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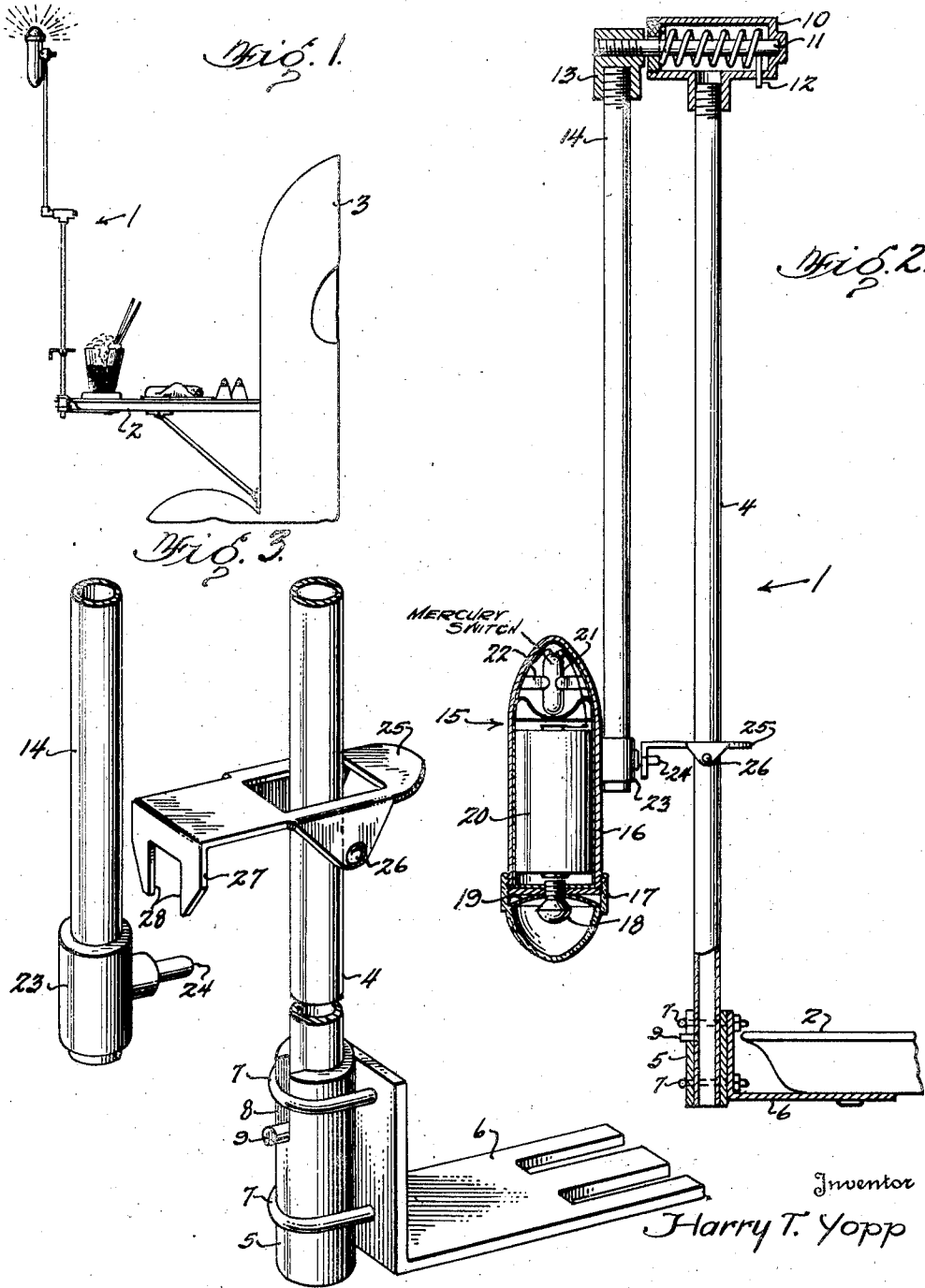
H. T. YOPP

2,305,656

SIGNAL DEVICE

Filed July 31, 1940

3 Sheets-Sheet 1



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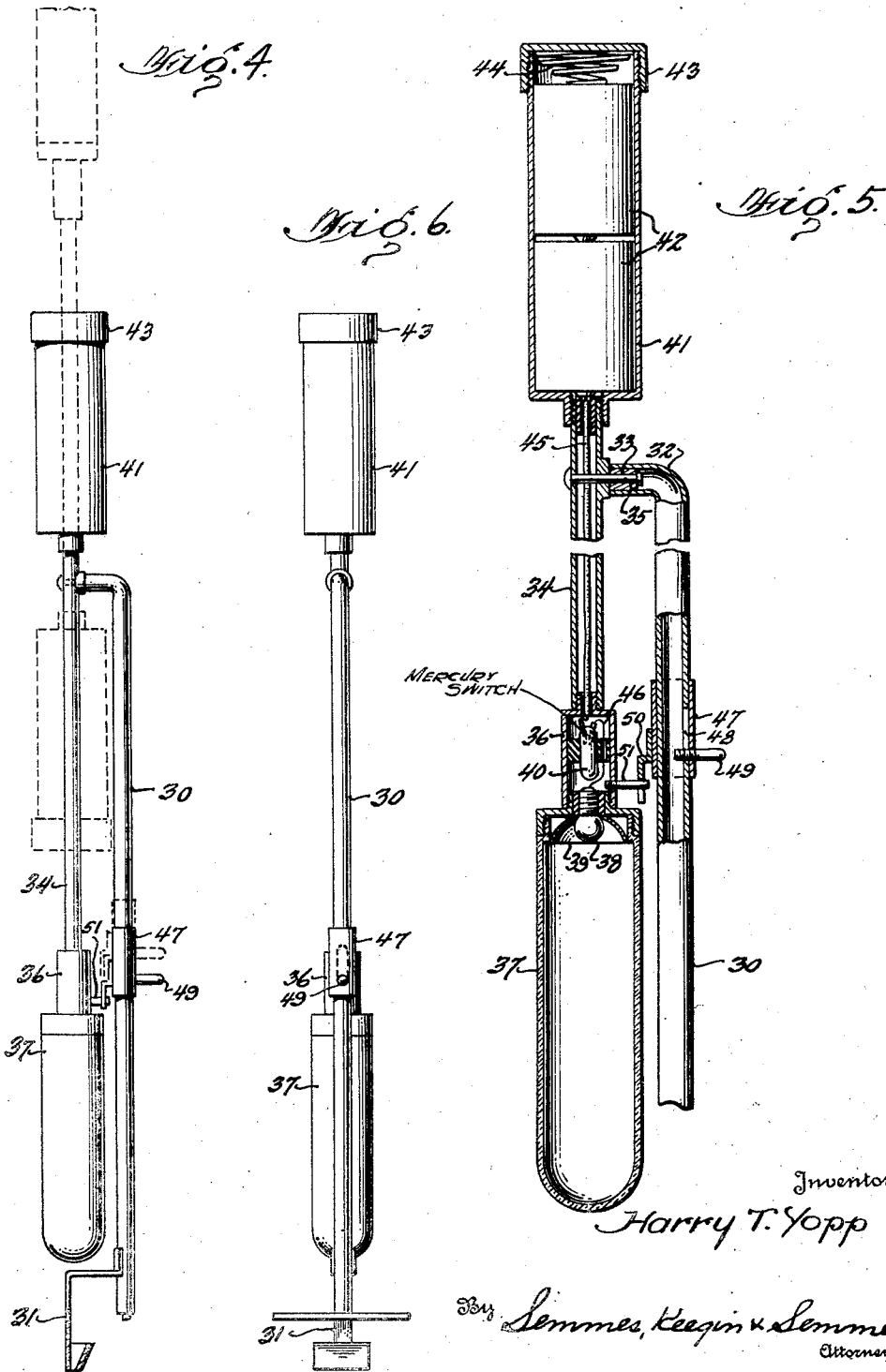
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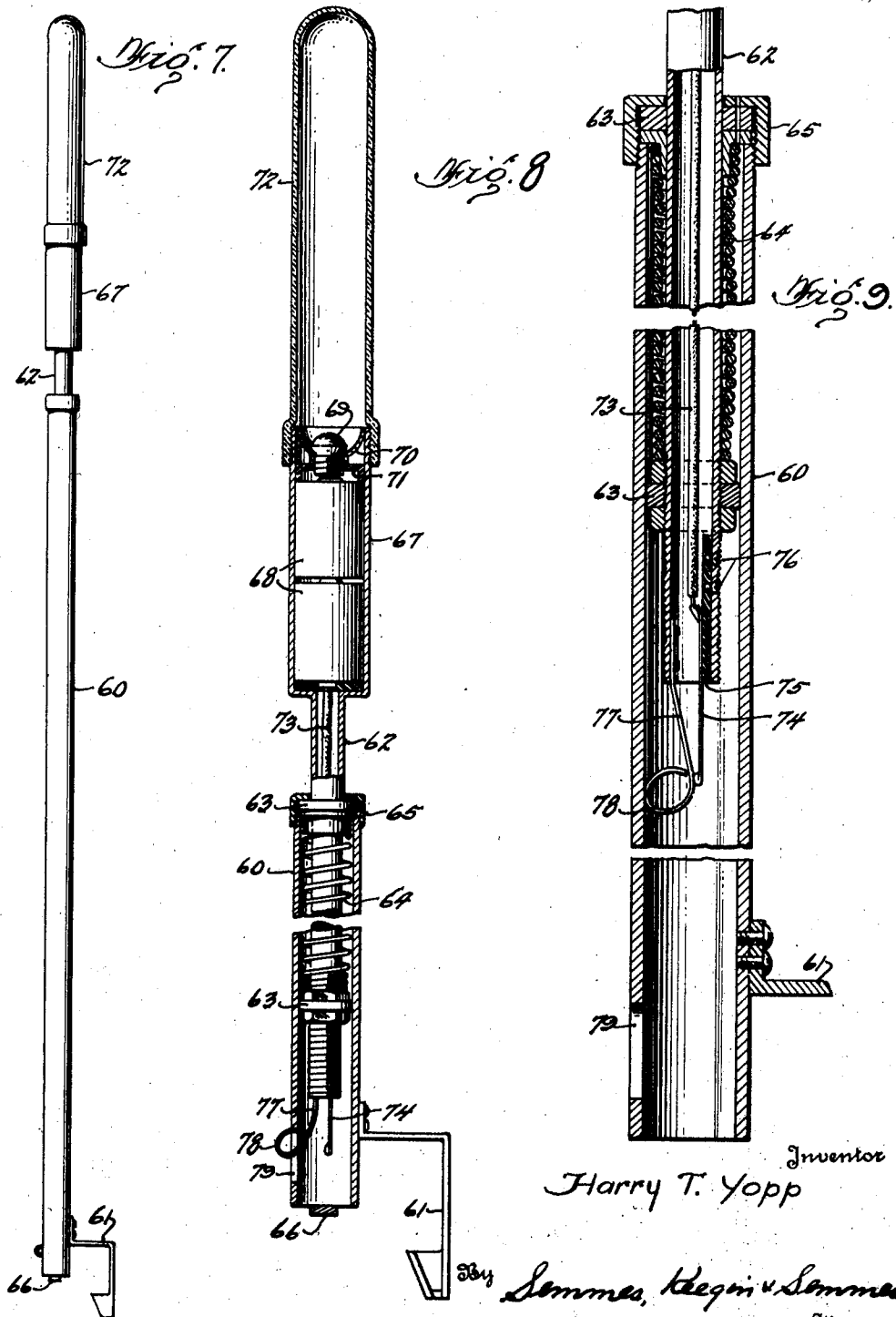
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UNITED STATES PATENT OFFICE

2,305,656

SIGNAL DEVICE

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Application July 31, 1940, Serial No. 348,863

7 Claims. (Cl. 177—329)

The present invention relates to signaling devices and more specifically has reference to signaling devices that can be secured to serving trays that are attached to automobiles or the like parked in "drive-in" sandwich establishments. Of course, it is to be understood that my invention is not thus limited as it can be readily employed for attachment to tables or the like in restaurants.

At the present time in the majority of "drive-in" sandwich shops, etc., it is customary when one is ready to leave to flash the headlights of the automobile or blow the horn to call the waiter to remove the tray and collect the bill. This practice is not desirable in the majority of residential areas since the residents have protested against the use of horns and lights on the grounds that they are a nuisance. Moreover, under this present practice, it is especially difficult at night for the waiter to know just what car to approach when the lights or horn is used, and as a consequence, during rush hours the service is extremely poor.

An object of this invention is to overcome the above and other undesirable defects and to provide an inexpensive signal device that is highly efficient.

Another object of the present invention is to provide an electric signaling device for attachment to serving trays that can be easily actuated by the person in the automobile and which in its operative position will project a substantial distance above the top of the automobile, thereby affording a signal which can be readily seen.

Yet another object of my invention is to provide a signaling device for attachment to serving trays which consists of few working parts and which is simple in construction and operation.

A further object of the present invention is to provide a signaling device of the character described which is clearly visible in both the day and night to the waiters.

To accomplish the above and other objects, the invention comprises mounting an electric signal device on a movable support member which in turn is removably affixed to a serving tray. The signal device in its inoperative position is not visible above the top of the automobile. However, suitable means is provided adjacent the tray to permit the customer to actuate the device so that the electric signal can be moved to a position readily seen by the waiter. When the waiter arrives at the car, he merely moves the supporting member to its inoperative position in which po-

sition it is held by a suitable locking device. The signal and its support are then removed from the tray and the tray is then released from the car door.

In the following description, I have shown and described three specific embodiments for carrying out my invention, and it will be readily appreciated that other modifications of the inventive concept can be employed without departing from the spirit and scope of my teachings.

In the drawings in which like numerals indicate the same or similar parts:

Figure 1 is a view in side elevation showing one form of my signaling device positioned on a serving tray attached to the door of an automobile.

Figure 2 is an enlarged view similar to Figure 1, partly in section, showing the parts in the inoperative position.

Figure 3 is a view in side elevation showing the mode of attachment of the device to the tray and the latch that is employed to hold the signal in its inoperative position.

Figure 4 is a view in side elevation of yet another form of my signaling device.

Figure 5 is an enlarged view in transverse section of the construction shown in Figure 4.

Figure 6 is an end view of this form of device.

Figure 7 is a view in side elevation of a still further form of my invention.

Figure 8 is an enlarged view in transverse section of the signal shown in Figure 7 illustrating the parts in the inoperative position.

Figure 9 is an enlarged view in transverse section showing the parts for moving the signal to its operative position.

Referring to Figure 1, my novel signal device indicated generally 1 is shown attached to a serving tray 2 which in turn is secured to the door of a motor vehicle 3. The device 1 comprises a vertical tubular rod 4 which is fitted at its lower end into a collar 5. The collar 5 is attached to an L-shaped bracket 6 by straps 7 and the collar is slotted near its upper end as indicated at 8. A pin is mounted in the slot 8 and is adapted to contact the upper strap 7 to prevent the collar from becoming disengaged from the bracket 6.

Threaded onto the upper end of the tube 4 is a T-shaped fitting 10 in which is journaled a rod 11. A helical spring 12 surrounds the rod 11 and one end thereof, attached to the rod 11, bears against the end of the fitting 10, while the other end is anchored in the fitting 10. Threaded onto the free end of the rod 11 is an arm 13 into which is screwed a second tube member 14. Attached to the lower end of the tube 14 is a signal indicated

generally 15. It can be seen that the signal 15 comprises a streamlined casing 16 carrying at one end thereof a removable transparent or translucent globe member 17. A bulb 18 having reflector 19 is positioned in the casing so that it will be adjacent to the globe 17. A battery 20 is mounted in the casing and a mercury switch 21 supported by spring clips 22 is suitably connected to the battery to control the operation of the signal.

To hold the signal in its inoperative position, it will be noted in Figure 3 that a collar 23 provided with a lateral extension 24 is mounted on the tube 14 at a point near the lower end thereof. Carried by the tube 4 and adapted to cooperate with the extension 24 is a latch 25 which is pivotally mounted at 26 to the tube 4. The inner end of the latch 25 is downturned as shown at 27 and is bifurcated as indicated at 28. When the latch is in the position shown in Figure 2 (the inoperative position) the bifurcation 28 fits over the extension 24 and holds the arm 14 and the signal 15 in the down position. At this time, it should be pointed out that when the arm 14 is in the position shown in Figure 2 tension is placed on the spring 12. As a consequence, when the latch 25 is rearwardly moved about its pivot, the bifurcation 28 will free the extension 24 and the arm 14 will be moved about its point of pivoting to the rod 13 by the spring 12 and the arm will rotate 180° so that the signal 15 will be extended to a position above the top of the automobile, as indicated in Figure 1. When the arm 14 is in its up position, the mercury switch makes contact and the bulb 18 is illuminated and the signal will be clearly visible.

When the waiter arrives at the car he merely swings the pivot arm 14 back to its inoperative position and pivots the latch to fit over the extension 24. The signal in its entirety is then removed from the tray 2 and the tray in turn is released from the door of the car.

It will be readily appreciated that this construction is quite simple and can be very easily and cheaply manufactured. The device can be simply operated by the customer and it will give a clearly visible signal to the waiter. The device is very sturdy in construction, and with the exception of the replacement of the batteries and bulbs requires little upkeep.

In Figures 4 to 6, inclusive, I have shown another form of my signal device. This embodiment comprises a vertical tube member 30 which carries a bracket 31 at its lower end for attaching the member to a serving tray. The upper end of the tube is bent at right angles as shown at 32 and a bearing 33 is positioned therein. A second tube 34 which is spaced in parallel relationship with respect to the tube 30 is mounted for pivotal movement on the tube 30. A pin 35 is suitably journaled in the bearing 33. Threaded into the lower end of the tube 34 is a casing 36 that supports a plastic globe 37, and a bulb 38 extends into the globe 37 and is provided with a reflector 39. Supported within the casing 36 and adapted to control the flow of electrical energy to the bulb 38 is a mercury switch 40.

Removably attached to the upper end of the tube 34 is a second casing 41 in which are mounted batteries 42. The casing has a threaded closure cap 43 and a coil spring 44 is disposed between the closure and one of the batteries 42. An insulated lead wire 45 extends from the battery 42 through the hollow tube 34 to one of the terminals

of the switch 40. A second lead 46 runs from the other terminal of the switch to the bulb 38.

It will be noted that that end of the rod 34 which carries the casing 41 and the batteries 42 is considerably heavier than the opposite end of the rod. As a consequence, the casing 41 will tend to rotate the rod and maintain the globe 37 in the raised position. In order to provide means to lock the signal in the position shown in Figure 5 (the inoperative position) it will be seen that there is mounted on the tube 30 a sliding collar 47. The tube is slotted as shown at 48 and an operating pin 49 is anchored to the collar 47 and projects within the slot 48, and the length of the slot limits the amount of movement of the sliding collar. The collar is also provided with a bifurcated member 50 that is adapted to engage an extension 51 mounted in the casing 36. When the signal is not in use, the parts are in the position shown in Figure 5, and by moving the slide upwardly the bifurcated member will be moved out of engagement with the extension 51, thus permitting the heavier end 41 to revolve through 180°, thus moving the globe 37 to a position above the top of the automobile and at the same time, the mercury switch 40 will make contact and the bulb 38 will be lighted.

The device illustrated in Figures 7 to 9, inclusive, operates on a somewhat different principle from that disclosed in connection with the first two forms. As clearly shown in Figures 7 and 8, a tube member 60 carries a bracket 61 adjacent its lower end for attaching the tube to a serving tray. A second tube 62 of lesser diameter than the tube 60 is mounted for vertical movement therein. Piston rings 63 are provided on the tube 62 and a helical spring 64 surrounds the tube and the free ends thereof bear against the pistons 63. To prevent the piston heads from coming out of the tube 60, a closure cap 65 is threaded onto the upper end of the tube and a strap 66 bridges the lower end. The piston rings in addition to serving as a stop or limit for the helical spring also will retard the movement of the tube 62 by virtue of the air which is compressed upon reciprocation of the tube.

Attached to the upper end of the tube 62 is a casing 67 in which is disposed a pair of batteries 68. A bulb 69 having a reflector 70 is positioned immediately above the batteries 68 and insulation 71 is provided between the batteries and the bulb. Threaded onto the open end of the casing 67 is a globe 72. An insulated conductor 73 extends through the hollow tube 62 from the power battery and is attached to a spring contact 74 mounted on an insulator 75 secured at 76 to the lower end of the tube 62. Also fixed to the lower end of the tube 62 is a spring member 77 which is formed with a finger piece 78 at its lower end, that extends through a slot 79 formed in the tube 60 in the inoperative position. It is believed obvious that when the finger piece 78 is moved to the position shown in Figure 9, the circuit will be automatically closed and the bulb 69 will become illuminated. Simultaneously, the spring 64 will be compressed and the tube 62 will be moved upwardly to its furthestmost limit, thus projecting the globe 72 to a position above the top of the car. The signal can be moved to its inoperative position simply by expanding the spring 64 and forcing the finger piece 78 out of the slot 79. The bracket 61 can then be removed from the tray and the tray in turn disengaged from the automobile door.

In locations where floodlights or the like are

used or in daylight, it is possible to use my invention without the employment of an electrically operated signal unit such as indicated by the numeral 15 in Figures 1 to 3, inclusive. In lieu of this unit, a white or colored cylinder may be attached to the support rod. The unit otherwise is identical in construction and operation to those illustrated in Figures 1 to 8. I have found that this arrangement works very satisfactorily in well lighted areas, but in dark locations the cylinders may be covered with luminous or phosphorescent paint which will glow in the dark. Obviously this particular construction can be very easily and cheaply manufactured and will afford a very effective signal device.

It is thought apparent from the above description that I have provided a signal device to be used in connection with a serving tray that is very simple in construction and operation and which will give a clearly visible signal to the waiter that service is desired. The device is very sturdy in construction and requires little or no upkeep. It will permit much faster service in "drive-in" sandwich stands and will necessitate the employment of fewer waiters to handle a given volume of business.

While I have shown and described the preferred embodiment of my invention, I wish it to be understood that I do not confine myself to the precise details of construction herein set forth by way of illustration as it is apparent that many changes and variations may be made therein by those skilled in the art without departing from the spirit of the invention or exceeding the scope of the appended claims.

I claim:

1. In a signal device adapted to be used with a serving tray attached to the door of an automobile, a support removably affixed at its lower end to the tray, a second support pivoted to the free end of the first mentioned support, a visible signal device carried by the second mentioned support, a latch to hold said second mentioned support in its inoperative position, and spring means to move said second mentioned support about its pivot when the latch is released thereby permitting the signal to project above the top of the automobile.

2. In a signal device adapted to be used with a serving tray attached to the door of an automobile, a vertical support removably secured at its lower end to the tray, a second vertical support member pivoted to the free end of the first mentioned support, a signal device carried by the second mentioned support at the end opposite to its point of pivoting, an extension provided on said second mentioned support adjacent to the signal device, a latch pivoted to the first mentioned support, said latch and extension cooperating to hold said second mentioned support in the inoperative position, and spring means adapted to rotate said second mentioned support about its pivot and project the signal above the top of the automobile when the latch is released from the extension.

3. In a signal device adapted to be attached to a serving tray secured to the door of an automobile, a support removably secured at its lower end to the tray, a second support pivoted to the free end of the first mentioned support, a signal unit carried at one end of said second mentioned support and a counter-weight carried by the opposite end of said second mentioned support, latch means adapted to hold the second mentioned

support in a position whereby the signal is not visible above the top of the automobile, said counter-weight being adapted to project the signal above the top of the automobile when the latch means is released.

4. In a signal device adapted to be used with a serving tray attached to the door of an automobile, a support removably secured at its lower end to the tray, a second support pivotally mounted to the free end of the first mentioned support, a casing carried by the second mentioned support, a latch to hold said second mentioned support in its inoperative position, a signal lamp within the casing, a circuit for the lamp, the circuit being open when the second mentioned support is in its inoperative position, and means to move the second mentioned support about its pivot when the latch is released thereby projecting the second mentioned support to a position above the top of the automobile and at the same time closing the circuit and illuminating the signal lamp.

5. In a signal device adapted to be attached to a serving tray secured to the door of an automobile, a vertical support removably secured at its lower end to the tray, a second vertical support pivoted to the free end of the first mentioned support, a signal unit carried at one end of said second mentioned support and a counter-weight carried by the opposite end of said second mentioned support, latch means adapted to hold the second mentioned support in a position whereby the signal is not visible above the top of the automobile, said counter-weight being adapted to project the signal above the top of the automobile when the latch means is released.

6. In a signal device adapted to be attached to a serving tray secured to the door of an automobile, a vertical support removably secured at its lower end to the tray, a second vertical support pivoted to the free end of the first mentioned support, a signal unit carried at one end of said second mentioned support and a counter-weight carried by the opposite end of said second mentioned support, latch means adapted to hold the second mentioned support in a position whereby the signal is not visible above the top of the automobile, a signal lamp within the signal unit, a circuit for the lamp, said circuit being open when the second mentioned support is not visible above the top of the automobile, said counter-weight being adapted to project the signal above the top of the automobile when the latch means is released and close the circuit thereby illuminating the signal lamp.

7. In a signal device adapted to be used with a serving tray attached to the door of an automobile, a support removably affixed at its lower end to the tray, a second support pivoted to the free end of the first named support, a signal unit carried by said second named support, latch means adapted to hold the signal unit in a position whereby the signal is not visible above the top of the automobile, a signal lamp within the unit, a circuit for the lamp which is open when the second named support is not visible above the top of the automobile, and spring means to move said second mentioned support about its pivot when the latch is released, thereby projecting the signal unit above the top of the automobile and closing the circuit to illuminate the lamp.

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