

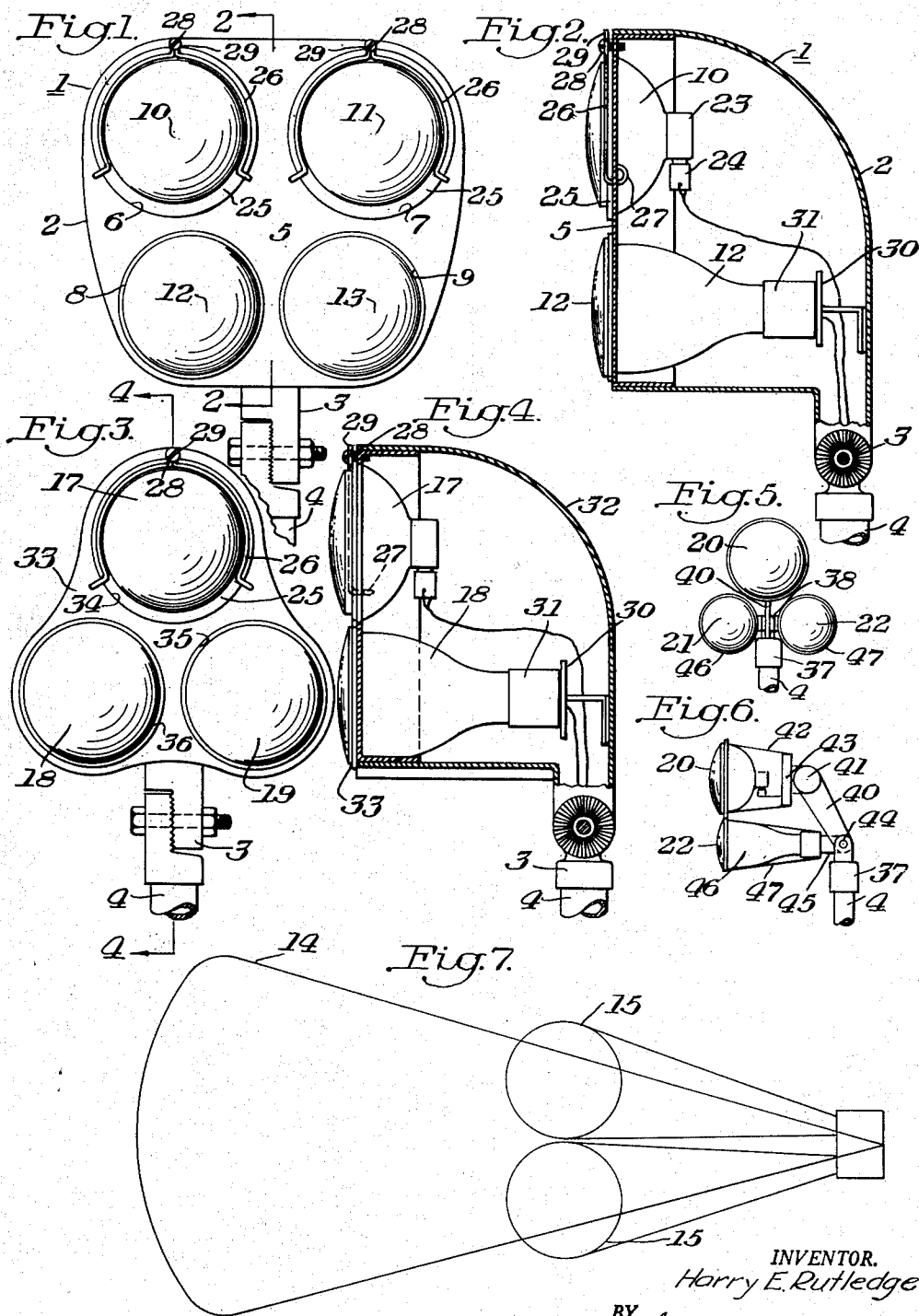
July 14, 1953

H. E. RUTLEDGE  
FLOODLIGHT HAVING SEALED BEAM LAMPS FOCUSED  
TO FORM A SPECIFIC LIGHT PATTERN

2,645,705

Filed March 7, 1951

2 Sheets-Sheet 1



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Fig. 8.

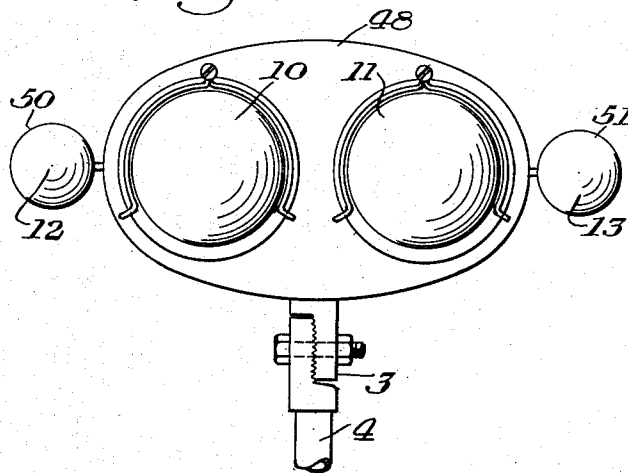


Fig. 9.

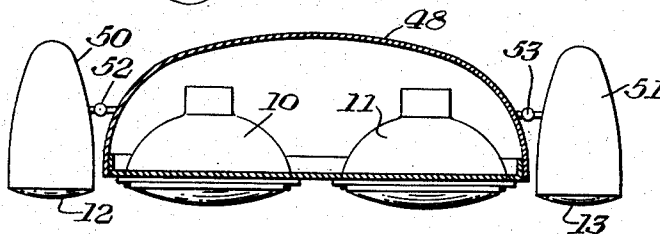
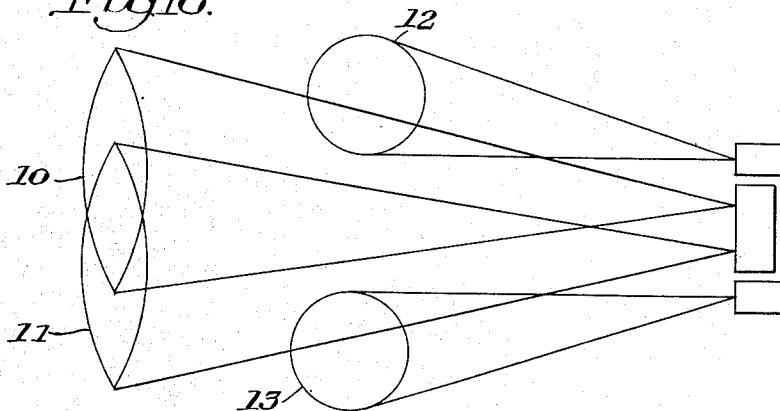


Fig. 10.



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## UNITED STATES PATENT OFFICE

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FLOODLIGHT HAVING SEALED BEAM LAMPS  
FOCUSED TO FORM A SPECIFIC LIGHT  
PATTERN

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Application March 7, 1951, Serial No. 214,367

1 Claim. (Cl. 240—3)

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This invention relates generally to lighting units and more particularly to lighting units for illuminating areas around gasoline stations, depots and the like.

The light comprising this invention is particularly advantageous for use in lighting service stations, parking lots, railway yards, transfer depots and the like.

The principal object of this invention is the provision of a light arranged when supported high in the air and focused to provide a continuous light pattern that will provide substantially good light intensity at a material distance and also adjacent the bottom of the pole.

Another object is the provision of a focused flood light providing a continuous light pattern which extends from adjacent the base of the light outwardly flaring and with little loss of light upwardly.

Another object is the provision of the light composed of light bulbs of different foci so that the light beams created thereby will produce a light pattern of uniform intensity in parts of the pattern.

Another object is the provision of the light composed of a plurality of sealed in automobile type headlight beams for producing a controlled focus light beam and a general spotlight beam for producing relatively long and narrow light areas, which when assembled together produce a unitary pattern that is of substantially uniform light intensity in a predetermined pattern.

Another object is the provision of a group of lights having a plurality of sealed in beams, some of which are focused and all of which are set to produce a controlled light pattern of substantially uniform light intensity.

Other objects and advantages appear hereinafter in the following description and claim.

The accompanying drawings show, for the purpose of exemplification without limiting the invention or claims thereto, certain practical embodiments of the invention wherein:

Fig. 1 is a front elevation of a fixed focus light comprising this invention having two automobile type sealed in headlamps above and two spotlights below.

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1.

Fig. 3 is a front elevation of a fixed focus light having a cluster of three light bulbs, the uppermost being a sealed in automobile type headlight and the lower two being sealed beam spotlights.

Fig. 4 is a sectional view taken along line 4—4 of Fig. 3.

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Fig. 5 is a front elevation of an individually adjustable cluster of lights as shown in Fig. 3.

Fig. 6 is a side elevation of the structure shown in Fig. 5.

Fig. 7 is a plan view of a light pattern substantially that produced by the structures of Figs. 3 to 5.

Fig. 8 is a front elevation of a light unit with two focused automobile type sealed in headlights mounted in fixed focus with two spotlights independently adjustable on the sides of the unit.

Fig. 9 is a top plan view of Fig. 8.

Fig. 10 is a plan view of the light pattern substantially that produced by structures of Figs. 1 and 8.

Referring to Figs. 1 and 2 of the drawings a floodlight 1 comprises a casing 2 having an integral and downwardly open swivel socket 3 for mounting on the top of a pipe or pole as indicated at 4. The housing 2 is provided with a front panel 5 having a plurality of socket openings 6, 7, 8 and 9 for receiving the light bulbs 10, 11, 12 and 13. The light bulbs 10 and 11 being the automobile type headlight sealed in beams whereas the light bulbs 12 and 13 are ordinary sealed in spotlights. The recessed opening for the headlights 10 and 11 must be constructed to mount them so as to extend their beams outwardly and somewhat downwardly from the high position on the pole 4. Neither of these lights can be rotated on their axis from the position shown as the beam issuing from each of these lights is very wide and produces a predetermined elliptical-like pattern, such as indicated at 14 in Fig. 7, with the point of highest intensity at the small loop in the center. The sealed in beams of the lamps 12 and 13 give a substantially circular pattern as indicated at 15 and extend in conical shape back to the lamp as indicated in Fig. 7.

These light patterns are determined by the sockets in the front panel 5 in combination with the fixed focus of the glass forming the light bulb as both of these lights are sealed in beams. However in order to utilize their beam pattern to advantage they must be mounted in such a way as to direct their beams to a predetermined fixed focus relative to each other in order to obtain the desired light pattern. The light pattern such as shown in Fig. 7 can be obtained from a structure such as shown in Figs. 3 and 4 and a light pattern of Fig. 1 is somewhat similar, although the two automobile type headlights 10 and 11 produce an overlapping pattern as shown in Fig. 10. When employing two lamps, they are usually not as large or produce as much light as one would em-

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ploy in a single lamp 17 as shown in Fig. 3 in combination with the two small spotlights 18 and 19 which produce the pattern of Fig. 7.

The same type of a pattern as shown in Fig. 7 may also be produced by the structure as illustrated in Figs. 5 and 6 wherein the automobile type light 20 is mounted in the same relative positions with respect to the sealed in spot beams 21 and 22.

In the light structure as shown in Figs. 1 and 2 the automobile headlight bulbs 10 and 11 have a pronged male base 23 that may be connected with the female asbestos electrical socket 24 permanently wired to the control switch.

All of the sealed in automobile type headlights have an annular shoulder 25 around their outer perimeter which is beyond the light path. The socket openings in the face of these set focused light housings not only properly set each focused lamp but permit the shoulder 25 to be substantially flush with the face of the front panel. A wire bail 26 has hooked ends 27 passing through the holes in the front panel on opposite sides of each lamp 10, 11 and 17 and extends around the shoulder 25 to the loop 28 which is fastened by the screw 29 to the front panel. The hooked ends 27 act as hinges and by removing the screws 29 from the panel the bails carrying the screws will hinge downwardly to allow the light bulb to be removed. A bracket 30 is secured to the back of the housing 2 for supporting the screw sockets 31 for the lights 12 and 13 which are provided with a screw base. As indicated the wires may be connected to supply electrical energy to all four of the lights in the unit.

In the structures, as shown in Figs. 3 and 4, the hood 32 is provided with a face plate or front panel 33 and has the socket openings 34, 35 and 36 to receive the light bulbs 17, 18 and 19, respectively. This hood likewise is provided with a downwardly open swivel socket 3 for receiving the pole 4. The bracket 30 supports the lights 18 and 19 and is secured to the hood 32 in a manner similar to that previously described. The socket openings 34, 35 and 36 are properly positioned relative to each other to direct the focused lamps and produce the pattern shown in Fig. 7. By mounting these lamps one can depend on this prefocused structure and merely adjust and position the whole unit in the direction and position desired.

In the structure, as shown in Figs. 5 and 6, the unit is mounted on the socket 37 arranged to be inserted over the pole 4 and secured thereto. This light unit has a transverse cross arm 38 which is formed integral with the socket 37 and is hollow to receive the wires therein. An upwardly extending bracket arm 40 is likewise formed integral with the cross arm 38 and is provided with a swivel socket 41 at the upper end thereof and the hood 42 with the back 43 for supporting and receiving the lamp 20. The swivel socket 41 on the upper end of the arm 40 is of the ball and socket type and permits the hood 42 to be moved in most any direction. The hood affords protection for the light bulb in any position. The lights 21 and 22 are likewise mounted on swiveling sockets 44 and 45 and are provided with the hoods 46 and 47 which cover the exterior of these lamps. Aside from being able to adjust these lamps independently they can be made to produce substantially the same pattern as the structure shown in Figs. 3 and 4, although it is difficult to obtain or maintain the perfect pattern

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that is maintained by the fixed light unit of Figs. 1 and 3.

The structure of Figs. 5 and 6 enabled one to focus his own lights and the three-leaf cluster structure is provided for this purpose. If these individual lights are not carefully adjusted on their swivel sockets the resulting light pattern will be inefficient and it will not provide the proper illumination that could be obtainable from this structure if properly set.

Referring to Figs. 8 and 9 the lamps 10 and 11 are mounted in a small housing 48 in the same manner and in the same relative position as that disclosed in Figs. 1 and 2. The housing 48 may be much smaller in size since it does not have to be deep enough to contain the lamps 12 and 13. However the setting of the lamps prefocuses them to produce the pattern of Fig. 10. Each of the spots 12 and 13 is independently mounted in their covers 50 and 51 to the sides of the housing 48 and are provided with the swivels 52 and 53 to permit these lamps to be directed at different angles to produce the pattern scheme of Fig. 10 or to turn them in different directions relative to the focused lamps 10 and 11. The focused lamps should be retained fixed relative to each other, as disclosed in Figs. 1 and 8, in order to obtain maximum efficiency from the lighting unit. It is difficult to properly direct the lamps of Figs. 5 and 6, but it would be more difficult if there were four focused lights as in Figs. 1 and 8. The wide elliptically shaped beams are guided by the sockets in the face plates of the units, and, thus, provide the maximum efficiency from these lamps.

In each of the structures the use of the automobile headlight type bulbs closely coupled with ordinary spotlights provides a dual focus light unit that produces a light pattern of higher efficiency than any other known lighting fixture for this purpose. These dual focused lights in each lighting structure produce a pattern wherein the focused upper lights spread over an area which is substantially elliptical and at a distance from the pole. The smaller spotlights are likewise focused and supply the illumination from the bottom of the pole to the light pattern of the focused lights. The spotlights do not have the intensity of the automobile type focused lights and the broad beams of the latter are more suited to light up areas remote of the supporting poles and the smaller spotlights to light up those areas inwardly adjacent thereto. The socket openings pre-position the broad focused beams and the socket openings together with the screw base direct the focus of the spotlight beams. The glass reflector bulbs of both types of lights focus their beams but the fixture utilizes these foci to formulate a dual focused light pattern which provides a material advantage in lighting up areas.

While, for clarity of explanation, certain preferred embodiments of this invention have been shown and described, it is to be understood that this invention is capable of many modifications, changes in the construction and arrangement may be made therein and certain parts may be employed without the conjoint use of other parts and without departing from the spirit and scope of this invention.

I claim:

A pre-focused light for illuminating area of gasoline stations and the like comprising a hood having downwardly sloping back and sides joined with a bottom, mounting means on said hood to support the light in the air, a panel on the

front of said hood and having a plurality of seat means in upper and lower tiers to receive light bulbs, sealed-in beam headlight bulb means providing wide elliptical light pattern mounted in said upper tier, sealed-in beam spotlight bulb means providing small circular light pattern mounted in said lower tier, socket means mounted in said hood to receive the base of said spotlight bulb means, said seat means and said socket means directing a combined light pattern with the wide elliptical light pattern of the headlight bulb means covering the outermost area and the circular light pattern of the spotlight bulb means intersecting the near side of the elliptical light

pattern to form a predetermined light pattern of substantially uniform light intensity.

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