O. HERRMANN.

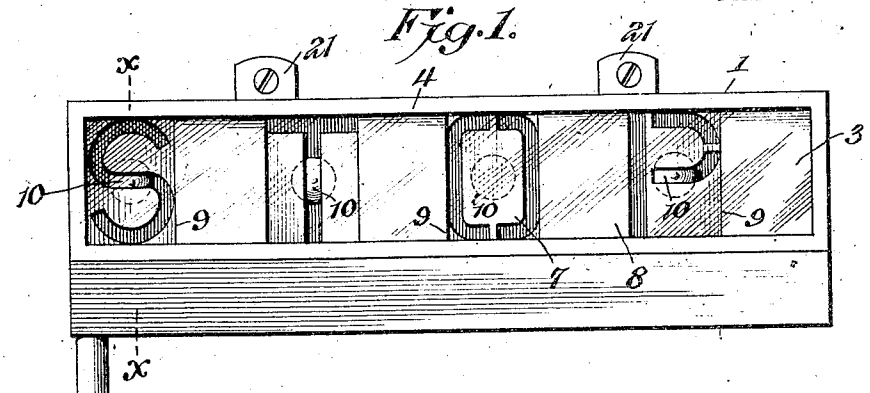
DANGER SIGNAL FOR AUTOMOBILES.

APPLICATION FILED SEPT. 12, 1907.

903,719. Patented Nov. 10, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



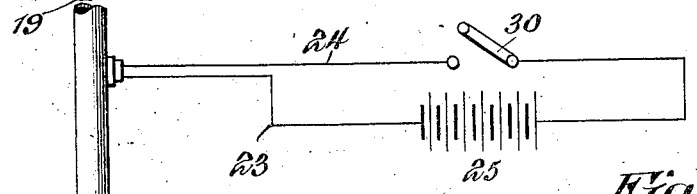
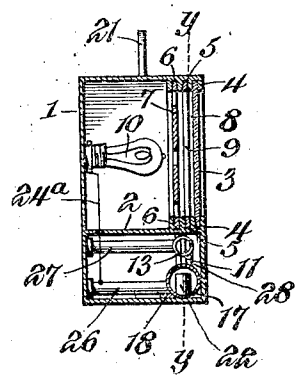
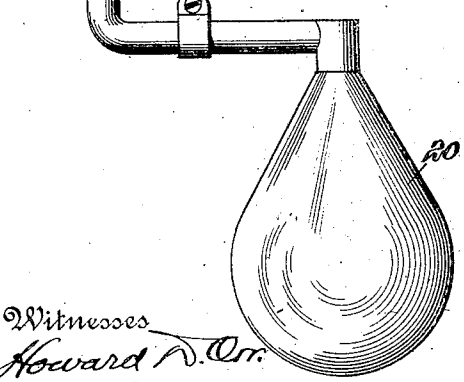


Fig. 2.





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2 SHEETS—SHEET 2.

Fig. 3.

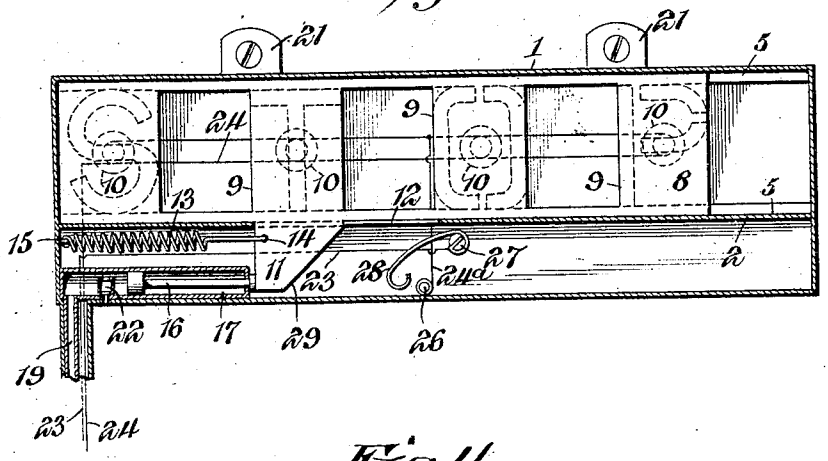


Fig. 4.

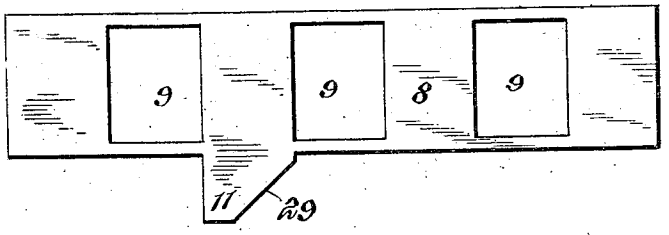
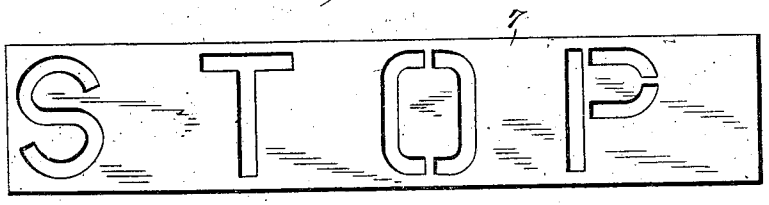


Fig. 5.



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DANGER-SIGNAL FOR AUTOMOBILES.

No. 903,719. Specification of Letters Patent. Patented Nov. 10, 1908.

Application filed September 12, 1907. Serial No. 392,576.

To all whom it may concern:

Be it known that I, OSCAR HERRMANN, a citizen of the United States, residing at Brown Station, in the county of Ulster and State of New York, have invented a new and useful Danger-Signal for Automobiles, of which the following is a specification.

The invention relates to a danger signal for the backs of automobiles to prevent rear end collisions.

The object of the present invention is to improve the construction of signals, and to provide a simple and comparatively inexpensive device, designed for use on the backs of automobiles to prevent rear end collisions, and adapted to be exposed at the will of the operator and capable of displaying an illuminated signal at night.

A further object of the invention is to provide a signal of this character having illuminating means adapted to be automatically lighted when the signal is displayed, and capable of being cut out during the day time when a light is unnecessary.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is an elevation of an automobile danger signal, constructed in accordance with this invention. Fig. 2 is a transverse sectional view, taken substantially on the line *x*—*x* of Fig. 1. Fig. 3 is a longitudinal sectional view, taken substantially on the line *y*—*y* of Fig. 2. Fig. 4 is a detail view of the reciprocatory slide. Fig. 5 is a similar view of the sign.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates an oblong casing, designed to be constructed of sheet metal, or other suitable material and provided with a horizontal partition 2, dividing the casing into upper and lower compartments or spaces, as clearly illustrated in Figs. 2 and 3 of the drawings. The casing is provided at the front of its upper portion with a transparent plate 3 of glass, or other suitable material, which is arranged in outer upper and lower grooves or ways 4. The casing is provided at the top and bottom of the upper compartment with the grooves or ways 4, intermediate grooves or ways 5 and inner grooves or ways 6. The inner grooves or ways 6 receive a sign 7, designed to be constructed of any suitable material and provided with letters spelling the word "stop," as clearly illustrated in Fig. 5 of the drawings, but any other suitable word of warning may be employed, as will be readily understood.

The sign, which is in the nature of a transparency to enable it to be illuminated at night, is covered and uncovered by a reciprocatable slide 8, mounted in the intermediate grooves or ways 5 and provided with alternately arranged openings 9 and imperforate opaque portions, and slidable back and forth to carry the openings to and from the letters of the sign to display and cover the same. The front plate 3 protects the slide and the sign, which is spaced from the rear wall of the casing and from a series of electric lights 10 for illuminating the sign at night.

The slide is provided with a depending extension 11, operating in a longitudinal slot 12 of the partition 2 and located at a point intermediate of the ends of the slide, which is normally held in its closed position by a coiled spring 13. The coiled spring 13, which is housed within the lower space or compartment of the casing, is located at one end of the latter, its outer end being secured to the adjacent end wall and its inner end being connected with the extension 11. The extension 11 is provided with a perforation 14, into which the inner end of the spring is hooked, and the end wall of the casing is provided with an eye 15 to receive the other end of the coiled spring. The spring operates to return the slide automatically to its closed position, with its imperforate portions covering the letters of the sign after the latter has been displayed and the slide is free to move.

The slide is reciprocated to display the sign by means of a pneumatically operated piston 16, connected at one end with the extension at the lower portion thereof, and provided at its inner end with a head, which is arranged within a cylinder 17. The cylinder extends longitudinally of the casing, and is provided at the bottom with horizontal lugs 18, which are suitably secured to

the bottom of the casing, as clearly shown in Fig. 2 of the drawings. The cylinder is provided at its outer end with an inlet port, to which is connected a flexible tube 19, provided with a compressible bulb 20 and designed to extend from the back of an automobile to a point within easy reach of the chauffeur. The casing is provided at the top with suitable lugs or ears 21, adapted for the reception of screws, or other suitable fastening devices for attaching the signal to the back of an automobile in a conspicuous position, and in practice it is designed to be made of a size to enable it to be clearly distinguished and read at a considerable distance, in order to afford automobiles in rear of the one displaying the signal ample opportunity to stop or pass around the same.

When the bulb is compressed, the air is forced through the tube or pipe 19, and the piston is actuated to move the slide longitudinally of the casing a distance sufficient to uncover the letters by carrying the openings 9 to the same. The reciprocation of the slide is limited by the length of the slot 12, the extension being carried from one end wall of the same to the other end wall thereof, which results in distending the coiled spring. As soon as the bulb is released, the slide is moved in the opposite direction by the coiled spring, the compressed air escaping from the cylinder back to the bulb. The cylinder is equipped with an inwardly opening air inlet valve 22, located beyond the limit of the inward movement of the piston and adapted to permit free inlet of air when the bulb is not compressed. The compression of air within the cylinder by the operation of the bulb holds the valve 22 tightly closed and prevents leakage.

Instead of compressing the bulb by hand, any suitable means may be employed for enabling the air to be compressed by the foot of the operator.

The electric lights are arranged in a circuit having wires 23 and 24, extending from a battery 25 to terminals 26 and 27, at which is mounted a circuit breaker 28. The circuit breaker 28 consists of a spring, connected at one end to the terminal 27 and having its other end spaced from the terminal 26, when the letters of the sign are covered by the slide. The spring is located within the path of the extension 11 and is carried into contact with the terminal 26 by the slide, when the latter is operated. This operates to close the circuit and light the electric lights, and thereby illuminate the sign for enabling the same to be seen at night. The slide is provided with a beveled or inclined edge 29, which is arranged to engage and actuate the circuit breaker. Various other means, however, may be employed for enabling the slide to close the circuit and light the electric lights when the signal is operated. The circuit is also equipped with a switch 30, adapted to be opened in the day time to cut out the electric lights, when it is unnecessary to display an illuminated signal. The electric lights, which are mounted on the back of the casing, are connected with the wire 24, which has a branch 24^a extending to the terminal 26.

The signal besides being adapted for use on the back of an automobile to prevent rear end collisions may be advantageously employed in a variety of other positions for various purposes.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A signal of the class described comprising a sign having the individual characters thereof separated by intervening spaces, a slide provided with alternately arranged openings, and opaque portions corresponding in size with the said characters and spaces of the sign, said slide being located in front of the sign and movable longitudinally to cover and uncover the characters of the sign to expose and conceal the latter, a spring arranged to move the slide in one direction, and manually operable means including a cylinder and a piston for moving the slide in the opposite direction and for holding the same at the limit of its movement in such direction.

2. A signal of the class described comprising a sign, a reciprocatable slide arranged to cover and uncover the sign and provided with an extension, a spring for moving the slide in one direction, a cylinder, a piston operating in the cylinder and arranged to actuate the extension of the slide for moving the same in the opposite direction, and means for producing pressure in the cylinder to actuate the piston.

3. A signal of the class described comprising a sign, a reciprocatable slide arranged to cover and uncover the sign and provided with an extension, and operating mechanism for actuating the slide including a cylinder, a piston operating within the cylinder and arranged to actuate the extension of the slide, and means for producing pressure within the cylinder to actuate the piston and for holding the slide at the limit of its movement in one direction.

4. A signal of the class described comprising a sign, a slide arranged to cover and uncover the sign and provided with an extension, a spring connected with the slide for moving the same in one direction, a cylinder, a piston operating in the cylinder and arranged to actuate the extension of the slide for moving the same in the opposite direction, and pneumatic means including a compressible bulb for producing pressure within the cylinder for actuating the piston.

5. A signal of the class described comprising a sign, a reciprocatable slide arranged to

cover and uncover the sign and provided with an extension, means arranged in the path of the extension for limiting the movement of the slide, a spring connected with the slide for moving the same in one direction, and operating mechanism including a cylinder, and a piston operating in the cylinder and arranged to actuate the extension of the slide for moving the same in the opposite direction.

6. A signal of the class described comprising a sign, a reciprocatable slide arranged to cover and uncover the sign and provided with an extension, a spring connected with the slide for moving the same in one direction, operating mechanism for moving the slide in the opposite direction, and illuminating means including an electric light, a circuit, and a circuit breaker consisting of a spring arranged in the path of the extension and actuated by the same to close the circuit.

7. A signal of the class described comprising a casing provided with ways and having a slot, a sign located within the casing, a reciprocatable slide arranged in the said ways and having an extension operating in the said slot, which limits the movement of the slide, and means for actuating the slide to display and cover the sign.

8. A signal of the class described comprising a sign, a slide for covering and uncovering the sign, manually operable operating mechanism for actuating the slide and for holding the same at the limit of its movement in one direction, and means operable by the operating mechanism for controlling the illumination of the sign.

9. A signal of the class described comprising a sign, a slide arranged to cover and uncover the same, manually operable means for actuating the slide and for holding the same at the limit of its movement in one direction, a circuit, an electric light arranged in the circuit for illuminating the sign, and means operated by the movements of the slide for opening and closing the circuit.

10. A signal of the class described comprising a sign, a slide arranged to cover and uncover the same, manually operable means for actuating the slide and for holding the same at the limit of its movement in one direction, a circuit, an electric light arranged in the circuit for illuminating the sign, a circuit breaker arranged in the path of the slide and adapted to be closed by the same.

11. A signal of the class described comprising a sign, a slide arranged to cover and uncover the sign, manually operable means for actuating the slide and for holding the same at the limit of its movement in one direction, a circuit having spaced terminals, an electric light arranged in the circuit for illuminating the sign, and a circuit breaker consisting of a spring connected with one of the terminals of the circuit and normally spaced from the other terminal and arranged to be carried into contact with the same by the slide.

12. A signal of the class described comprising a casing, a sign mounted within the casing, a slide arranged to cover and uncover the sign and having an extension, means connected with the extension for actuating the slide, a circuit having spaced terminals, a plurality of electric lights connected with the circuit and mounted within the casing for illuminating the characters of the sign, a circuit breaker connected with one of the terminals of the circuit and arranged to be carried into contact with the other terminal thereof by the extension of the slide.

13. A signal of the class described comprising a sign, a reciprocatable slide arranged to cover and uncover the sign and provided with an extension, means arranged in the path of the extension for limiting the movement of the slide, a spring connected with the extension for moving the slide in one direction, operating mechanism including a cylinder, and a piston arranged to actuate the extension for moving the slide in the opposite direction, and illuminating means embodying an electric light, a circuit, and a circuit breaker arranged in the path of the extension and actuated by the same to close the circuit.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

OSCAR HERRMANN.

Witnesses:
B. B. ZIPPERT,
OTTO GREENBERGER.