United States Patent

Follett

[15] **3,668,626**

[45] **June 6, 1972**

[54] PORTABLE PARKING INDICATOR

[72] Inventor: **Harold W. Follett,** 100 Reamer Ave., Wilmington, Del. 19804

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[21] Appl. No.: **119,269**

[52] **U.S. Cl.** **340/51,** 200/61.41

[51] **Int. Cl.** **G08b 21/00**

[58] **Field of Search** 200/61.41, 61.42; 340/51, 61

[56] **References Cited**

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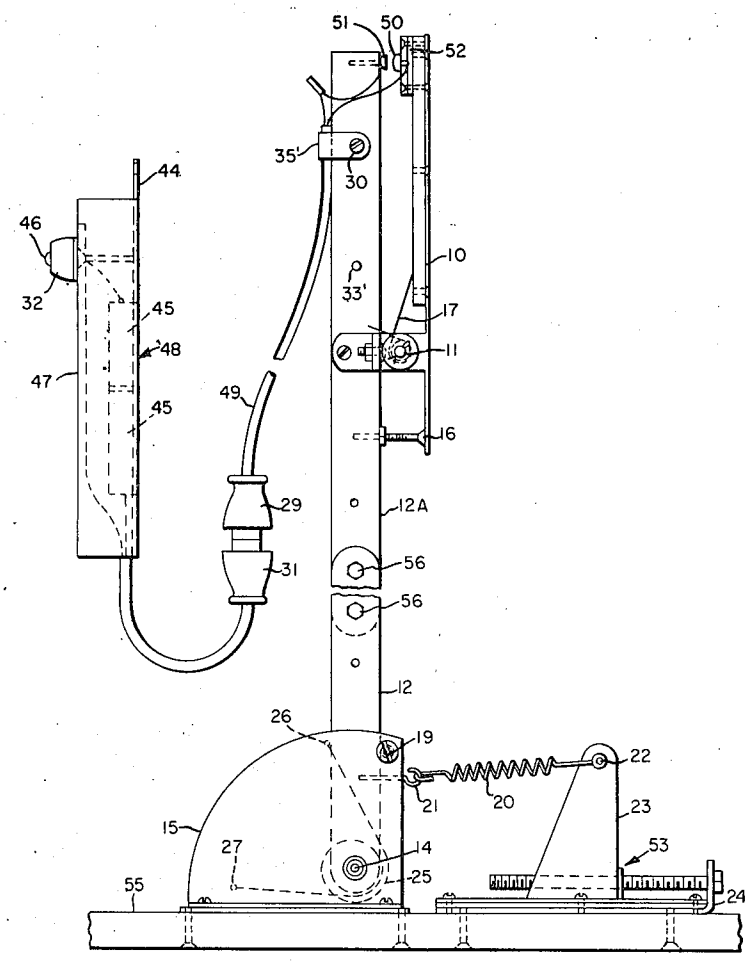
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[57] **ABSTRACT**

A portable parking indicator is provided which signals the driver of a vehicle that he has reached a predetermined parking position in a garage or other regularly assigned parking space. The signaling means can be a light bulb, whose source of power can be either a battery or line voltage, which is actuated by the vehicle bumper depressing a contact plate mounted pivotably upright on a vertically adjustable lever and closing an electrical contact positioned between the contact plate and the lever. The lever is mounted pivotably upright on a movable base and is connected to tension means which holds the lever in an upright position.

8 Claims, 5 Drawing Figures



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SHEET 1 OF 4

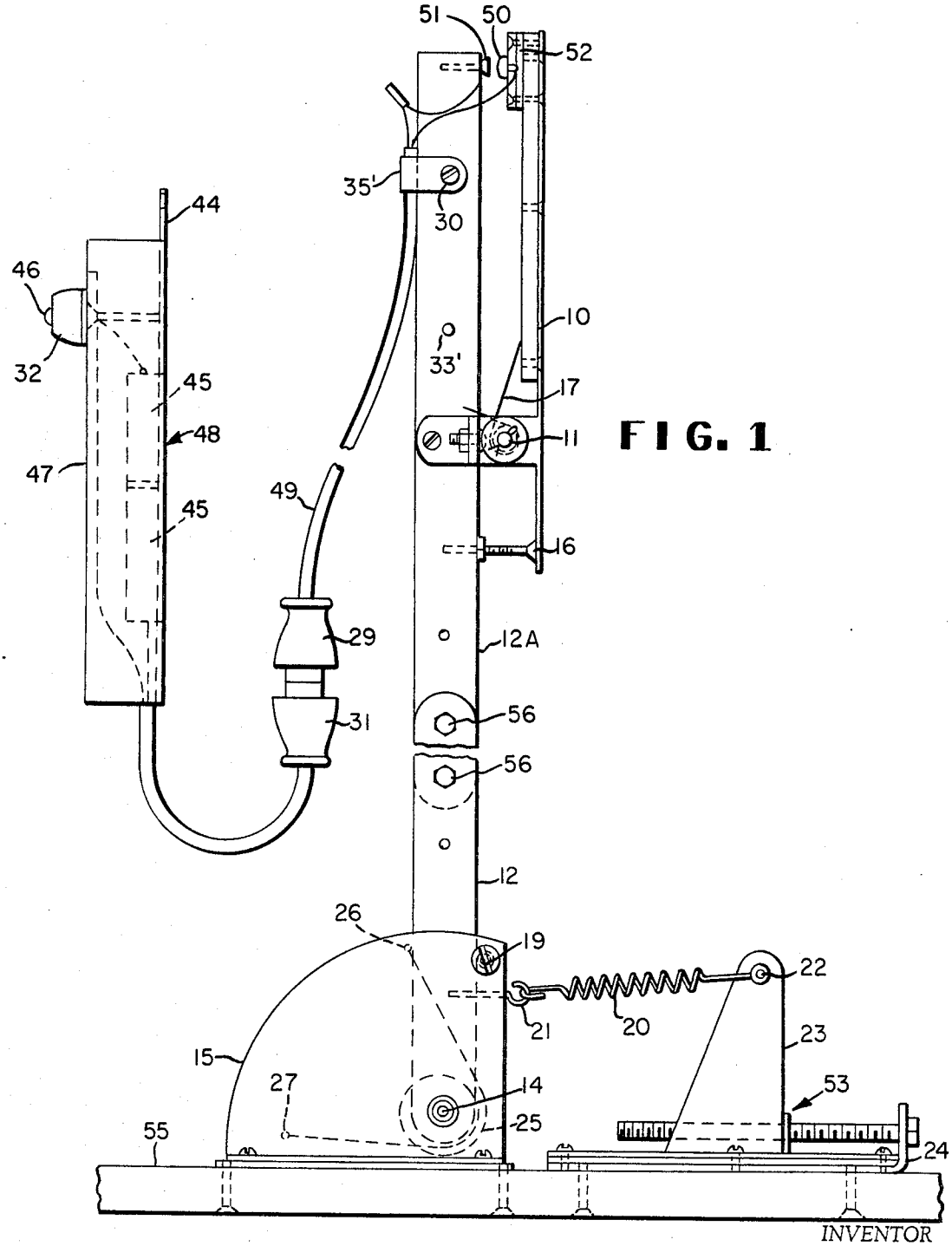


FIG. 1

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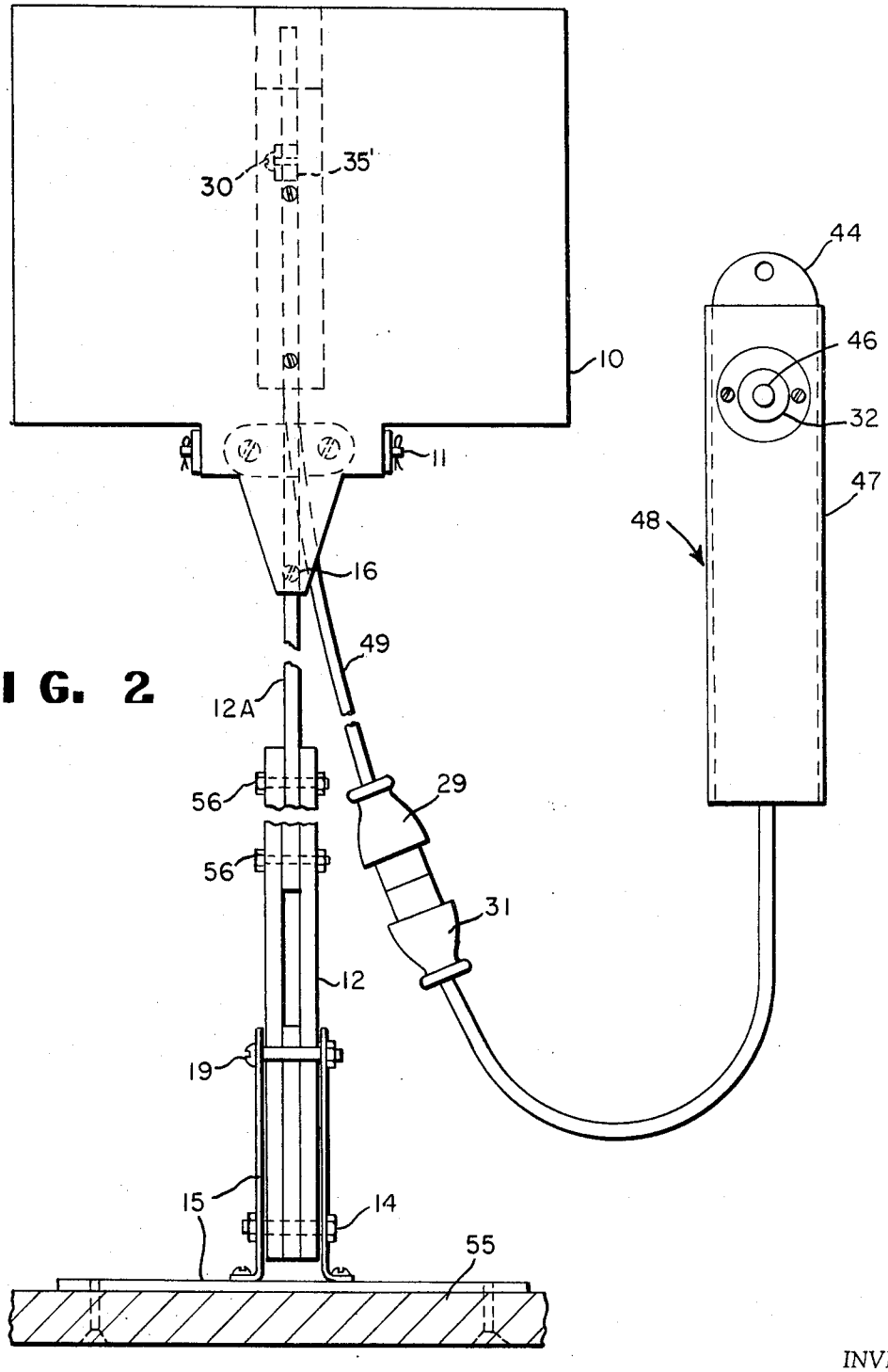


FIG. 2

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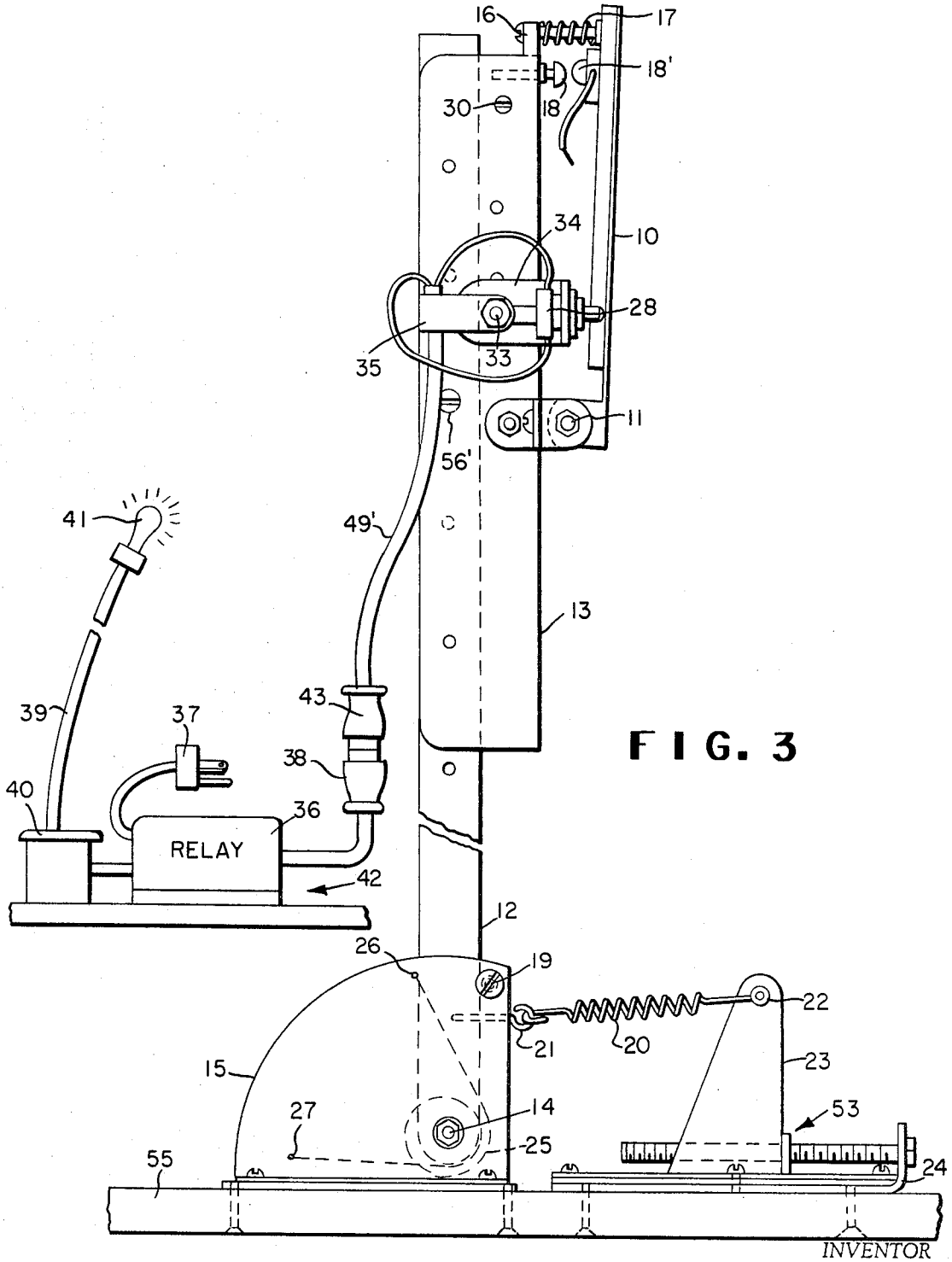


FIG. 3

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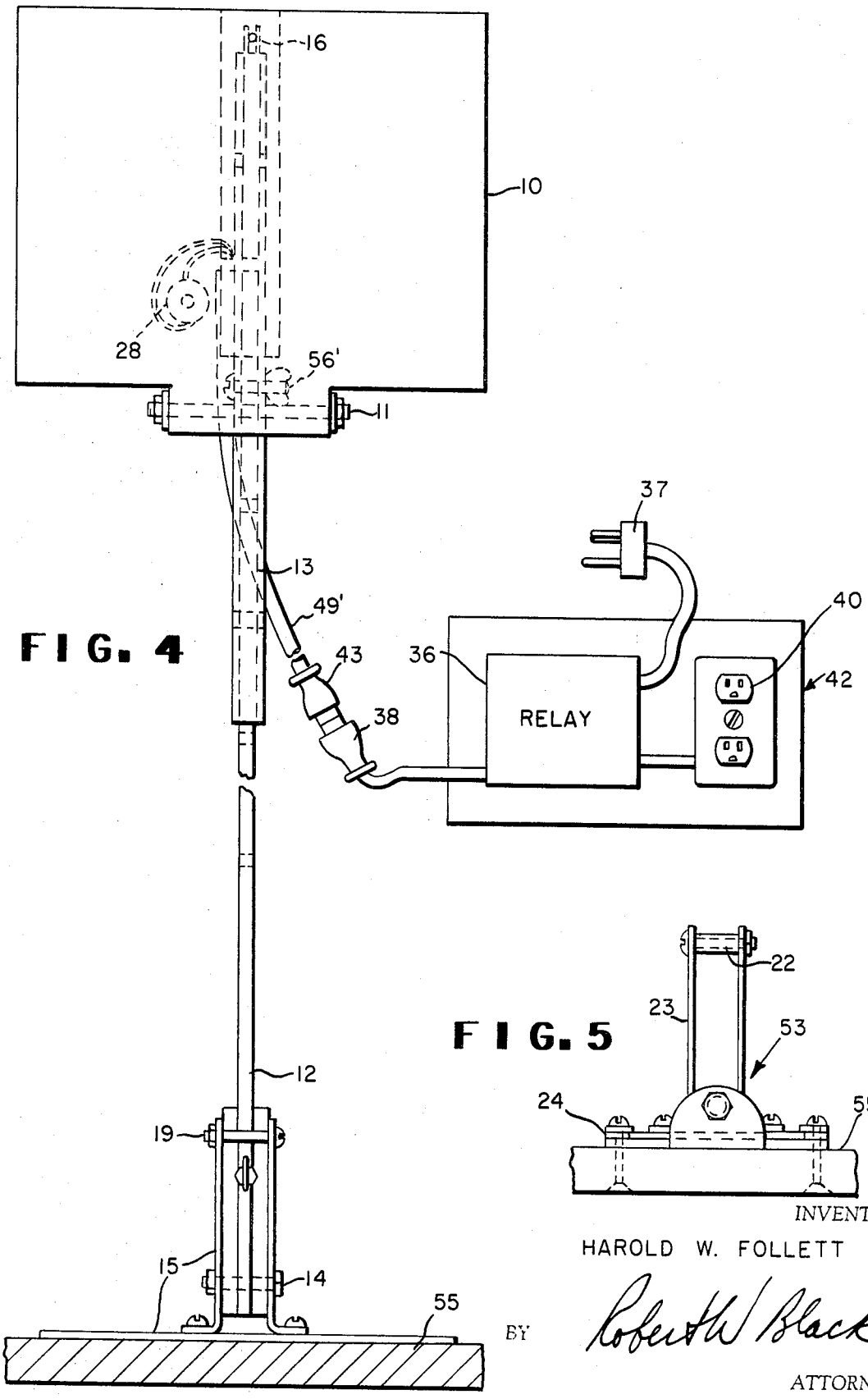


FIG. 4

FIG. 5

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PORTABLE PARKING INDICATOR

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to portable parking indicators and more particularly to portable parking indicators for vehicles which are adapted to signal drivers of the vehicles that the vehicles have reached their predetermined parking positions.

2. Description of Prior Art

When a vehicle is driven into a garage or any other regularly assigned parking space, the vehicle is maneuvered into a precise position to obviate striking objects around the parking space or to prevent the vehicle from interfering with the opening or closing of garage doors. A number of parking indicators have been shown in prior art, but these have been inconvenient in that they must be built into the garage. Such indicators are shown in U.S. Pat. Nos. 2,658,967 to Matschke, 2,731,934 to Hausmann et al., 2,879,350 to Howell, 3,219,972 to Williams and 3,395,387 to Durant.

SUMMARY OF THE INVENTION

According to the present invention there is provided a portable parking indicator device which is placed in a vehicle parking space comprising: (1) a base which is placed at a desired position in the parking space, (2) a vertically adjustable lever mounted pivotably upright on the base, (3) a pressure contact plate mounted pivotably upright on the lever and adjusted in height to come in contact with the most forward point of the vehicle, (4) an electrical contact positioned between the contact plate and the lever, (5) first tension means between the lever and contact plate to hold the face of the contact plate in an upright position and to keep the electrical contact open except when the forward point of the vehicle moves the contact plate to close the electrical contact, (6) second tension means mounted to exert tension on the lever to hold it in an upright position, (7) signaling means connected to an electrical source, and (8) an electrical circuit connecting the contact points and the signaling means.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a side elevational view of a portable parking indicator device of the extendible lever type and low-voltage signal light unit;

FIG. **2** is a front elevational view of the device of FIG. **1**;

FIG. **3** is a side elevational view of a portable parking indicator device of the movable slide type and line voltage operation signal light;

FIG. **4** is a front elevational view of the device of FIG. **3**;

FIG. **5** is a front elevational view of the spring base of FIGS. **1** and **3** for holding the lever in an upright position.

DETAILED DESCRIPTION OF THE INVENTION

Referring specifically to the drawings, it will be seen that the portable parking indicator shown in FIGS. **1**, **2**, **3** and **4** consists basically of a pressure contact plate **10** mounted pivotally upright on bolt **11** on the extendible upper portion **12A** of lever **12** (FIGS. **1** and **2**) or on a separate detachable sliding unit **13** which in turn slides up or down on the lever **12** to the desired height (FIGS. **3** and **4**); the lower part of the lever in turn being mounted pivotally upright on bolt **14** mounted on base **15**. Both lever **12A** and slide **13** are mounted and adjusted on lever **12** by bolts **56** and **56'**, respectively, inserted through holes located at various vertical positions along lever **12**, lever **12A** and slide **13**. Contact plate **10** is retained upright against stop **16** in FIGS. **1** and **2** by action of light coil spring **17** positioned around pivot **11** to keep switch contact points **50** and **51** open at all times except when closed by the vehicle bumper moving the contact plate. Contact **50** affixed to plate **10** on insulating material **52** is an insulated contact, whereas the second contact point **51** in juxtaposition thereto affixed to the top of lever **12A** is a grounded contact.

Lever **12** is held in upright position against stop **19** by action of heavy main spring **20** except when vehicle advances too far forward. Main spring **20** is attached to lever **12** by hook **21** and to through-bolt **22** on spring base **23** of a spring-base assembly **53** which slides on spring sub-base **24** to provide proper spring tension. Alternatively, or in addition to spring **20**, a heavy coil spring **25** encircling lever pivot bolt **14** in lever base **15** may be used with or substituted for spring **20**, spring-base assembly **53** and sub-base **24** to apply forward pressure against lever **12** at point **26** when spring **25** is anchored at hole **27** in base **15**. Use of coil spring **25** requires lever base **15** to be slightly wider to make room for the spring beside the lever around the pivot bolt.

Lever base **15** and spring sub-base **24** are mounted on a wood or metal base **55** and in use the base can be weighted down with two small lead bars or with two bricks to retain it in the desired spot and stabilize the entire apparatus for heavier than normal bumps.

The portable parking indicator built with the extension lever **12** and **12A** shown in FIGS. **1** and **2** is simple, cheap to manufacture, and it will work satisfactorily with most automobile bumpers but extensibility is limited to a few inches.

The portable parking indicator with the bumper contact plate built onto the movable slide **13** shown in FIGS. **3** and **4** has more versatility as the movable slide **13** with the controls is self contained and it may be mounted at any height on a lever of any desired length.

Both types of portable parking indicators can be used with either a low-voltage stoplight unit powered by flashlight batteries or a commercially available line voltage switch operating an electric stoplight (or bell or buzzer) system powered by a relay utilizing low voltage current through the line voltage switch on the actuator unit.

The low-voltage stoplight unit is shown in FIGS. **1** and **2** and is operated simply by the closing and opening of contact points **50** and **51** (which also act as a stop for contact plate **10** against lever **12A**) when the wire **49** on connector **29** is attached to the lever by bolt **30** with clamp **35'** and connected electrically to contact points **50** and **51** as shown in FIG. **1** and when connector **29** is plugged into female connector **31** of a 3-volt portable stoplight unit **48**. Hole **33'** in upper lever **12A** is used when a line voltage switch, as discussed later, is used.

Stoplight unit **48** consists of a parking stoplight **32** which is mounted on the front of a battery box **47** of sufficient size to hold a standard 3-volt flashlight bulb **46** and two size AA penlight batteries **45**. The back plate **44** of the box **47** has an extension at the top with a hole in it to facilitate attachment of the stoplight unit **48** to the wall of the garage or to a post or stake. Automotive-type female connector **31** is wired in series through the batteries and bulb so that the light bulb will not illuminate except by closing the points **50** and **51** on the actuator unit in FIGS. **1** and **2** or points **18** and **18'** in FIGS. **3** and **4**.

The line voltage stoplight (or bell or buzzer) system is shown in FIGS. **3** and **4** and is operated by contact with the bumper contact plate **10** against the line voltage switch **28**. Switch **28** contains an internal spring which keeps the contact points therein open, and contact plate **10** against its stop, except when closed by pressure of the vehicle bumper.

The switch is mounted on the slide unit **13** as shown in FIGS. **3** and **4** or directly on lever **12A** as shown in FIGS. **1** and **2**. When slide unit **13** is used, the switch is mounted by means of L-shaped bracket **34** attached to the slide **13** by bolt **33**. In this application, the wires **49'** on connector **43** are attached to slide unit **13** with clamp **35** by bolt **33** and the wires are connected electrically to the wires on switch **38**, as shown in FIG. **3**. Connector **43** is plugged into female connector **38** of line voltage switching relay unit **42**.

The portable parking indicator shown in FIGS. **3** and **4** is manufactured so it can be wired to the low-voltage stoplight unit **48** discussed previously. Stop **16'** is a bolt passing through a slot at the top of movable slide **13** and affixed to the top of contact plate **10**. Contacts **18** and **18'** are identical to contacts **50** and **51**. After being depressed, contact plate **10** is returned

to the upright position by spring **17**, which should be removed when switch **28** is used.

Line voltage switching relay unit **42** is a simple switching device for use with line voltage switch **28**. The device consists of a commercially available control relay **36** and electrical receptacle **40** energized at line voltage by the relay when connector **37** is plugged into a grounded and polarized electrical outlet and when contact points in switch **28** are closed. The relay **36** contains therein a transformer supplying low voltage to switch **28** on the actuator unit. In this application standard electrical polarized cap **37** is plugged into a polarized and grounded service receptacle; automotive type connector **43** on the actuator unit is plugged into connector **38** on the relay and an extension cord **39** of any desired length with red colored 110–120 volt light bulb **41** (or bell or buzzer) is plugged into receptacle **40**. The light bulb **41** can be placed where it will function as a guide to parking and as a stop signal.

In operation of the stoplight unit **48**, it is mounted on the garage wall ahead of the vehicle or on a stand or stake at proper height above the top of the hood to permit it to be used as a target at which to "aim" the center line of the hood, or line of demarkation between fender on driver's side and the hood, while driving the vehicle into the garage or parking space. The portable parking indicator unit is placed on the floor in such position that the foremost part of the bumper will touch the upper part of the pressure contact plate **10** as the vehicle is driven into the desired parking position.

As the vehicle is driven into the garage or parking space the first time, the operation is performed very slowly and carefully so the parking indicator can be moved and placed exactly where desired. By moving the parking indicator backward or forward, it will be possible to park the vehicle in the exact desired sport within a small fraction of an inch.

Once the correct position of the actuator unit is established, the base **55** should be weighted down. Thereafter, the driver approaches the garage slowly and in the center of the parking space with the hood center line, or line between fender and hood, pointing straight at the stoplight unit **48** while watching the light bulb on the unit. As soon as the light flashes on, the vehicle is stopped immediately and reversed only just enough to permit the light to flash off.

After stopping at the proper place, the driver must hold the vehicle motionless with the foot brake until after the parking brake has been applied as the vehicle might otherwise roll far enough to turn the signal light on again.

In the event line voltage switch **28** and line voltage switching relay unit **42** should be adopted in lieu of the 3-volt stoplight unit, the placement of the portable parking indicator and its operation will be the same as outlined above. Use of a relay with line voltage properly polarized and grounded will provide safer operation of the portable parking indicator than with line voltage directly and will eliminate any shock hazard that might result from use of line voltage through the switch in case a vehicle should crash into the portable parking indicator and smash the switch or cut the wires.

What is claimed is:

1. A portable parking indicator device which is placed in a vehicle parking space comprising: (1) a base which is placed at a desired position in the parking space, (2) a vertically adjustable lever mounted pivotably upright on the base, (3) a pressure contact plate mounted pivotably upright on the lever and adjusted in height to come in contact with the most forward point of the vehicle, (4) an electrical contact positioned between the contact plate and the lever, (5) first tension means between the lever and contact plate to hold the face of the contact plate in an upright position and to keep the electrical contact open except when the forward point of the vehicle moves the contact plate to close the electrical contact, (6) second tension means mounted to exert tension on the lever to hold it in an upright position, (7) signaling means connected to an electrical source, and (8) an electrical circuit connecting the contact points and the signaling means.

2. The device of claim **1** wherein the electrical contact is a pair of electrical contact points, one point of the electrical contact points affixed to the contact plate and the second point affixed to the lever in juxtaposition to the first point.

3. The device of claim **2** wherein the first tension means comprises an adjustable stop mounted on the lever and extending between the lever and contact plate and a pressure spring mounted on the pivot of the contact plate, said spring holding the contact plate in an upright position against the adjustable stop.

4. The device of claim **3** wherein the second tension means comprises a fixed lever stop mounted on the base and a tension spring mounted forward of the lever, said spring exerting a tension on the lever to hold the lever against the fixed stop.

5. The device of claim **3** wherein the second tension means comprises a fixed lever stop mounted on the base and a coil spring mounted on the lever pivot to hold the lever against the fixed stop.

6. The device of claim **3** wherein the signaling means is a low-voltage light connected to a battery as the electrical source.

7. The device of claim **1** wherein the electrical contact and first tension means comprise an adjustable stop mounted on the lever and extending between the lever and contact plate, a line voltage spring switch having contact points therein affixed to the lever in a position such that the switch contact points remain open and the switch exerts tension to hold the contact plate against the adjustable stop on the lever.

8. The device of claim **7** wherein the signaling means comprises a relay having a low-voltage relay switch, low-voltage terminals and power source terminals connected to line voltage, and a light electrically connected at moment of contact to line voltage terminals by action of the low-voltage relay switch.

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