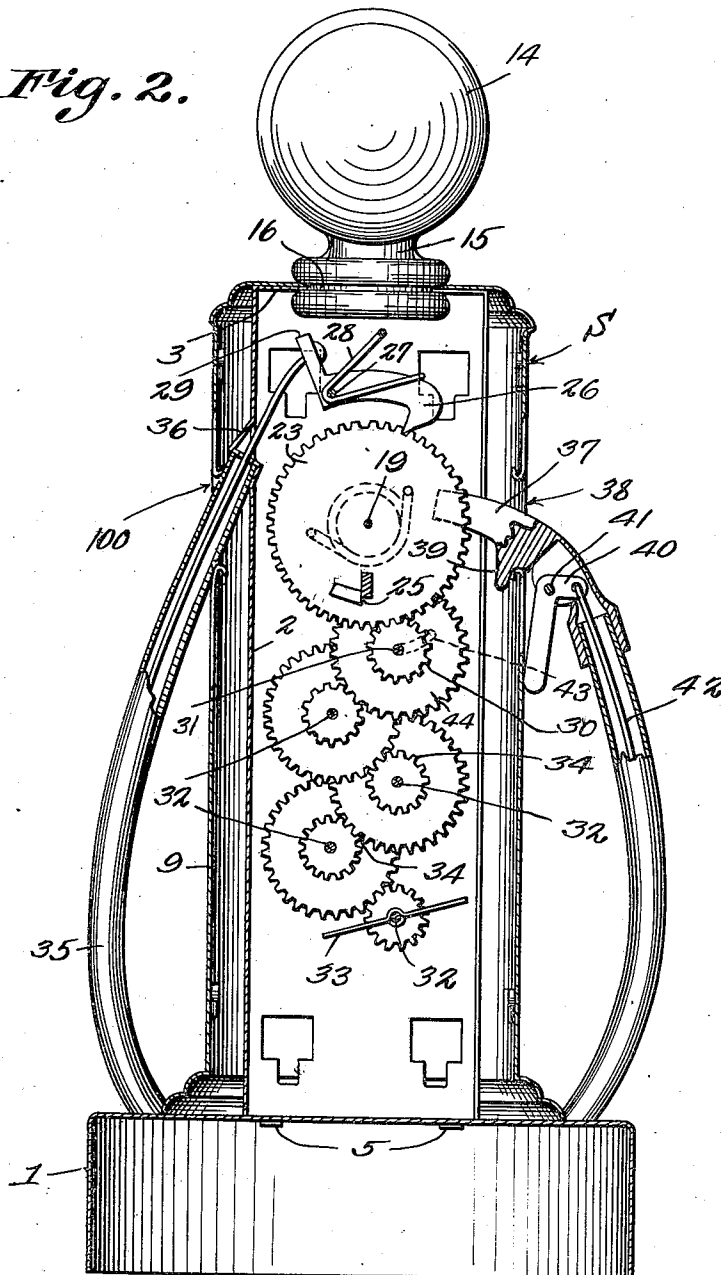
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Fig. 2.



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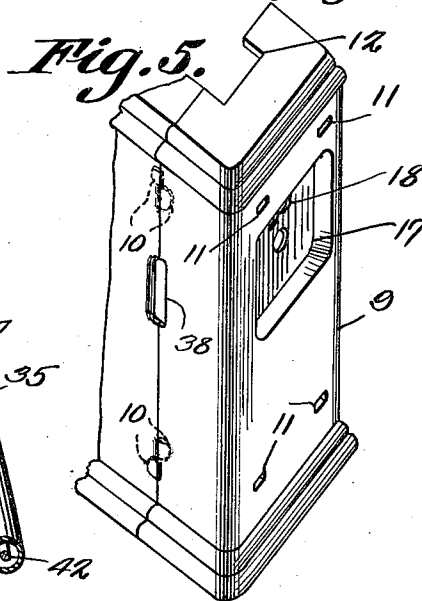
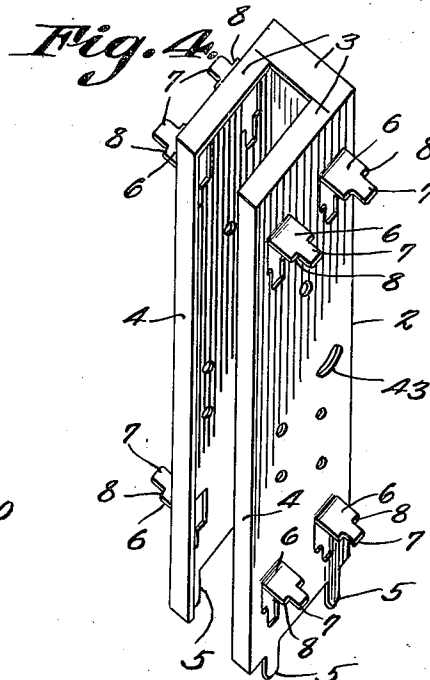
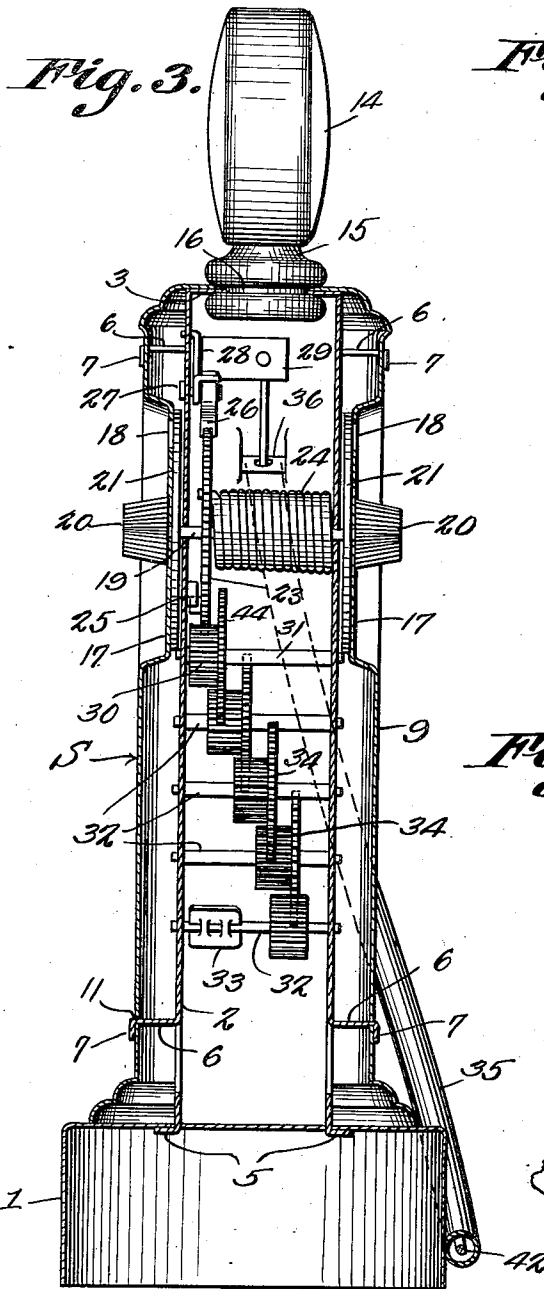
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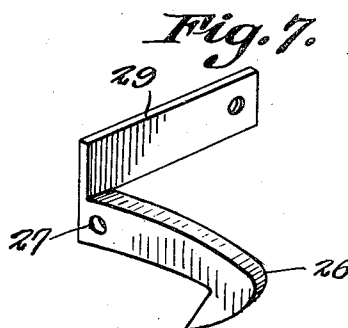
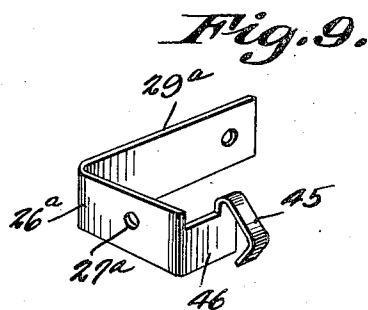
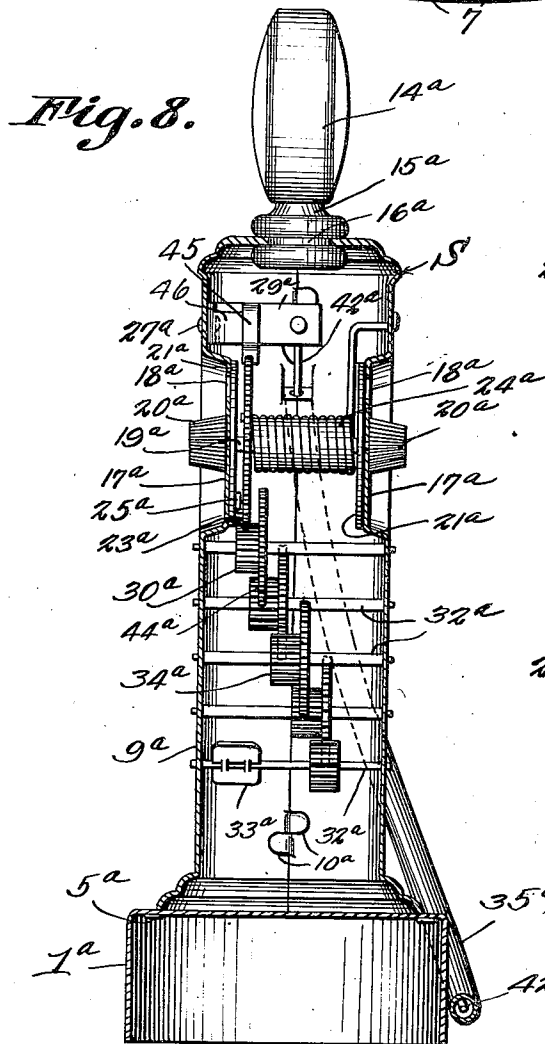
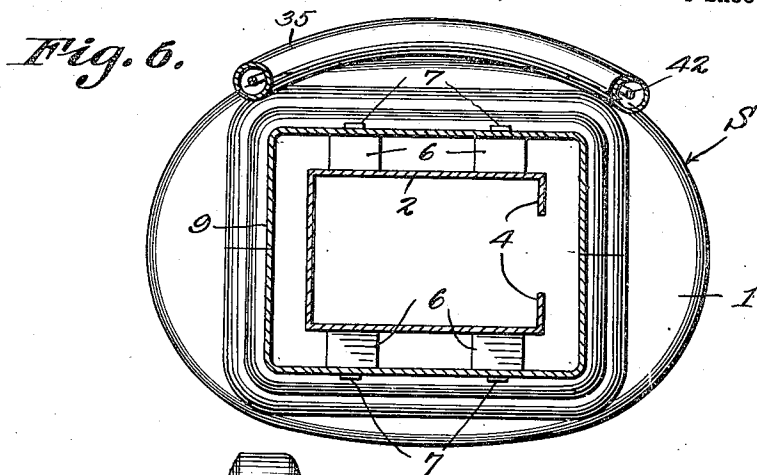
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UNITED STATES PATENT OFFICE

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Application October 26, 1939, Serial No. 301,510

4 Claims. (Cl. 46—39)

The device forming the subject matter of this application is a toy, adapted to reproduce sufficiently for the purposes of amusement, the operations which take place in the manipulation of a dispensing pump for motor fuel.

The invention aims to provide novel means whereby the constituent parts of the device may be assembled readily and be held in operative relation to each other. Another object of the invention is to improve the construction of the mechanism which actuates the indicating dials. A further object of the invention is to supply a simple but effective means under the control of an operator whereby the operation of a dispensing pump may be reproduced in a toy, without the actual use of liquid of any kind.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Fig. 1 shows in elevation, a device constructed in accordance with the invention;

Fig. 2 is a vertical longitudinal section;

Fig. 3 is a longitudinal section at right angles to the cutting plane in Fig. 2;

Fig. 4 is a perspective of the supporting frame;

Fig. 5 is a perspective showing a portion of the pedestal;

Fig. 6 is a transverse section taken through the pedestal and associated parts;

Fig. 7 is a perspective showing the pawl;

Fig. 8 is a vertical section disclosing a modification;

Fig. 9 is a perspective showing the pawl used in connection with that form of the invention which is shown in Fig. 8.

The device forming the subject matter of this application preferably is made of sheet metal and includes a support, denoted as a whole by the letter S. The support S has the general appearance of a dispensing pump for motor fuel. The support S comprises an inverted cup-shaped base 1. An upright, trough-shaped frame 2, shown in Fig. 4, is supported on the base 1

and is provided at its top with an inwardly projecting flange 3. For the reenforcement of the frame 2, it may be provided on its longitudinal edges with inwardly projecting flanges 4. The frame 2 is equipped at its lower end with downwardly extended tongues 5, which are extended through holes in the top of the base 1, the tongues being clinched against the top of the base. Wings 6 are struck outwardly from the sides of the frame 2, the wings having reduced tongues 7 defining transverse shoulders 8.

A hollow pedestal 9 is supported on the base 1 and is disposed about the frame 2. As indicated in Fig. 5, the pedestal 9 is composed of two laterally separable parts, having inwardly offset lugs 10, the lugs of one part overlapping the inner surface of the other of said parts, to hold them in alinement. The parts of the pedestal 9 are supplied with openings 11, shown in Fig. 5. The shoulders 8 of the wings 6 on the frame 2 engage the inner surface of the parts of the pedestal 9, the tongues 7 being extended through the openings 11, and being clinched down on the outer surface of the parts of the pedestal 9, as Fig. 1 will show. The pedestal 9, therefore, is securely anchored upon the frame 2. The parts of the pedestal 9 are supplied at their upper ends with cooperating notches 12, one of which is shown in Fig. 5. The top of the pedestal 9 rests on the top flange 3 of the frame 2, as can be seen in Fig. 3.

The numeral 14 indicates an ornamental head provided with a reduced neck 15 having a circumscribing groove 16. The transversely-slit flange 3 of the frame 2 of Fig. 4 is turned in and engaged in the groove 16, and when the parts of the pedestal 9 (Fig. 5) are fitted together, the notches 12 in the upper ends of the parts 9 will cooperate with the groove 16. Thus, the head 14 is held securely assembled with the upper part of the support S, as shown in Fig. 3. Near its upper end, the pedestal 9 is provided with oppositely disposed, inset face plates 17, having openings 18. A winding shaft 19 is journaled for rotation in the face plates 17 and in the sides of the frame 2. Turning buttons 20 are secured to the ends of the shaft 19, outwardly of the face plates 17. Dials 21 are secured to the shaft 19, inwardly of the face plates 17, the dials being provided with numerals 22 which, when the shaft 19 is rotated, are made visible through the openings 18, as in Fig. 1.

A gear wheel 23 is secured to the shaft 19, within the frame 2. A helical spring 24 is disposed about the shaft 19, one end of the spring

being connected to the gear wheel 23, the opposite end of the spring being connected to the frame 2. The tendency of the spring 24 is to rotate the shaft 19 and cause the zero of the scale 22 to retire from the opening 18, a numeral on the scale appearing at the opening, to denote the number of gallons of fuel dispensed. One of the side portions of the frame 2 and the gear wheel 23 are furnished with coacting transverse projections 25, clearly shown in Figs. 2 and 3. The function of the projections 25 is to stop the rotation of the dial 21, with the zero mark exposed at the reset, and to stop the rotation of the dial when the highest numeral thereon is exposed.

By means of either of the buttons 20, the shaft 19 may be rotated until any selected one of the numerals 22 on the dial 21 appears at the opening, but the buttons are used generally to reset the dials 21 to zero. After the shaft 19 has been rotated by an operator as aforesaid, it is desirable to hold the shaft against rotation, responsive to the spring 24. This is accomplished through the instrumentality of a pawl 26, adapted to engage the gear wheel 23, the pawl appearing in place in Figs. 2 and 3, and in detail in Fig. 7. The pawl 26 is pivotally mounted at 27 on the frame 2, and is urged by a frame-carried spring 28 to cooperate with the gear wheel 23. The pawl 26 has a laterally extended arm 29, forming part of the means whereby the pawl is released, at the will of an operator, from the gear wheel 23. That means will be discussed hereinafter.

The gear wheel 23 on the shaft 19 meshes with a pinion 30 on the initial shaft 31 of a governor train comprising as many other shafts 32 as may be considered expedient or necessary, the shafts 32 being mounted to rotate in the frame 2, the ultimate one of the shafts 32 being provided with an air-beater 33. The gear and pinion connections 34 between the shafts of the governor train are no more than conventional clock-work details, which need not be described element by element, in view of the showing of Fig. 3.

As to the means whereby the pawl 26 is released from the combined gear and ratchet wheel 23, it will be observed when Fig. 2 is noted, that one end of a flexible guide and shield 35 extends through an opening 100 in the pedestal 9, the guide being connected by any suitable means 36 to the frame 2. The guide 35 is fashioned to simulate the flexible dispensing hose of a gasoline pump. At its free end, the guide 35 carries a dummy nozzle 37, adapted to be inserted into an opening 38 (Fig. 2) in the pedestal 9, the nozzle having a suspension lug 39, engaged releasably with the pedestal. The holes 38 and 100 are in the same horizontal axis, to promote reversability in assembly.

An operating member, such as a bell crank lever 40, is fulcrumed at 41, on the nozzle 37. A flexible element 42, which may be a piece of wire, extends through the guide and shield 35, one end of the flexible element being connected to the bell crank lever 40, and the opposite end of the flexible element being connected to the arm 29 of the pawl 26.

The operation of the toy is as follows. The operator lays hold of one of the turning buttons 20 and rotates the shaft 19 backwardly until the zero mark on the dial 21 appears at the opening 18 of Fig. 1. The shaft 19 and the dials 21 are held against forward rotation by the coaction between the pawl 26 and the gear wheel 23.

Having set the machine to zero, the operator takes the nozzle 37 out of the opening 38 in the pedestal 9 (Fig. 2) and proceeds to imitate the filling of a gas tank on a car. At the appropriate time, the bell crank lever 40 is actuated and the flexible element 42 releases the pawl 26 from the gear wheel 23. The shaft 19, responding to the spring 24, rotates until the proper numeral on the dial 21 appears at the opening 18, or until the projections 25 coact, with the highest numeral on the dial exposed at the opening.

A salient and important feature of the invention remains to be discussed. It will be observed that the ends of the initial shaft 31 of the governor train shown in Fig. 3, are mounted to turn in inclined, upwardly prolonged bearing slots 43, formed, as shown in Fig. 4, in the side walls of the frame 2. When the operator turns the shaft 19, by way of the buttons 20, to set the dials 21 at zero position, the ends of the shaft 31 of Fig. 3 rise in the slots 43. By this operation, the gear wheel 44 on the shaft 31 is moved out of mesh with its fellow on the shaft 32 next below. Consequently, when the operator resets the dial 21 to zero, it is not necessary to actuate the entire governor train of Fig. 3. When the buttons 20 are released, the shaft 31 moves downwardly in the slots 43 of the frame 2, and the gear wheel 44 resumes its mesh with the lower part of the governor train.

In the modification shown in Figs. 8 and 9, parts hereinbefore described have been designated by numerals already used, with the suffix "a." In this form of the invention, the frame 2 of Fig. 4 is omitted, and the pedestal 9a is used to mount the shafts and associated parts, the head 14a being assembled solely with the pedestal. Since the frame 2 is omitted, and since the pawl member 26a is pivoted at 27a on the laterally-separable pedestal 9a the element 45 that engages directly with the gear wheel 23a is located on an inwardly projecting arm 46, forming part of the pawl member 26a. The structure shown in Fig. 8 presents no peculiarities of operation that need be discussed, in view of what has been stated hereinbefore respecting the form disclosed in Fig. 3.

What is claimed is:

1. In a toy simulating the appearance and gross operation of a filling station pump for dispensing motor fuel, a support, a shaft journaled in the support, an indicator carried by the shaft, means for rotating the shaft in one direction, spring-actuated means for rotating the shaft in an opposite direction, retaining means releasably holding the shaft against the impulse of the spring-actuated means, in a position to which it may have been rotated by an operator, a flexible sheath permanently assembled at one end with the support, means for establishing a detachable suspension connection between the opposite end of the sheath and the support, an operating member slidable through the sheath and connected to the retaining means, and an actuating member connected to the operating member and movably mounted on the sheath.

2. In a toy simulating the appearance and gross operation of a filling station pump for dispensing motor fuel, a support, a shaft journaled in the support, an indicator carried by the shaft, means for rotating the shaft in one direction, spring-actuated means for rotating the shaft in an opposite direction, retaining means releasably holding the shaft against the impulse of the spring-actuated means, in a position to which it

may have been rotated by an operator, a flexible sheath assembled with the support, an operating member slidably associated with the sheath and connected to the retaining means, and a retarding mechanism comprising a second shaft and gears connecting the shafts, the support having inclined slots receiving the second shaft and serving, when the first-specified shaft is rotated by an operator, to move the gears out of engagement, thereby rendering it unnecessary for an operator to actuate the retarding mechanism.

3. In a toy simulating the appearance and gross operation of a filling station pump for dispensing motor fuel, a support, a shaft journaled in the support, an indicator carried by the shaft, means for rotating the shaft in one direction, spring-actuated means for rotating the shaft in an opposite direction, retaining means releasably holding the shaft against the impulse of the spring-actuated means, in a position to which it may have been rotated by an operator, a releasing mechanism for the retaining means, and a retarding mechanism comprising a second shaft

and gears connecting the shafts, the support having inclined slots receiving the second shaft and serving, when the first-specified shaft is rotated by an operator, to move the gears out of engagement, thereby rendering it unnecessary for an operator to actuate the retarding mechanism.

4. In a toy simulating the appearance and gross operation of a filling station pump for dispensing motor fuel, a support including a base, an upright, a laterally opening trough-shaped frame provided at its upper end with a laterally opening notch, means for connecting the lower end of the frame to the base, a support about the frame and comprising laterally separable parts provided at their upper ends with cooperating notches defining an opening, means for attaching the said parts of the support to the frame, a head provided with a circumferential groove received in the opening of the support and in the notch of the frame, and a dummy indicator mounted on the frame and under the control of an operator.

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