Feb. 19, 1957 C. E. STONEBURNER 2,781,949

MECHANICAL AND ELECTRICAL MEANS FOR STIMULATING SALES OF MERCHANDISE

Filed Feb. 21, 1956 3 Sheets-Sheet 1

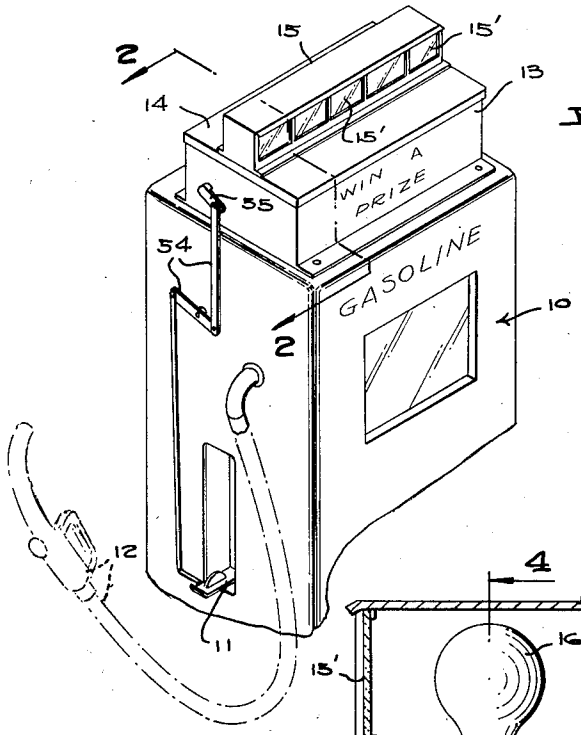


FIG. 1

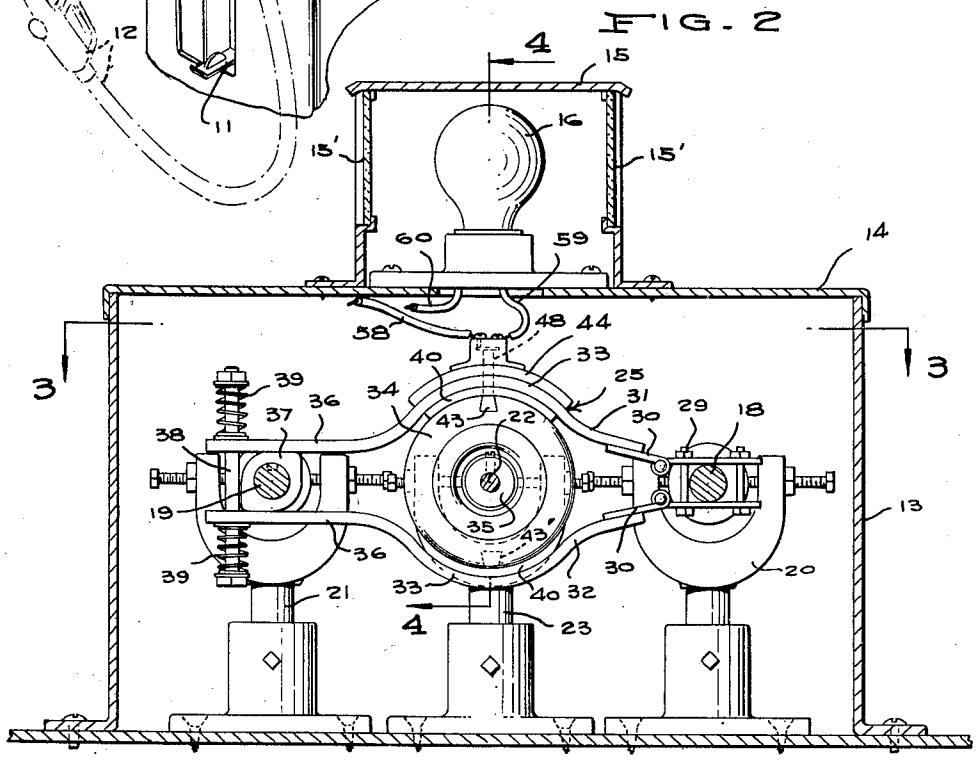


FIG. 2

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Feb. 19, 1957 C. E. STONEBURNER 2,781,949

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Filed Feb. 21, 1956 3 Sheets-Sheet 2

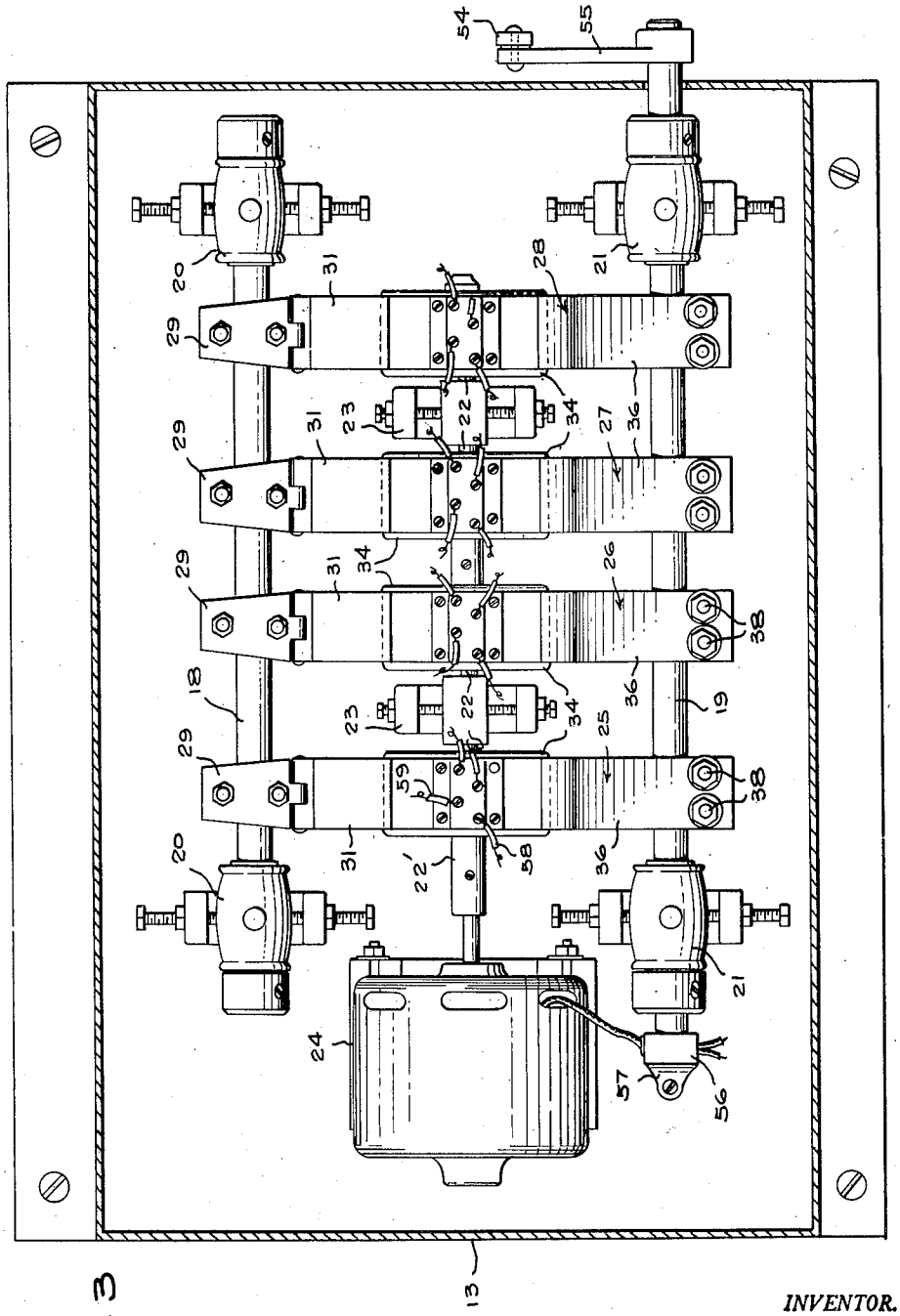


FIG-3

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MECHANICAL AND ELECTRICAL MEANS FOR STIMULATING SALES OF MERCHANDISE

Filed Feb. 21, 1956 3 Sheets-Sheet 3

FIG. 4

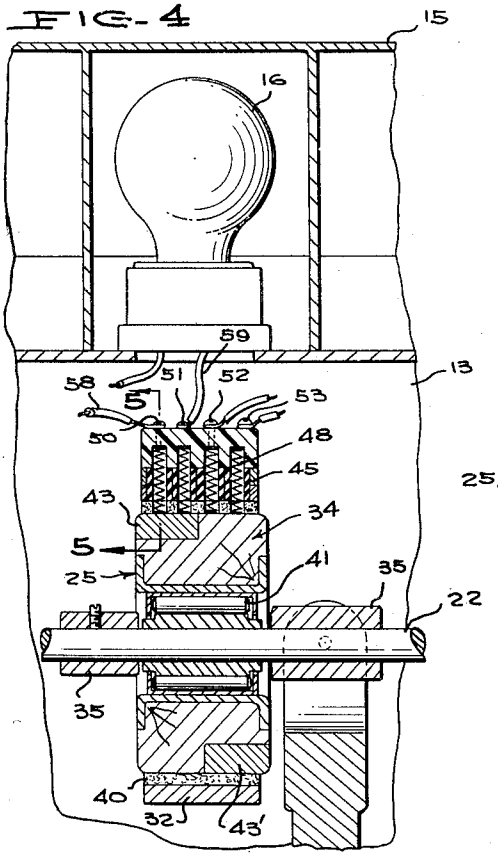


FIG. 5

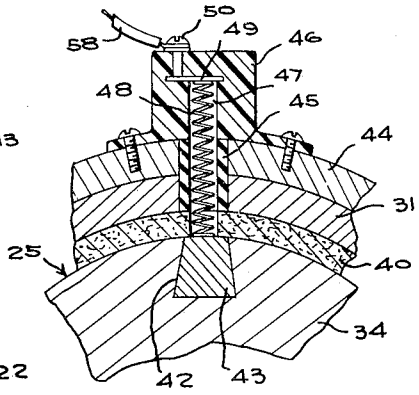
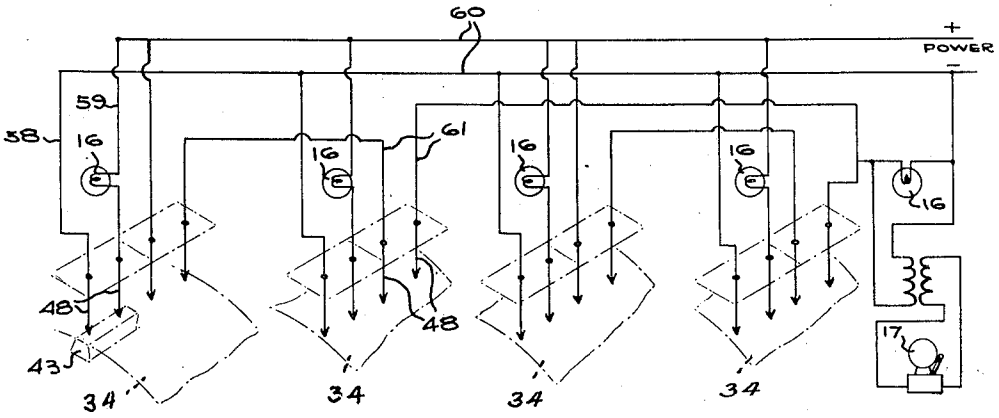


FIG. 6



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2,781,949

MECHANICAL AND ELECTRICAL MEANS FOR STIMULATING SALES OF MERCHANDISE

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Application February 21, 1956, Serial No. 566,894

5 Claims. (Cl. 222—27)

This invention relates to a mechanical and electrical means for stimulating sales of merchandise and it consists in the constructions, arrangements and combinations herein described and claimed.

It is an important object of the invention to provide an apparatus which may be installed upon vending, cash registers and similar machines to display a visual signal as well as energize an audible signal, to indicate a certain operation of the machine, which operation entitles that particular customer to a reward in the form of a discount in his purchases.

More specifically, it is an object of the invention to provide an electrical means in the form of a plurality of rotatable brake-controlled drums, said drums including peripheral electrical contacts adapted to engage contacts associated with a visual signal and an audible signal in the event that either of the drums should stop in a position to permit engagement between the contacts.

Additional objects, advantages and features of invention will be apparent from the following description, considered in conjunction with the accompanying drawings, wherein:

Figure 1 is a fragmentary perspective view of a gasoline pump having my invention installed thereon.

Figure 2 is an enlarged cross sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a cross section taken on the line 3—3 of Figure 2.

Figure 4 is an enlarged cross section on the line 4—4 of Figure 3.

Figure 5 is an enlarged vertical section of one of the contact drums and contact assembly taken on the line 5—5 of Figure 4, and

Figure 6 illustrates the wiring diagram employed in the apparatus.

Attention is first invited to Figure 1 of the drawings illustrating one installation of the invention, namely upon a gasoline dispensing pump generally indicated by the reference character **10**, which includes a motor control switch **11** and dispensing hose and nozzle **12**. As is well understood, when the nozzle **12** rests upon the switch lever **11**, the pump is inoperative and upon removal of the nozzle, the switch lever rises in an upward direction to close the circuit to a motor for pumping the gasoline.

Suitably mounted on the pump, here shown as on the top thereof, there is a housing **13** for enclosing the operating mechanism, as will presently be described.

The housing may be of any suitable construction, but preferably will include a cover **14** permitting access within the housing for adjustment and repair of parts, when found necessary. A smaller housing **15** is secured upon the cover **14** having compartments for enclosing a signal light **16** and a buzzer or bell **17**, the lights being visible through the windows **15'**.

Extending longitudinally of the housing **13** there are a pair of shafts **18** and **19**. The shaft **18** is fixed in a pair

of upright bearings **20**, while the shaft **19** is oscillatable in a pair of upright bearings **21**, the bearings being of the same height so that the shafts are supported at the same horizontal level. A drive shaft **22** is disposed medially of the housing and is likewise supported in upright bearings **23** corresponding to bearings **20** and **21** so that all shafts are at the same vertical height. An electric motor **24** is coupled to the shaft **22** as at **22'** to effect rotation thereof, as will be explained hereinafter.

In the present instance, I have shown four control units **25**, **26**, **27** and **28** for energizing the lamps **16** and the bell **17** and as the units are identical in construction, the unit **25** will be here described, reference being made to Figures 2 and 3. A bracket **29** is secured to the shaft **18** as shown, said bracket including hinged upper and lower leaves **30**, each leaf being secured to upper and lower brake bands **31** and **32**.

The brake bands **31** and **32** are each formed with medial semi-circular portions **33** arranged in opposed relation and adapted to embrace a contact drum **34** freely rotatable on the shaft **22**, the drum being maintained centered with the semi-circular portions by means of spacer collars **35** (see Figure 4). The brake bands have integral extensions **36** of a length extending beyond and above and below the shaft **19**.

A cam **37** is keyed to the shaft **19** positioned between said extensions **36**. The outer ends of the extensions are formed with a pair of aligned openings through which a bolt **38** is extended for mounting of respective helical springs **39** above and below the extensions **36**, said springs maintaining contact with the cam **37**, as well as normally holding the drum against rotation.

Within the semi-circular portion of the brake bands **31** and **32**, a brake shoe **40** is secured to more effectively hold the drum against rotation.

Reference is now made to Figures 4 and 5 of the drawings for an understanding of the construction of the circuit maker and breaker for energizing the lamps **16** and bell **17**.

The drum **34** includes a bearing assembly **41** permitting free rotation of the drum at times, the drum being formed of insulating material and at diametrically opposite sides the drum is formed with an outwardly tapering slot **42** for receiving a respective correspondingly shaped contact **43** and **43'**, it being noted that these slots are positioned upon opposite sides of the drum, as clearly shown in Figure 4.

A mounting and reinforcing plate **44** is welded or otherwise secured to the outer face of the brake band **31**. The brake band lining **40**, the brake band **31** and the plate **44** having four openings suitably insulated by means of a bushing **45**. A contact housing **46** is secured to the reinforcing plate **44** formed with four vertical bores **47** aligned with the respective bushings **45** and each bore houses a helical contact spring **48**, the upper end of which is electrically connected to a contact **49** which in turn is connected to respective binding posts **50**, **51**, **52** and **53**. It will be noted that the spring contacts **48** are arranged in pairs, transversely of the drum, one pair of contacts **48** being engageable with the contact **43** upon one side of the drum, while the other pair of contacts **48** are operative with the contact **43'** upon the other side of the drum.

Any suitable linkage **54** may be employed for actuating the control units **25** to **28** and in the present instance, the linkage is connected to a crank **55** which is keyed to the shaft **19** exteriorly of the housing, the end of the shaft opposite the crank **55** being operatively engaged with an oscillatable switch **56** which may be supported upon a pedestal **57**, the switch controlling the current to the motor **24**, as will be explained.

The signal lights **16** may represent certain services

which the station attendant will perform and in the event that either of the lights are energized, as for instance, the first light, this may represent a wash job; the second light a lubrication job; the third light an extra gallon of gas; the fourth light a week's free parking; the fifth light, the tuning up of the motor of the vehicle; and in the event that the buzzer sounds, which only occurs when all control units **25** to **28** are energized, all lights will be illuminated simultaneously with the sounding of the buzzer which would mean that this particular customer would receive all of the services indicated.

The operation of the device is substantially as follows:

When the station operator removes the nozzle and hose **12** from the switch lever **11**, the motor of the dispensing pump is energized to pump gasoline and simultaneously with the movement of the lever **11**, the leverage **54** oscillates the crank **55** imparting movement to the shaft **19** and the cam members **37** associated with each control unit thereby releasing the brake bands **31** and **32**. Also, upon oscillation of the shaft **19**, the switch **56** will have been operated to close the circuit to the motor **24** thereby causing the shaft **22** to rotate, thus imparting rotation to the drums **34**, and while these drums are loose upon the shaft, there is sufficient friction to cause rotation of the drums and at different speeds. When the nozzle is returned to rest upon the lever **11**, the pump motor stops, as does the motor **24** and due to movement of the linkage **54** and crank **55**, the shaft **19** and associated cams **37** return to normal position to secure the brakes and retain the drums against rotation.

As shown in Figures 2, 4 and 6, the drum of the first control unit **25** came to rest with the contact **43** in electrical engagement with the contacts **48** causing current to flow through the wires **58** and **59** from the source of current **60** and lighting the lamp **16** indicating that the customer is entitled to an award.

It will be noted from the diagram shown in Figure 6, that the contacts **48** and wires **61** when energized by engaging contact **43'** of all drums, controls the sounding of the buzzer **17**.

While I have shown and described a preferred form of the device, this is by way of illustration, and I consider as my own all such modifications in construction, as fairly fall within the scope of the appended claims.

I claim:

1. In a mechanical and electrical means for stimulating sales of merchandise and the like, comprising a vending or similar machine having a moving part for the operation thereof, a housing on said machine, a plurality of drums mounted on a shaft within the housing, means for holding said drums against rotation, lever means between said moving part of the machine for releasing said drums, means for rotating said shaft, said drums being freely rotatable under rotation of said shaft, spaced contacts on said drums, signal means within the housing including an electrical circuit and contacts adapted to engage contacts on said drums and means within the housing for stopping rotation of said drums upon return movement of said lever means and said moving part of said machine.

2. In a mechanical and electrical means for stimulating the sale of merchandise and the like comprising a vending or similar machine having a moving part for the operation thereof, a housing on said machine, a motor driven shaft rotatably mounted within said housing, a plurality of freely rotatable drums on said shaft, brake means for holding said drums against rotation, lever means between said moving part of the machine for releasing said brake means permitting free rotation of said drums, spaced contacts on said drums, signal means within the housing including an electrical circuit and contacts adapted to engage contacts on said drums at times.

3. In a mechanical and electrical means for stimulating the sale of merchandise comprising a vending or similar machine having a moving part for the operation thereof, lever means connected with said moving part, a housing on said machine, a motor driven shaft rotatably mounted within the housing, an oscillatable shaft within the housing parallel to the rotatable shaft, a plurality of drums mounted on the rotatable shaft, upper and lower brake bands partly encompassing each drum, said brake bands being hingedly mounted at one end, the other ends of said bands extending above and below said oscillatable shaft, cam members on the oscillatable shaft disposed between the last named ends of the brake bands, spring means for urging said ends into contacting engagement with said cams, an oscillatable switch in circuit with the motor of the driven shaft, said switch being operable under movement of said oscillatable shaft, the oscillatable shaft being actuated under movements of the moving part of said machine to release said brake bands permitting free rotation of said drums, spaced peripheral contacts on said drums, signal means within the housing including an electrical circuit and a plurality of contacts positioned to engage contacts on said drum in the event of stoppage of any of the drums to align said contacts and thereby energize said signal means.

4. In a mechanical and electrical means for stimulating sale of merchandise or service in a gasoline station comprising in combination, a gasoline dispensing pump having a movable lever for control of the motor of the dispensing pump, a housing on the pump, a motor driven shaft rotatably mounted in the housing, an oscillatable shaft within the housing parallel to the rotatable shaft, a plurality of drums mounted on the rotatable shaft, upper and lower brake bands encompassing each drum, said brake bands being hingedly mounted at one end, the other ends of said brake bands extending above and below said oscillatable shaft, cam members on the oscillatable shaft, a cam being disposed between the last named ends of the brake bands, spring means urging said ends into contacting engagement with said cams, an oscillatable switch in circuit with the motor of the driven shaft, said switch being operable under movement of said oscillatable shaft, the oscillatable shaft being connected to the movable lever of said dispensing pump to oscillate said shaft and release said brake bands permitting free rotation of said drums, spaced peripheral electrical contacts on said drums, signal means within the housing including an electrical circuit and a plurality of contacts in circuit with said signal means positioned to engage contacts on said drums in the event of stoppage of any of the drums to align said contacts and thereby energize said signal means.

5. The structure of claim 4, in which the signal means includes lights and an audible signal and wherein stoppage of the drums so as to energize one contact of all drums, all lights will be energized as well as said audible signal.

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