

June 28, 1938.

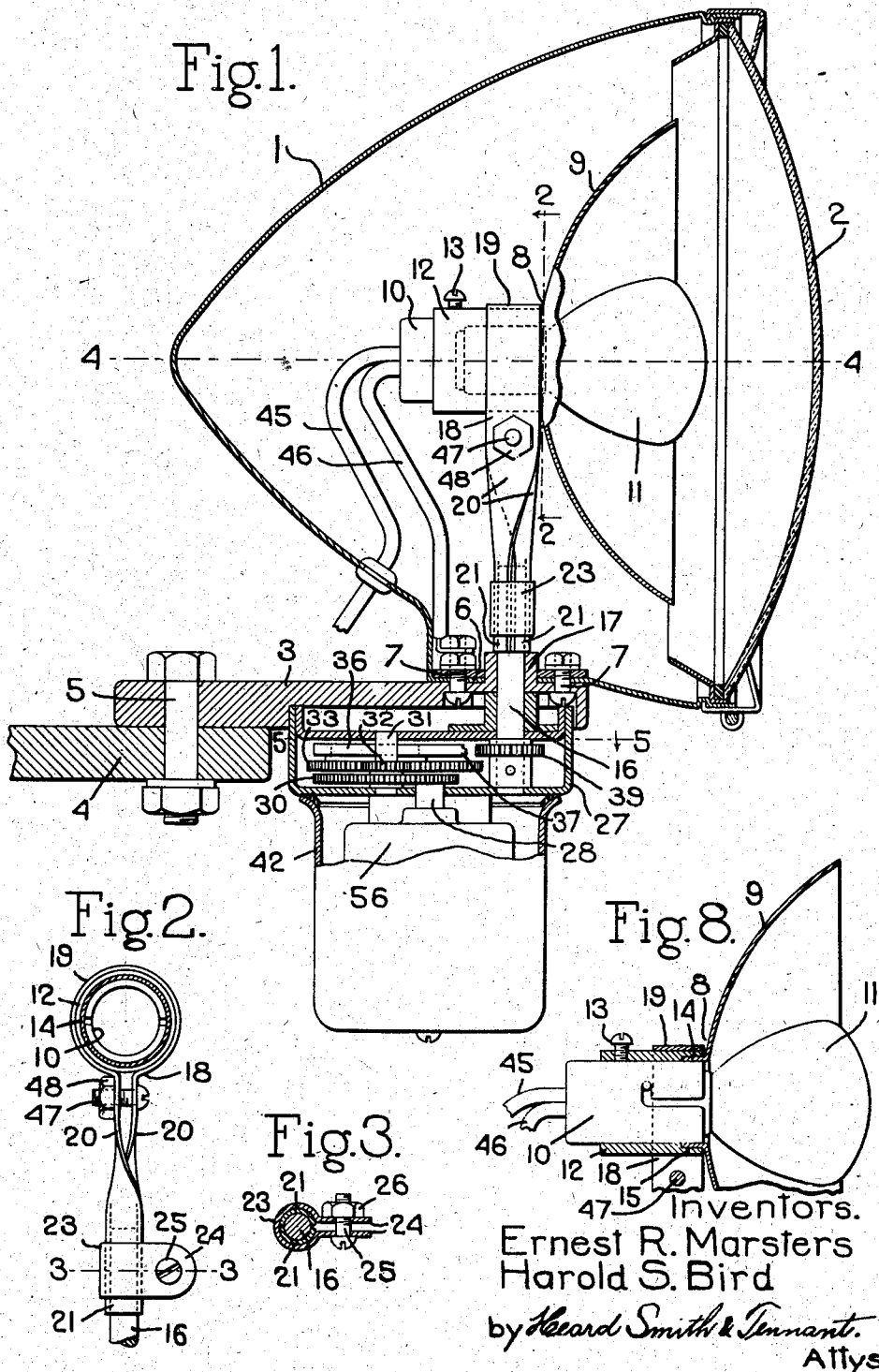
E. R. MARSTERS ET AL

2,122,008

SIGNAL LIGHT

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Fig. 4.

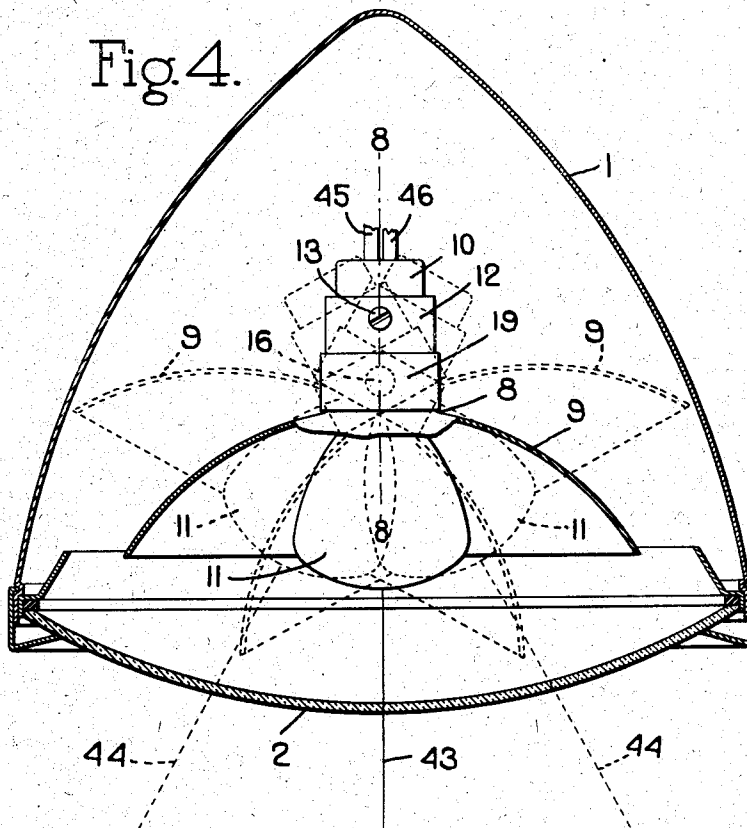


Fig. 5.

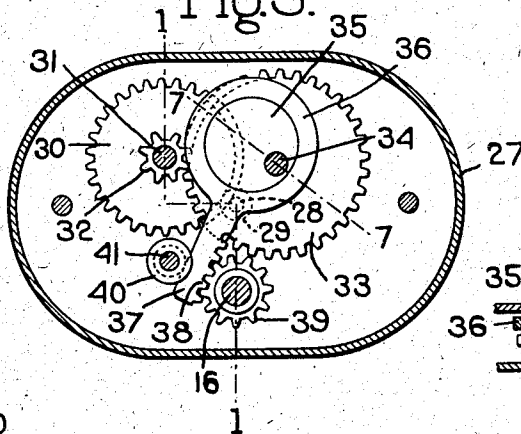


Fig. 6.

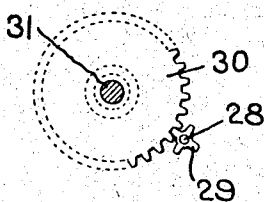
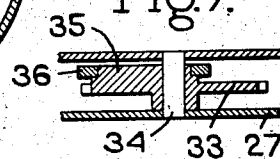


Fig. 7.



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2,122,008

SIGNAL LIGHT

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3 Claims. (Cl. 240-48)

This invention relates to signal lights and particularly to signal lights which are designed to project a vibrating beam.

One of the objects of the invention is to provide an improved signal light of this character in which the projected beam of light is vibrated in a horizontal plane, and a further object of the invention is to provide a novel manner of mounting the electric lamp and reflector so as to secure the horizontal vibration of the projected beam.

A signal light embodying the invention can be used advantageously on fire apparatus, ambulances, police cars and other emergency vehicles for the purpose of producing a warning signal to those in the path of the vehicle to show that the emergency vehicle is approaching.

In order to give an understanding of the invention, we have illustrated in the drawings a selected embodiment thereof which will now be described after which the novel features will be pointed out in the appended claims.

In the drawings:

Fig. 1 is a partial vertical sectional view through a signal light embodying the invention, the partial section through the shaft-vibrating mechanism being taken on the line 1-1, Fig. 5;

Fig. 2 is a section on the line 2-2, Fig. 1;

Fig. 3 is a section on the line 3-3, Fig. 2;

Fig. 4 is a partial section on the line 4-4, Fig. 1, looking downwardly;

Fig. 5 is a section on the line 5-5, Fig. 1;

Fig. 6 is a fragmentary view of part of the apparatus for vibrating the beam of light;

Fig. 7 is a section on the line 7-7, Fig. 5;

Fig. 8 is a partial section on the line 8-8, Fig. 4.

In the drawings 1 indicates a stationary lamp housing within which the lamp is situated, said housing being equipped with the usual lens 2 through which the beam of light is projected. This lens may be of any desired color or of no color depending upon whether it is desired to project a colored beam of light or a beam of white light.

The lamp housing 1 is stationarily mounted on a base or support 3 which may be attached to the motor vehicle in any appropriate way. The base is herein shown as being bolted to a portion 4 of the motor vehicle by means of a clamping bolt 5. The lamp housing 1 is made of sheet metal pressed into shape and is formed with a horizontal seat portion 6 which rests on the support 3 and is secured thereto by clamping bolts 7.

Situated within the lamp housing 1 is a com-

bined reflector and socket element designated generally at 8. This combined reflector and socket element 8 comprises a reflector member 9 and a socket member 10, the latter having the usual provision for receiving the bulb 11. 45 and 46 indicate wires of the lamp circuit which lead to the socket 10. The wire 46 is shown as grounded on the stationary lamp housing. The reflector member has rigid therewith a hollow boss or sleeve portion 12 within which the socket member 10 is received, said socket member being held in position by means of a clamping screw 13. The reflector member 9 is made of sheet metal and is provided with the short neck portion 14 which enters and fits within one end of the sleeve element 12, the latter being recessed for this purpose as shown at 15.

Projecting into the lamp housing from the exterior thereof is a vertical shaft 16 which extends through and has a bearing in the support 3 as shown at 17. The combined reflector and socket assembly is rigidly secured to the upper end of the shaft 16, and means are provided for oscillating the shaft thereby to cause the combined reflector and socket assembly to be oscillated in a horizontal plane or about a vertical axis. The beam of light is projected by the reflector in a horizontal direction and the oscillating movement of the shaft 16 causes such projected beam to be vibrated horizontally.

The means shown for connecting the lamp assembly 8 to the shaft 16 comprises a strap member 18, the central portion 19 of which encircles the sleeve 12, and the ends 20 of which are directed downwardly. The lower extremity 21 of each end 20 is curved to fit partially around the shaft 16, the two curved portions 21 forming a cylindrical socket which fits over the upper end of the shaft 16. These portions 21 are clamped to the shaft 16 by means of a clamping member 23 which is in the form of a strap encircling the portions 21 and provided with two ears 24 through which a clamping bolt 25 extends. The clamping bolt is provided with the usual clamping nut 26 so that by tightening up the nut 26 the clamping member 23 will be firmly clamped to the portions 21 and the latter will in turn be clamped firmly to the shaft 16. The central portion 19 of the strap member 18 is clamped firmly to the sleeve 12 by means of a clamping bolt 47 and clamping nut 48 screwed thereto.

Means are provided for oscillating the shaft 16 so as to produce the horizontal vibrating movement of the beam of light, and such means comprises a suitable motor 56 and an appro-

5 appropriate train of gearing connecting the motor to the shaft 16 which will cause the shaft to oscillate, said gearing being enclosed in a gear casing 27 which is secured to the under side of the support 3. The motor shaft 28 projects into the gear casing 27 and has a pinion 29 mounted on its upper end. Said pinion meshes with a gear 30 fast on a vertical shaft 31 which is journaled in the gear casing 27, and said shaft 31 has a pinion 32 thereon which meshes with a gear 33, the latter being fast on a shaft 34 journaled in the gear housing. The gear 33 has an eccentric portion 35 rigid or integral therewith, which eccentric portion is received within an eccentric strap 36 that is formed with a projecting arm 37 having gear teeth 38 and which, therefore, constitutes a rack. The teeth 38 of the rack 37 mesh with the teeth of a pinion 39 that is fast to the shaft 16. 40 indicates a roll rotatively mounted on a shaft 41, said roll engaging the back side of the rack 37 and holding it in mesh with the pinion 39.

The rotation of the gear 33 and its eccentric portion 35 will produce a to-and-fro movement of the rack 37 which will in turn cause the shaft 16 to oscillate.

The motor 56 is shown as enclosed in a casing 42 that is secured in any suitable way to the gear housing 27. The operation of the device will be readily understood from the foregoing.

The lamp, when lighted, will project a beam of light horizontally and when the motor circuit is closed the shaft 16 with the lamp assembly mounted thereon will be oscillated about a vertical axis thereby causing the light to be vibrated horizontally as indicated by the full and dotted line positions in Fig. 4. The full line position of the lamp assembly in Fig. 4 is a mid position in which the beam of light, indicated diagrammatically by the line 43, will be projected straight ahead. The two dotted line positions of the lamp assembly indicate the limits of the oscillating movement thereof and in these two extreme positions the beam of light will be pro-

jected in the direction of the dotted lines 44. When the motor is operating, therefore, the beam of light is vibrated between the two extreme positions indicated by the dotted lines Fig. 4. If the lens 2 is a colored lens, a red lens, for instance, then the beam of light will have a corresponding color. It is intended that the lamp structure should be attached to the automobile so that it will project its beam forwardly, and the vibrating movement of the strong beam of light will give a very effective signal to those in the path of the vehicle indicating that an emergency vehicle is approaching.

We claim:—

1. A signal light comprising a stationary lamp housing, a shaft extending vertically into said housing, a combined reflector and socket unit having a hub portion, and a member for supporting said unit from the shaft, said member having a portion encircling and clamped to the hub portion of the unit and another portion secured directly to the shaft.

2. A signal light comprising a stationary lamp housing, a shaft extending vertically into said housing, a combined reflector and socket unit having a hub portion, a strap member encircling said hub portion and clamped thereto, and means for securing the ends of the strap member to the shaft.

3. A signal light comprising a supporting member, a lamp housing stationarily secured thereto, a shaft extending through the base into the lamp housing, a reflector unit having a hollow hub, a lamp socket secured in said hub, a lamp carried by the socket, a strap member encircling said hub and having its two ends extending radially therefrom and curved to fit the shaft, a clamping bolt for clamping the strap to said hub portion, a clamping device for clamping the ends of the strap to the shaft, and means to oscillate the shaft.

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