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TOY GASOLINE PUMP

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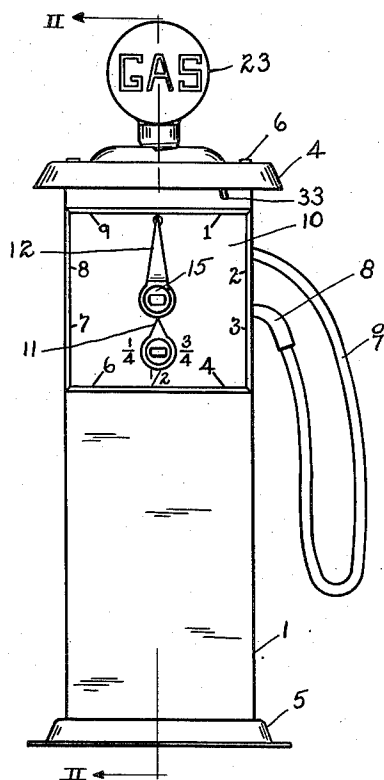


Fig. I.

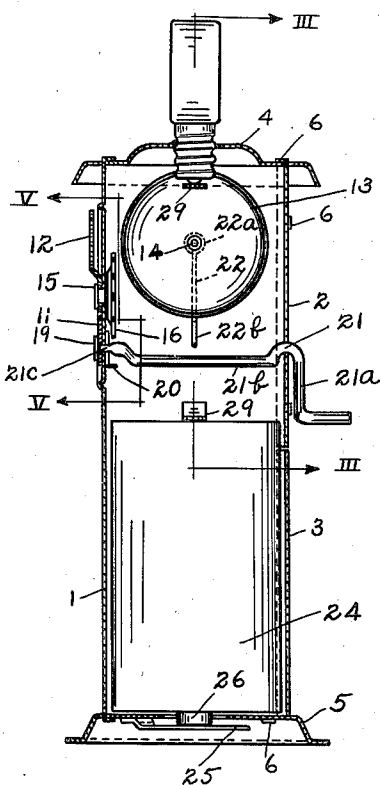


Fig. II.

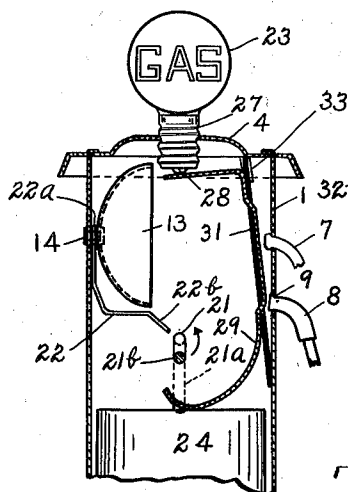


Fig. III.

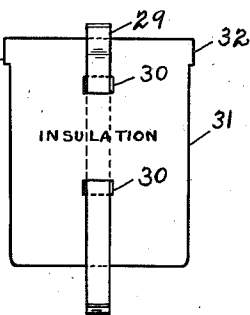


Fig. IV.

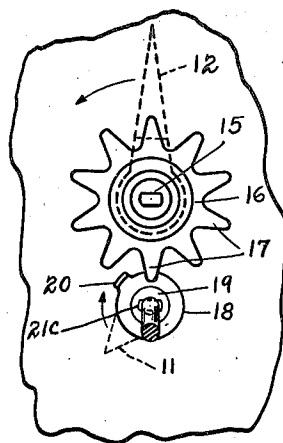


Fig. V.

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TOY GASOLINE PUMP

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6 Claims. (Cl. 46—1)

My invention relates to a toy, and more particularly to a toy gasoline pump.

The toy is a miniature of the large gasoline dispensers used in automobile service stations.

5 The toy is relatively small; in this case the toy is six inches in height, whereas the gasoline dispenser it simulates is from six to eight feet in overall height. The toy includes an electrically lighted globe, a dry-cell battery for energizing
10 the light, a dial, and two indexes, a bell or gong, and mechanism for rotating the indexes and sounding the gong upon each revolution of one of the indexes.

15 The invention consists, first, in a particularly effective organization of the above-recited elements in the relatively small vertical body of a toy gasoline pump; and, second, in a simplified and inexpensive mechanism for rotating the indexes and sounding the gong.

20 In the accompanying drawing, Fig. I is a view in front elevation of a toy pump embodying the invention; Fig. II is a sectional view of the same, taken on the plane II—II of Fig. I; Fig. III is a fragmentary, sectional view of the pump, taken
25 on the plane III—III of Fig. II; Fig. IV is a view in elevation of a particular element of the structure; and Fig. V is a fragmentary view, showing a portion of the dial-rotating mechanism to larger scale, and in elevation on the
30 plane V—V of Fig. II.

Referring to the drawing, the toy comprises a vertical body or housing 1 of rectangular cross-section. The front wall and the two side walls of the body are fashioned of a single rectangular
35 piece of light gauge sheet metal—say sheet steel—bent into a sharp cornered U-shape in section, and the back wall is formed in two pieces 2 and 3, as may be seen in Fig. II. A top 4 and a base 5 are pressed from sheet metal and assembled with the body 1, by means of the usual
40 tongue-and-slot fastenings (6) known to the art.

As a matter of fact, the toy in this case is not adapted to dispense liquid, but the flexible hose
45 of the standard gasoline pump is in appearance duplicated in my structure by means of a small rubber tube 7. The inner end of tube 7 is secured in an orifice in one of the side walls of the housing 1; a nozzle 8 is carried by the outer
50 end of the tube; and an orifice 9 is provided in the side wall, whereby the nozzle may be removably secured to the body of the pump, as indicated in Figs. I and III.

55 A dial 10 is provided on the front wall of the housing, and two indexes 11 and 12 are rotatable

over the face of such dial. One rotation of the small index 11 indicates the imaginary output of one gallon through the tube 7, and each complete rotation of index 11 is effective to advance
5 the normally stationary index 12 from one calibration on the dial to the next. That is, the smaller index indicates units, while the larger totals the units. Within the housing and adjacent its top 4, a gong 13 is mounted, in this case
10 by means of a rivet 14 secured in the wall of the housing, and means are provided for rotating the indexes 11 and 12, and for automatically ringing the gong each time that the index 11 moves, during such rotation, through 360 degrees.
15 That is to say, the gong rings each time that an imaginary gallon is dispensed.

The larger index 12, is secured to the outer end of a tubular rivet 15; the rivet is rotatable in the front wall of the housing 1, and carries at its inner end, within the housing, a wheel 16
20 provided with radial teeth 17 (Fig. V). The rivet 15 unites the index 12 and wheel 16 for common rotation, and secures such index and wheel in frictional engagement with the opposite faces of the front wall of the housing, whereby substantial
25 rotative stress is required to turn them. The smaller index 11, together with a wheel 18, is in like manner secured to the front wall of housing 1 by means of a hollow rivet 19, and, as shown in Fig. V, the bore of the hollow rivet is
30 of general elliptical shape for cooperation (as will appear below) with index-rotating mechanism. The wheel 18 carries a single tooth 20, outstanding from the face of the wheel, as shown
35 in Fig. II. When the wheel 18 is rotated (note Fig. V), the tooth 20 swings into lateral engagement with the lowermost tooth 17 of wheel 16 and carries the wheel 16 through an arc equal to the circumferential center-to-center distance
40 between successive teeth 17. That is to say, for each rotation of the wheel 18 the normally idle wheel 16 is advanced through one-tenth (there being ten teeth 17 on wheel 16) of a revolution.
45 Thus, each complete rotation of the index 11 is accompanied by a fractional rotation of the index 12 from one of the dial calibrations (0 to 10) to the next, and it will be manifest that, by setting the index 12 to 0 at the start of each index-rotating operation, the index 12 will total the
50 number of rotations made by the index 11; that is, the index 12 will total the number of imaginary gallons of gasoline dispensed, while the index 11 will indicate fractional parts of a gallon in excess of such total.

55 The mechanism for rotating the wheel 18 com-

prises a crank member, pivotally mounted at 21 in the rear wall 2 of the housing. The crank member includes a hand-crank portion 21a lying without the housing, and an inner crank portion 21b lying within the housing. The crank member includes a flattened tip 21c lying within the above-mentioned elliptical orifice in rotary rivet 19, to which rivet the index 11 and wheel 18 are secured for common rotation. Accordingly, manual rotation of the crank portion 21a effects the positive rotation of the wheel 18 and the index 11, and the two indexes 11 and 12 are moved over the dial 10 in the manner described.

It will be observed in Fig. V that the tooth 20 on wheel 18 lies 90 angular degrees from alignment with the index 11. As may be readily visualized, when the index 11 is (by rotation of the crank member) set at 0, the tooth 20 on wheel 18 lies below the lowermost tooth 17 on wheel 16. The frictional engagement of the wheel 16 against the inner face of housing 1 normally resists unintentional idle rotation of index 12, but such index may be manually turned against such resistance and set at 0 on the dial 10.

The device for sounding the gong 13 comprises a member 22 formed of resilient wire in the shape indicated in Fig. III. The member 22 includes a loop or eye 22a at its upper end, through which the rivet 14 extends, affording support for both the gong 13 and the gong-striking member 22. The foot 22b of the striker is bent downward, and extends into the circular path followed by the portion 21b of the crank member, and, during a fraction of the rotation of the crank member, such crank portion 21b engages the foot 22b (Fig. III) and forces it downward or away from the face of the gong. As such crank rotation continues, the crank portion 21b swings free from the tip of the depressed foot 22b, whereupon the flexed wire 22 springs upward and strikes sharply against the peripheral edge of the gong. In this manner the gong is sounded once during each rotation of the crank member. And the parts are so proportioned and organized that the sounding of the gong occurs during each fractional rotation of the index 12, or each time that the rotating index 11 approaches zero position on the dial 10.

It will be understood that the crank member is in reality a double or twin crank—a crank member including an outer crank portion 21a and an inner crank portion 21b. The outer crank portion 21a provides for manual operation of the moving elements of the toy, and the inner crank portion 21b may be considered a rotary off-center or eccentric element cooperating with the resilient device 22 for sounding the gong in coordination with the rotation of index 11.

In known manner an electric lamp 23 is mounted in the top 4 of the toy housing, and a cylindrical dry-cell battery 24 is mounted on end on the base or floor 5 of such housing. The back wall portion 3 of the housing is removable to admit of the introduction of the dry-cell, and the central terminal 26 of the dry-cell extends through and in isolation from the floor 5. In known way a switch-arm 25 is pivotally secured to the nether face of floor 5, and the distal end of the switch-arm may be thrown to and from engagement with the terminal 26 of the dry-cell. Electric communication is established from dry-cell terminal 26, through the switch-arm and metal body of housing 1, to the side terminal 27 of the electric lamp 23. And communication from the basal terminal 28 of the lamp to the

bottom of the dry-cell is established by means of a conductor wire or strip 29. Thus, an energizing circuit for the lamp is provided, and such circuit is subject to the control of switch-arm 25.

The particular structure and organization of the conductor strip 29 are noteworthy. Such strip is made of resilient metal, and is threaded through two orifices 30 in a supporting plate 31 of fibre board, or other rigid or semirigid insulating material, as shown in Figs. III and IV. The plate 31 includes at its upper edge two ears 32, severally supported in slots 33 formed in the front and back walls of the housing 1. The conductor strip 29, thus supported by the plate 31 and insulated from the housing 1 is so particularly fashioned that it vertically bridges the index-rotating and gong-ringing mechanism which is located below the lamp 23 and above the dry-cell 24. This advantageous organization may be appreciated in Fig. III.

Manifestly, many variations from the above-described structure may within the skill of the mechanic be made without departing from the invention.

In claim as my invention:

1. A toy gasoline pump including a housing, a gong, a dial, an index rotatable relatively to said dial, means rotatable for effecting said relative rotation, said means including a rotary crank element and an eccentric element, and means co-operating with said eccentric element for intermittently sounding said gong in predetermined coordination with the rotation of said index relatively to said dial.

2. A toy gasoline pump including a housing, an electric light mounted at the top of said housing, a dial, an index rotatable relatively to said dial, mechanism mounted in said housing for effecting such relative rotation, a dry-cell battery mounted in said housing for energizing said light, and an electric conductor insulated from said housing and extending from one terminal of said light to one terminal of said battery in bridging relation with respect to said mechanism.

3. A toy gasoline pump including a vertical housing, an electric light mounted at the top of said housing, a dial, a rotary index, a gong within said housing, means within said housing for effecting rotation of the index relatively to said dial and for intermittently sounding said gong, and a dry-cell battery mounted on end within said housing and electrically connected to said light, and a switch operable at the bottom of said housing for opening and closing the electrical connections between said battery and light.

4. A toy gasoline pump or the like including a housing, a dial, two indexes rotatable on said dial, a toothed wheel secured within said housing to the axis of one index, a crank accessible externally of said housing for rotating the other index, and means within said housing cooperating with said wheel for effecting a fractional rotation of the first index for every complete rotation of the second index.

5. A toy gasoline pump or the like including a housing, a dial, two indexes rotatable on said dial, a toothed wheel secured within said housing to the axis of one index, a crank accessible externally of said housing for rotating the other index, means within said housing cooperating with said wheel for effecting a fractional rotation of the first index for every complete rotation of the second index, a gong mounted in said housing, and means responsive to crank rotation

for sounding said gong with each fractional rotation of the first index.

6. A toy gasoline pump including a housing, a dial, an index rotatable relatively to said dial,
5 means including a crank accessible externally of said housing for effecting such relative rotation, a gong, a gong-striking device, and means

operative in response to rotation of said crank and cooperating with said gong-striking device for intermittently sounding said gong in definite coordination with the rotation of said index relatively to said dial.

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