Jan. 4, 1949. W. R. NILES 2,458,192

AUTOMATIC SIGNAL DEVICE FOR AUTOMOBILES

Original Filed March 30, 1939

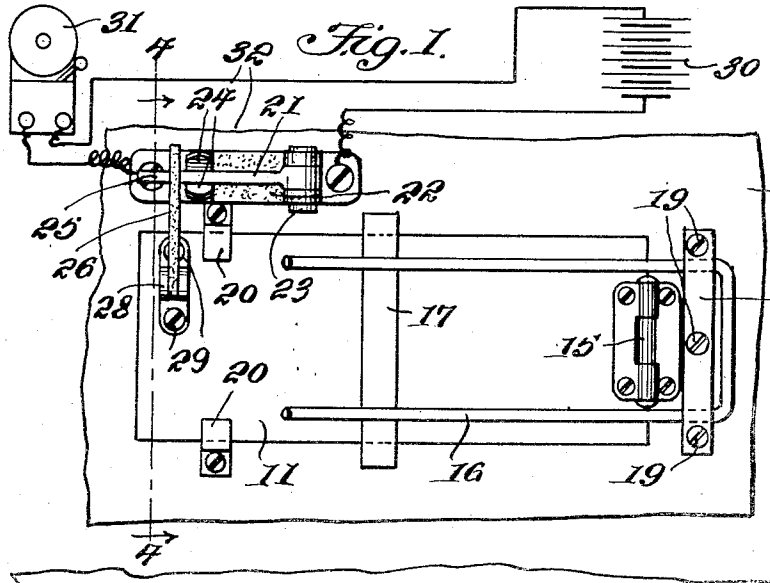


Fig. 1.

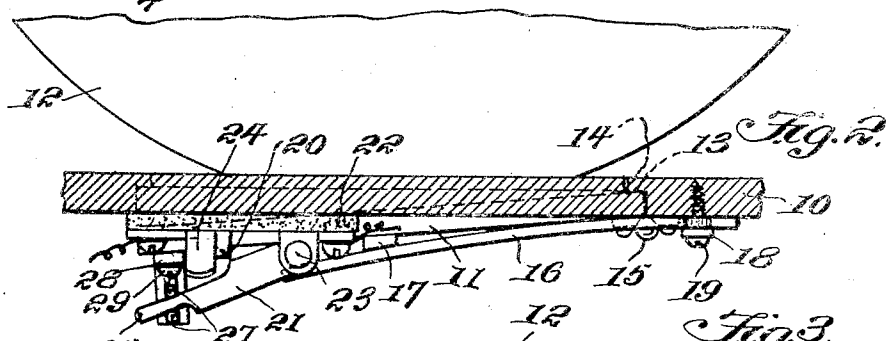


Fig. 2.

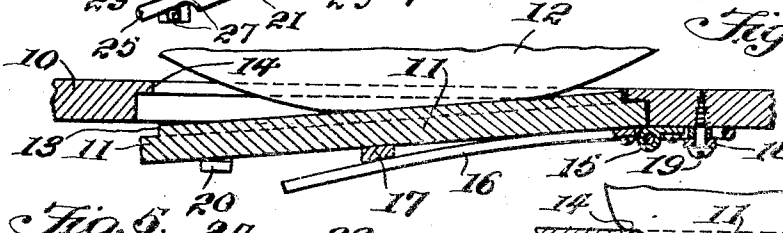


Fig. 3.

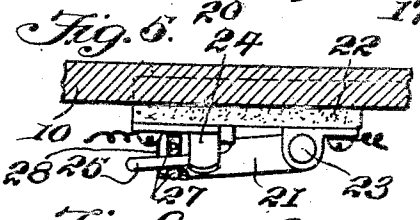


Fig. 5.

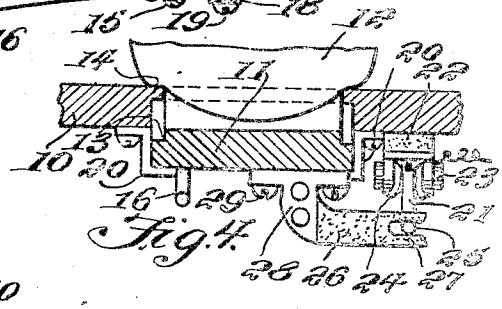


Fig. 4.

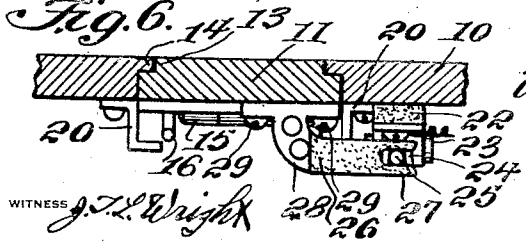


Fig. 6.

WITNESS J. L. Wright

William Richard Niles
INVENTOR

BY Victor J. Evans & Co.
ATTORNEYS

Patented Jan. 4, 1949 2,458,192

UNITED STATES PATENT OFFICE

2,458,192

AUTOMATIC SIGNAL DEVICE FOR AUTOMOBILES

William R. Niles, Herington, Kans.

Substituted for abandoned application Serial No. 265,040, March 30, 1939. This application March 11, 1947, Serial No. 733,975

1 Claim. (Cl. 200—86)

1

This invention relates to automatic signal devices, and has for an object to provide a signal device which may be installed wherever surreptitious removal of an article is to be prevented, and which will embody a novel switch which is held open by the weight of the article and which will automatically close upon the article being removed to energize a signal circuit and sound an alarm.

A further object is to provide a device of this character which will be formed of a few strong, simple and durable parts, which will be inexpensive to manufacture and install, and which will not easily get out of order.

With the above and other objects in view, the invention consists of certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the invention.

This application is a substitute for my abandoned application Serial No. 265,040 filed March 30, 1939.

In the accompanying drawing forming a part of this specification:

Figure 1 is a bottom plan view of an automatic signal device constructed in accordance with the invention;

Figure 2 is a longitudinal sectional view of the device showing the lower portion of an automobile wheel forming a weight to hold the switch open;

Figure 3 is a longitudinal sectional view with parts removed and showing the stop for holding the hinged trip plate in open circuit position;

Figure 4 is a cross sectional view taken on the line 4—4 of Figure 1, showing the fiber lever carried by the trip plate and engaging the switch blade for operating the switch;

Figure 5 is a detail longitudinal sectional view showing the switch closed;

Figure 6 is a detail cross sectional view similar to Figure 4 but showing the switch closed.

Referring now to the drawing, in which like characters of reference designate similar parts in the various views, 10 designates a support such as a garage floor. In carrying out the invention a trip plate 11 of substantially rectangular contour is mounted in a similar shaped opening in the floor to receive the weight of the wheel 12 of an automobile. The plate is provided with a rabbet 13 around the upper horizontal edge to interfit with a flange 14 which projects from the

2

floor so that the plate is normally disposed flush with the floor. A conventional hinge 15 pivotally mounts one end of the plate upon the floor 10, and this hinge is disposed upon the bottom of the plate and floor, as best shown in Figure 1.

A U-shaped spring 16 is secured to the floor at that end of the plate which is hinged, and the legs of the spring bear against a bar 17 of wedge shape in cross section, which is disposed transversely across the lower surface of the plate, and which is adjustable longitudinally of the spring. The ends of the bar 17 project beyond the trip plate, and engage the support to limit upward movement of the trip plate under pressure of the spring. The spring is held in position through the medium of a bar 18 which is disposed transversely across the legs of the spring and is secured in place through the medium of screws 19 or other connectors. A pair of angular stop lugs 20, best shown in Figures 1, 4 and 6, is secured to the underneath face of the floor and has its free ends disposed to overlap the underneath face of the trip plate 11 to limit downward movement of the trip plate.

A switch is secured to the underneath face of the floor 10 or other support and comprises a blade 21 which is hinged at one end to a fibrous base plate 22 which is secured to the floor in any preferred manner, the blade pivot being designate by the numeral 23. The free end of the blade is received in the usual manner between spring contacts 24 which are mounted on the insulating base plate 22. Beyond the contacts the blade is uniformly reduced to provide a cylindrical finger 25.

The means for operating the switch comprise a lever 26 formed of insulating material, and having a forked free end 27, best shown in Figures 4 and 6, to receive the cylindrical finger 25 of the blade. The lever is provided with an attaching foot 28 which is secured to the trip plate 11 through the medium of screws 29 or other connectors. When the trip plate is in normal position, in which position it is held by the spring 16, the switch is closed and when the trip plate is depressed, as for instance by the weight of an automobile wheel, the lever 26, carried by the trip plate, holds the switch open. The switch is connected in circuit with a battery 30, and an electrically operated alarm device 31 through the medium of conductor wires 32. When the automobile or other article upon the trip plate is removed, the trip plate is moved into its raised position by the spring 16, resulting in the closing of the switch and the sounding of the alarm.

From the above description, it is thought that

the construction and operation of the invention will be fully understood without further explanation.

What is claimed is:

In a signal device for preventing of surreptitious removal of an automobile, comprising the combination of a support for an automobile, an opening in said support adapted to receive a portion of one of the tires of the automobile ground wheels, a trip plate forming a closure for said opening and hinged at one end to said support to be rocked downward out of said opening by the pressure of a tire on the top face of the plate, a switch carried by the support, a lever carried by the free end of the trip plate and connected to the switch for closing the switch when the plate is swung upward to close the opening after removal of the tire from the opening, a U-shaped spring secured at the transverse member thereof to the support at that end of the plate which is hinged, the legs of the spring extending along the underneath face of the plate, a transversely disposed bar of wedge shape in cross section engaged between the legs of the spring and

the underneath face of the plate, the ends of the bar projecting beyond the plate and engaging the support to limit upward swinging movement of the plate under pressure of said spring, said spring normally holding the trip plate in position to seal the opening and normally holding said switch in circuit closing position, and a pair of angular stop lugs carried by the underneath face of the support disposed to overlap the underneath face of the trip plate at the free end of the plate to limit downward movement of the trip plate when the tire forces the trip plate downward.

WILLIAM R. NILES.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,622,906	Freese	Mar. 29, 1927
1,665,560	Nelson	Apr. 10, 1928
1,786,098	Thon	Dec. 23, 1930