

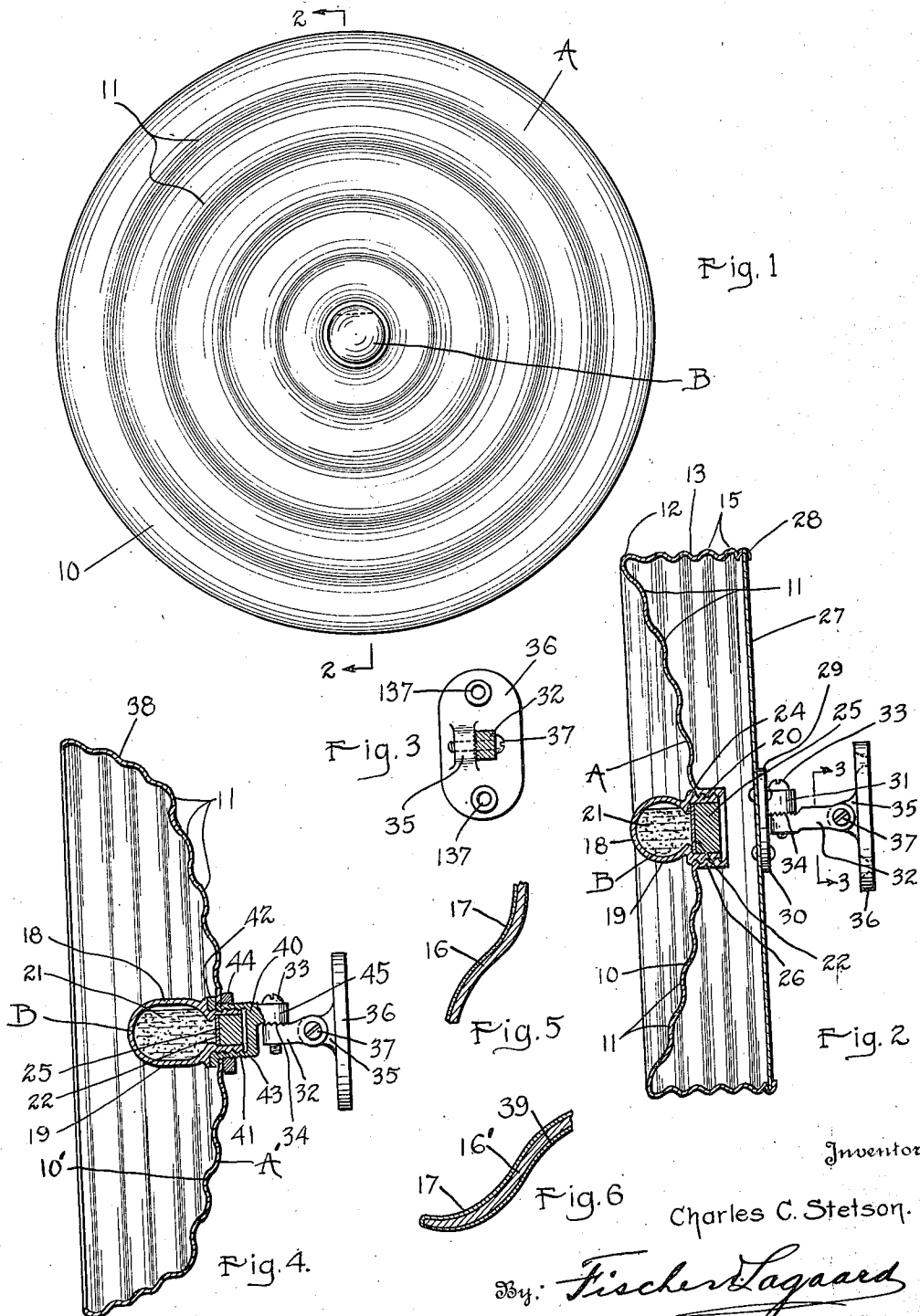
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C. C. STETSON

WARNING LAMP

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Inventor

Charles C. Stetson.

By: *Fischer & Lagaard*

Attorneys

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CHARLES C. STETSON, OF ST. PAUL, MINNESOTA.

WARNING LAMP.

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My invention relates to warning lamps and has for its object to provide a lamp adapted to give a signal or warning to approaching persons of the existence of the structure to which the device is attached.

Another object of the invention is to provide a lamp which is constructed with a reflecting surface having a translucent coating formed thereon which is adapted to become illuminated by means of the rays of the headlights of an approaching vehicle.

Another object is to provide in conjunction with said reflector a removable, transparent container having a luminous substance therein adapted to direct its rays upon said reflector to cause the same to become illuminated.

Another object of the invention resides in forming said reflector with undulations so that the rays of the headlight or other light source impinging thereon may, regardless of the angle thereof, strike upon some surface which will reflect the rays to the eyes of the observer and to further form said reflector with surfaces such that the structure will be visible by the observer whether viewed from the front or from the side of the reflector.

Another object of the invention resides in providing the container for the luminous substance with an inactive liquid in which particles of the luminous substance are suspended so that agitation of the liquid causes the luminous particles to be moved, thereby agitating the same and producing a spectacular appearance to the device.

Another feature of the invention resides in providing an adjustable support by means of which the inclination of the axis of the device may be varied to suit the requirements.

Other objects of the invention reside in the detailed construction of the same as clearly brought out in the specification and claims.

In the drawing illustrating the invention in one form,

Figure 1 is a front, elevational view of the device.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a sectional view taken on line 3—3 of Figure 2.

Figure 4 is a view similar to Figure 2 of a modified form of the invention.

Figure 5 is a detailed, sectional view showing

the construction of the reflector illustrated in Figure 2.

Figure 6 is a view similar to Figure 5 showing the construction of the reflector illustrated in Figure 4.

In use in conjunction with motor vehicles particularly where the same are not equipped with storage batteries for operating electrical headlights and for immobile objects it is highly desirable to have a warning lamp which may be attached thereto and which will indicate to approaching vehicles or passengers the existence of the object at the particular locality. My invention meets with these requirements in that the device is visible through the luminous device with which it is equipped, whether the vehicle has a headlight or not and is further more visible when the vehicle equipped with headlights approaches the same, the rays from said headlights impinging upon the reflector and causing the same to reflect in a manner to illuminate the reflector so that the same becomes visible to the observer.

The construction of one form of my invention is illustrated in Figure 2. This device consists primarily of a reflector A having a parabolic portion 10 formed with corrugations or undulations 11 concentrically arranged upon the surface of the same. At the extreme periphery 12 of reflector A the same is bent to form a flanged portion 13 which extends rearwardly of the structure as clearly illustrated. This flanged portion 13 is formed with undulations 15 similar to those illustrated at 11, being, however, more closely spaced and shallower. The reflector is preferably constructed of a metal base 16 as illustrated in Figure 5, which is coated upon its entire exterior surface with a coating 17 of glazed enamel or similar substance which is glazed or fired upon the same in a manner well known in the art. This coating 17 is of a red color and is of such formation that the same has great reflecting powers. When the rays of the headlights of an approaching vehicle impinge upon the coating 17 the said rays are reflected therefrom causing the entire reflector A to have the appearance of a red lamp or an illuminated disk of red color. With the arrangement shown in Figure 2 when the vehicle is directed toward the surface 10 of reflector A the said surface is illuminated. When, on the other hand, the vehicle is directed to the side of the device the surface 13 is illuminated, which acts in

a similar manner. By forming the surfaces of the reflector A with the undulations 11 and 15 it can readily become apparent that no matter what the direction of the rays of light directed upon the same there will at all times be some portion of the reflector which will reflect the light rays to the observer, so that the illumination of the same becomes visible.

For illuminating the device so that the same may become visible to the observer when a headlight or other source of light is not available or adapted to be directed upon the reflector, I provide an illuminating member indicated at B. This device consists primarily of a bottle or container 18 formed of glass or some other transparent material which has a globular portion 19 terminating in a threaded neck 20. The globular portion 19 is filled to almost but not quite, its entire capacity with an inert or inactive liquid 21 in which is suspended small particles of some luminous substance such as phosphorus or certain compounds of radium, the remainder of the space being a vacuum. The container 18 is sealed by means of a cap 22 which is positioned upon an annular shoulder 24 arranged at the throat of the neck 20 and which is held in place by means of a fused mass 25 of some suitable sealing compound which in addition forms a moisture and air tight closure for the container 18. As will be noted, in Figure 2 container 18 is not completely filled with the liquid so that the same will be readily agitated where the warning lamp is attached to a moving object. By this means the particles of luminous substance within the container 18 are caused to be at all times agitated, thereby giving a highly spectacular appearance to the device. The illuminating member B is secured to the center of the reflector A by means of the threaded neck 20 thereof which is screwed into a threaded socket 26 formed at the center of the parabolic portion 10 of said reflector. The illuminating member B is so situated that the rays of light emitted from the same shine upon the surface 10 of said reflector and cause the same to be illuminated in a manner similar to that occasioned by the direction of the rays of light of the headlight of a vehicle upon the same. With this construction the warning lamp may at all times be visible whether the same is illuminated by external illuminating means or not. Due to the peculiar glow produced by the luminous member B and its effect upon the colored reflecting surface of the reflector A this luminating lamp produces a very spectacular appearance which readily attracts the eye of the approaching observer, notifying him of the existence of the object to which it is attached.

For supporting the device I employ a

back 27 which is attached to the flanged portion 13 of reflector A by forming a shoulder upon the extreme edge of the same and turning said edge over upon the back 27 as clearly shown at 28 in Figure 2. Upon the center of the back 27 is riveted or otherwise secured a casting 29 having a base 30 from which issues a lug 31. An arm 32 is secured to the lug 31 in adjustable position relative thereto by means of a screw 33 which passes freely through the lug 31 and is screwed into said arm. Both the lug 31 and the arm 32 along the contacting surfaces are formed with serrations 34 which hold the same in fixed position after the screw 33 has been tightened and which permit of relative adjustment of the said arm and reflector to vary the angle of inclination thereof. The other end of the arm 32 is similarly attached to a lug 35 formed on a plate 36 by means of another screw 37. It will be noted that the screw 37 is positioned at right angles to the screw 33 so that the entire device may be adjusted in both a horizontal and vertical direction. Plate 36 is provided with two or more screw holes 137 through which screws or bolts or other suitable devices may be inserted so that the said plate with the warning lamp attached thereto may be rigidly secured to the surface of any object to which it is desired to attach the device. In mounting the warning lamp the screw 33 is first removed and the plate 36 with the arm 32 secured thereto is mounted in the desired locality. The warning lamp is then placed in position and the screw 33 screwed into the arm 32 with the lamp arranged at the desired angularity. In my invention the screw 33 may be manipulated with a long screw driver so that the device can be attached relatively close to the surface of the object upon which it is mounted without any very great inconvenience.

In the form of the invention shown in Figure 4 the reflector A' is formed with a parabolic portion 10' similar to the device shown in Figure 2 and is formed with a flanged portion 38 which in this case extends outwardly from the parabolic portion 10' in the same direction, instead of in the reverse direction as shown in Figure 2. The reflector A' is constructed in this case as shown in Figure 6 with the body portion 16' and the reflecting coating 17 formed on the interior thereof and in addition has another coating 39 similar to the coating 17 extending completely about the exterior surface thereof. The operation is similar to the device shown in Figure 2, being visible from all sides by the direction of light rays from the headlights of a vehicle upon the same. When viewed from the front the coating 17, the same as in the other form of the invention, reflects the illuminating

light to the eye of the observer, while when the device is viewed from the side or the rear the coating 39 performs the same function.

5 The method of mounting the structure shown in Figure 4 differs slightly from that shown in Figure 2. Here a socketed member 40 is employed which is internally threaded at 41 to receive the neck 20 of illuminating member B. This member 40 passes through the center of the reflector A and is formed with a shoulder 42 which abuts against the inner surface of the same. This member is threaded at 43 upon its exterior and is adapted to receive a burr 44 which is screwable upon the threaded portion 43 thereof and is adapted to screw against the outer surface of the reflector A' and to clamp the said socketed member 20 securely in place upon said reflector. Upon the rear of the socketed member 40 is formed a lug 45 which serves the same function as the lug 31 and has adjustably attached to it the arm 32 which is mounted upon the plate 25 36. This device is used in identically the same manner as in the other form of the invention, differing principally in that the coating of reflecting material is formed on both sides of the reflector instead of on 30 merely one side only.

The advantages of my invention are apparent. My invention provides an extremely simple device which can be readily attached to any existing object to warn persons approaching the same of the existence of the object. Where persons approach upon foot or by an animal drawn vehicle the rate of speed is considerably slower than is the case with the motor vehicle and in such cases no lights are usually employed. The luminous member formed in my invention provides sufficient illumination so that when the observer arrives close enough to the device the lamp is readily observed and the warning given. When, on the other hand, a motor vehicle which is traveling at a high rate of speed approaches the device the rays of light emitted from the headlights thereof shine directly upon the reflecting surface of the device and cause the same to be illuminated and to become visible for a considerably greater distance due to the volume of light cast upon the same by the headlights. In this manner the device 55 serves equally as well to warn the motorist as to warn the pedestrians and others. The device can be readily constructed at a small cost and requires no maintenance or attention whatsoever after it has been installed, since the luminous member furnishes sufficient illumination to make the device visible in the night time. With the particular arrangement of parts the container for the

luminous member in case of breakage can be unscrewed and a new member readily re- 65 placed.

In accordance with the patent statutes I have described my invention, illustrating the best embodiment thereof, but I desire to have it understood that the invention can 70 be carried out by other means and applied to uses other than those above set forth within the scope of the following claims.

I claim:

1. A warning device comprising a dish 75 shaped reflector, a source of light positioned at the center thereof adapted to direct its rays upon the reflecting surface thereof and a plurality of concentrically arranged unbroken undulations of substantially the same 80 amplitude formed in substantially the entire reflecting surface of said reflector.

2. A warning device comprising a reflector, having a dish shaped portion forming a reflecting surface and a portion positioned at the periphery thereof and extending normal to the plane of said periphery and forming a second reflecting surface, both of said reflecting surfaces being formed with undulations along the entire extent thereof. 90

3. A warning device comprising a reflector having a dish shaped portion and a flanged portion connected therewith, said reflector being formed with concentric undulations extending along the reflecting surfaces of both portions thereof, a transparent container positioned within said reflector concentrically arranged relative to said undulations, and a luminous substance confined within and partly filling said container. 100

4. A warning device comprising a reflector, a transparent container positioned within said reflector, an inert liquid confined within and partly filling said container and particles of luminous matter suspended 105 within said liquid.

5. A warning device comprising a reflector having a dish shaped portion, a flanged portion connected therewith extending outwardly from said dish portion, said reflector being formed with undulations along the reflecting surfaces thereof, a socketed member positioned at the center of said reflector, a receptacle detachably mounted in said socketed member, a luminous substance confined within said receptacle and attaching means secured to said device. 115

6. A warning device comprising a dish shaped reflector, a luminous member positioned at the center thereof, a flanged portion connected with the periphery of said dish shaped reflector and extending rearwardly thereof, a back secured to the outer edge of said flanged portion and supporting means mounted upon said back. 120

CHARLES C. STETSON.