H. MILLER & F. MUELLER.

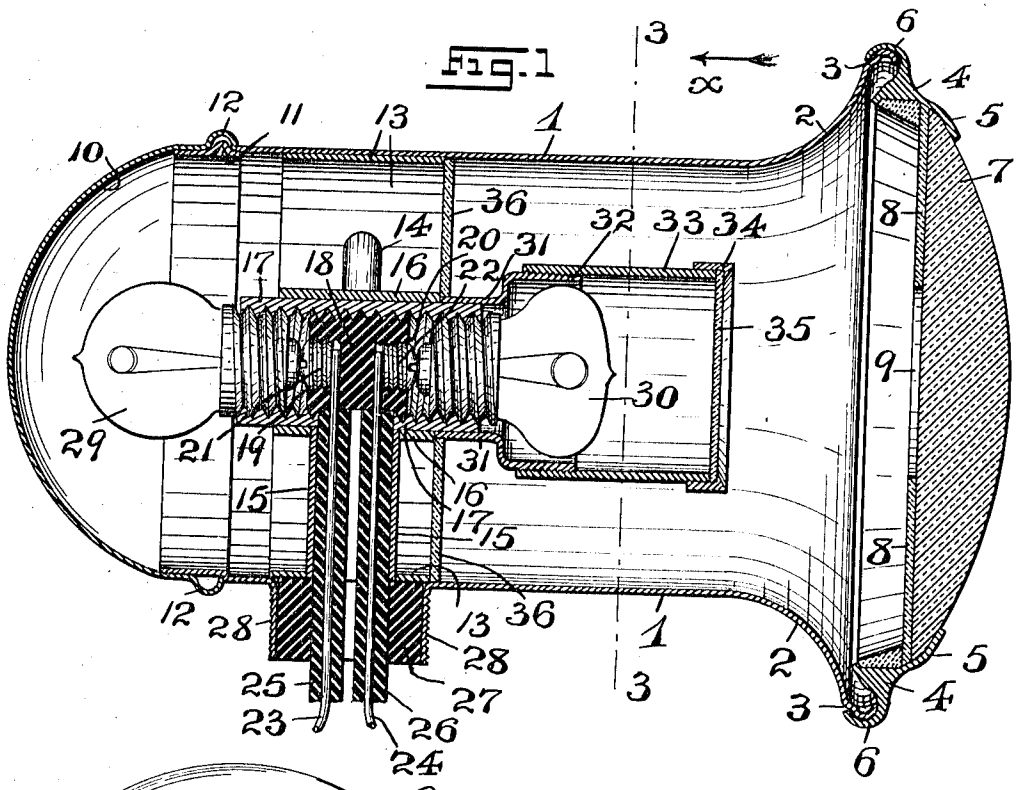
LAMP.

APPLICATION FILED APR. 23, 1915.

1,241,874.

Patented Oct. 2, 1917.

Fig. 1



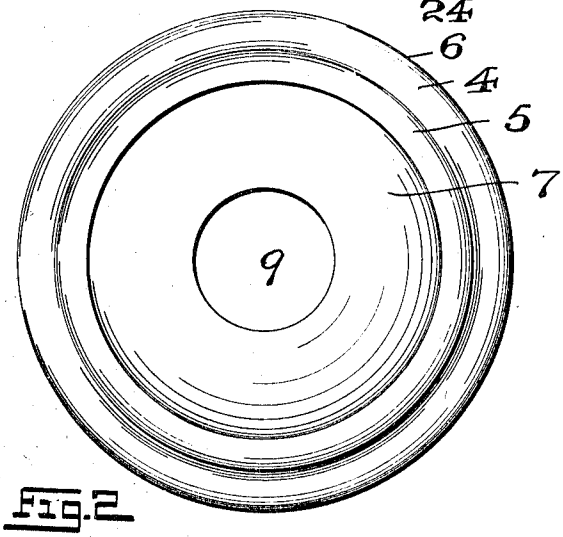


Fig. 2

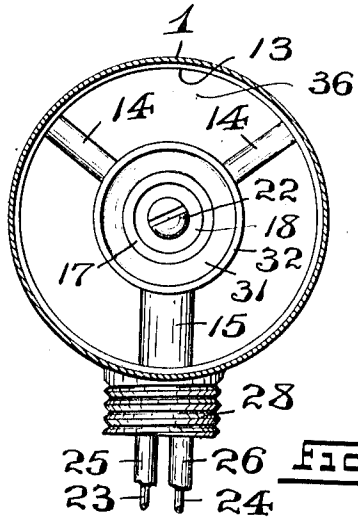


Fig. 3

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UNITED STATES PATENT OFFICE.

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LAMP.

1,241,874. Specification of Letters Patent. Patented Oct. 2, 1917.

Application filed April 23, 1915. Serial No. 23,467.

To all whom it may concern:

Be it known that we, HENRY MILLER and FRITZ MUELLER, citizens of the United States, residing at Newark, in the county of Essex and State of New Jersey, and at Irvington, county of Essex and State of New Jersey, have invented certain new and useful Improvements in Lamps; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention has reference, generally, to improvements in lamps; and, the present invention relates, more particularly, to a novel multi-colored electric lamp which is especially adapted for use as a tail-light for vehicles of the various kinds, but which may also be put to various other uses.

The present invention has for its principal object the production of a novel and simply constructed multi-colored electric lamp comprising in combination with a shell or casing and a lens, a plurality of electric lamps, arranged in independent lighting circuits, and means within the shell or casing of the lamp, for producing independently a light of one color, as red, or a light of another color, as green, or for producing a combined color-effect of such lights, as a combination of red and green, or if desired; any other combination of colors.

The invention has for its further object to provide a novel and simply constructed, as well as an effectively operating electric signaling lamp arranged and constructed so as to provide, in addition to a constantly illumined danger signal, of one color, an intermittently flashed or illumined caution or warning signal, with a view of providing an auxiliary precautionary signal indicating that the vehicle is to turn to the right or left while moving.

Other objects of this invention not at this time more particularly enumerated will be clearly understood from the following detailed description of the present invention.

With the various objects of the present invention in view, the said invention consists, primarily, in a novel multi-colored lamp of the general character hereinafter set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the said parts, all of which will be more fully described in the following specification, and then finally embodied in the clauses of the claim which are appended to and which form an essential part of the said specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a longitudinal vertical sectional representation of a combination multi-colored signaling lamp illustrating one embodiment of the principles of the present invention; Fig. 2 is a front elevation of the same; and Fig. 3 is a transverse sectional representation of the lamp, said section being taken on line 3—3 in said Fig. 1, looking in the direction of the arrow *x*.

Referring now to the said drawings, the reference-character 1 indicates a main shell or body, of any suitable configuration, the respective end-portions of which are open, as indicated in Fig. 1 of the drawings. The front end-portion of the said body is, preferably, trumpet-shaped or outwardly flaring, as at 2, the marginal edge of which is formed with a curl or bead 3, substantially of the general configuration shown. The reference-character 4 indicates a suitably formed bezel or ring provided with a clamping or retaining member 5 and a curl or bead, as 6, which is brought into retaining engagement or registration with the curl or bead 3 to positively secure the said bezel or ring 4 in its operative position over the front end-portion of the said main shell or body 1, and, furthermore, to provide a watertight connection, as will be clearly evident.

Suitably mounted back of the said clamping or retaining member 5 of the bezel or ring 4 is a lens 7 of clear glass. Upon the back of this lens 7 is an annular glass member, as 8, of a distinct color, preferably

red, the said member 8 being formed with a centrally disposed opening 9, through which the central portion of the said lens is exposed. In lieu of making this member 8 of glass, any other suitably colored material which permits the passage of light-rays may be employed, or any suitable coloring matter may be applied directly to the back of the lens, to provide an annular band or ring of color, as will be clearly evident.

Suitably connected with the rear open end-portion of the said shell or body 1, by means of projections or lugs, as 11 and 12, which may be readily brought into locked registration, or by means of other suitable locking means, is a suitably shaped reflector, as 10, which forms a closure to the main shell or body 1, and is thus detachably connected therewith, as will be readily understood. Suitably secured within the said main shell or body 1, at the desired location, is a metal ring-shaped element 13 which is provided with inwardly radiating arms 14 and a tubular member 15, said arms 14 and the member 15 being suitably connected with and carrying a hub-like member 16. Within said hub-like member is suitably fitted an internally screw-threaded or other suitably formed metal socket, as 17, and 18 indicates a block, made of insulating material, suitably screwed or pressed into the central portion of the said socket 17. In its opposite faces, the said block 18 is provided with screw-threaded receiving sockets 19 and 20 into which are respectively screwed suitable metal contacts, as 21 and 22, and with which are respectively connected electric circuit-wires 23 and 24. The said wires lead from the said contacts 21 and 22 through the previously-mentioned tubular member 15, said wires being insulated from each other, as shown at 25 and 26, and coming out of an insulated plug 27 which is suitably mounted in a screw-threaded or other suitably formed neck-piece 28 with which the shell or body 1 is provided for suitably securing the lamp in position.

Screwed into the respective opposite ends of the metal socket 17, and making contact in the usual manner with the respective contacts 21 and 22, are electric lamps 29 and 30, substantially as shown in said Fig. 1 of the drawings. Suitably mounted over the one projecting end-portion of the said metal socket 17, and contiguous to the hub-like element or member 16, is a tubular element, as 31, formed with an enlarged portion, as 32, which partially surrounds the electric lamps 30, as shown. Suitably connected with and mounted upon said enlarged portion 32 of the element 31 is another element 33, in the form of a shell or casing, provided at its open end-portion with a bezel 34, or similar fastening means, for securing over said open end a transparent element 35 of glass or other suitable material, and of a color different from that of the annular member 8, the color of said element 35 preferably being green, although the said element 35 may be of any other color distinctive from that of the member 8.

Within the said main shell or body 1 of the lamp, suitably located at a point between the lens 7 and the reflector 10 there may be mounted, if desired, a transparent partition 36 of glass or other suitable transparent material and of the same color as the annular member 8.

Now, it will be clearly evident, that when the electric lamp 29 is lighted, the light-rays are reflected from the reflector 10 through the red partition 36 and through the red annular member 8 and the lens 7 in the form of a red light having a centrally disposed white light or spot at the place in said lens 7 in front of the opening 9. It will also be evident that, by lighting the electric lamp 30, the light-rays from said lamp 30, being inclosed in the element 31 and the shell or casing 33, will be directed through the green element or member 35 directly into the opening 9 and through the lens 7, without interfering with the red light-rays, and changing the said central white spot or light readily to a green light.

From the foregoing description and from an inspection of the accompanying drawings, it will be seen that we have provided an effectively operating signaling lamp in which a red light may be continuously burned to indicate danger, and from which a green light may also be intermittently flashed, in conjunction with the red light from the lens of the lamp, to indicate caution.

We are fully aware, that our novel signaling lamp is not dependent solely for use upon moving vehicles, as automobiles or auto-trucks, but that the lamp may also be used in variously disposed lighting or signaling systems.

We are further aware, that various other combinations and multiples of colors may be effectively employed in the lamp, and we are also aware that the general arrangements and combinations of the various devices and parts, as well as the details of the construction of the said parts, may be variously changed without departing from the scope of our invention as set forth in the foregoing specification, and as defined in the clauses of the claim which are appended to the said specification. Hence, we do not limit our present invention to the exact arrangements and combinations of the various devices and parts as described in the said specification, nor do we confine ourselves to the exact details of the construction of the

said parts as illustrated in the accompanying drawings.

We claim:—

1. A lamp for displaying multi-colored lights comprising a shell or casing and a lens, a lighting unit within said shell, and a colored annular transparent element mounted against the back of the lens, said annular transparent element being provided with an open portion, and means within said main shell for projecting light-rays of a different color from that of said transparent element into the said open portion and from said lens.

2. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell, and a reflector at the other end of said shell, a lighting unit within said shell, and a colored annular transparent element mounted against the back of the lens, said annular transparent element being provided with an open portion, and means within said main shell for projecting light-rays of a different color from that of said transparent element into the said open portion and from said lens.

3. A lamp for displaying multi-colored lights comprising a shell or casing, and a lens, a pair of electric lights within said shell, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, and a coloring means coöperating with the other electric light for projecting a light of a different color into said open portion and from said lens.

4. A lamp for displaying multi-colored lights comprising a shell or casing, and a lens, a pair of electric lights within said shell, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, a coloring means coöperating with the other electric light for projecting a light of a different color into said open portion and from said lens, and means coöperating with said last-mentioned electric light for shutting off the light-rays of said last-mentioned electric light from said first-mentioned electric light.

5. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell, and a reflector at the other end of said shell, a pair of electric lights within said shell, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, and a coloring means coöperating with the other electric light for projecting a light of a different color into said open portion and from said lens.

6. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell, and a reflector at the other end of said shell, a pair of electric lights within said shell, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, a coloring means coöperating with the other electric light for projecting a light of a different color into said open portion and from said lens, and means coöperating with said last-mentioned electric light for shutting off the light-rays of said last-mentioned electric light from said first-mentioned electric light.

7. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell and a reflector at the other end of said shell, said shell being provided with an outlet-neck, a ring-shaped element within said shell, said element being provided with radial arms and a tubular member, a hub-like member carried by said arms and said tubular member, a lamp-receiving socket mounted in said hub-like member, electric lights mounted in the opposite end-portions of said socket, an insulating block within said socket between said electric lights, metal contacts in the opposite end-portions of said block, insulated circuit-wires connected with said contacts, said wires leading through said tubular member and extending from said outlet-neck, a coloring means coöperating with one of said electric lights for projecting from said lens a light of one color, and a coloring means coöperating with the other electric light for projecting from said lens a light of another color.

8. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell and a reflector at the other end of said shell, said shell being provided with an outlet-neck, a ring-shaped element within said shell, said element being provided with radial arms and a tubular member, a hub-like member carried by said arms and said tubular member, a lamp-receiving socket mounted in said hub-like member, electric lights mounted in the opposite end-portions of said socket, an insulating block within said socket between said electric lights, metal contacts in the opposite end-portions of said block, insulated circuit-wires connected with said contacts, said wires leading through said tubular member and extending from said outlet-neck, a coloring means coöperating with one of said electric lights for projecting from said lens

a light of one color, a coloring means cooperating with the other electric light for projecting from said lens a light of another color, and means coöperating with said last-mentioned electric light for shutting off the light-rays of said last-mentioned electric light from said first-mentioned electric light.

9. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell, and a reflector at the other end of said shell, said shell being provided with an outlet-neck, a ring-shaped element within said shell, said element being provided with radial arms and a tubular member, a hub-like member carried by said arms and said tubular member, a lamp-receiving socket mounted in said hub-like member, electric lights mounted in the opposite end-portions of said socket, an insulating block within said socket between said electric lights, metal contacts in the opposite end-portions of said block, insulated circuit-wires connected with said contacts, said wires leading through said tubular member and extending from said outlet-neck, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, and a coloring means coöperating with the other electric light for projecting a light of a different color into said open portion and from said lens.

10. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell, and a reflector at the other end of said shell, said shell being provided with an outlet-neck, a ring-shaped element within said shell, said element being provided with radial arms and a tubular member, a hub-like member carried by said arms and said tubular member, a lamp-receiving socket mounted in said hub-like member, electric lights mounted in the opposite end-portions of said socket, an insulating block within said socket between said electric lights, metal contacts in the opposite end-portions of said block, insulated circuit-wires connected with said contacts, said wires leading through said tubular member and extending from said outlet-neck, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, a coloring means cooperating with the other electric light for projecting a light of a different color into said open portion and from said lens, and means coöperating with said last-mentioned electric light for shutting off the light-rays of said last-mentioned electric light from said first-mentioned electric light.

11. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell, and a reflector at the other end of said shell, said shell being provided with an outlet-neck, a ring-shaped element within said shell, said element being provided with radial arms and a tubular member, a hub-like member carried by said arms and said tubular member, a lamp-receiving socket mounted in said hub-like member, electric lights mounted in the opposite end-portions of said socket, an insulating block within said socket between said electric lights, metal contacts in the opposite end-portions of said block, insulated circuit-wires connected with said contacts, said wires leading through said tubular member and extending from said outlet-neck, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, a shell mounted upon one end-portion of said lamp-receiving socket, said shell partially inclosing one of said electric lights, and a coloring element connected with said last-mentioned shell cooperating with said partially inclosed electric light for projecting a light of a different color into the open portion of said colored annular transparent element and from said lens.

12. A lamp for displaying multi-colored lights comprising a shell or casing, a lens at one end of said shell and a reflector at the other end of said shell, said shell being provided with an outlet-neck, a ring-shaped element within said shell, said element being provided with radial arms and a tubular member, a hub-like member carried by said arms and said tubular member, a lamp-receiving socket mounted in said hub-like member, electric lights mounted in the opposite end-portions of said socket, an insulating block within said socket between said electric lights, metal contacts in the opposite end-portions of said block, insulated circuit-wires connected with said contacts, said wires leading through said tubular member and extending from said outlet-neck, a colored annular transparent element mounted against the back of said lens, for projecting from said lens a light of one color, said annular transparent element being provided with an open portion, a shell mounted upon one end-portion of said lamp-receiving socket, said shell partially inclosing one of said electric lights, and a coloring element connected with said last-mentioned shell cooperating with said partially inclosed electric light for projecting a light of a different color into the open portion of said color annular transparent element and from said lens, and another light-coloring element

within the main shell of the lamp, of the same color as that of the colored annular transparent element and located upon said electric light receiving socket at a point between said colored annular transparent element and the reflector.

In testimony, that we claim the invention set forth above we have hereunto set our hands this 21st day of April, 1915.

HENRY MILLER.
FRITZ MUELLER.

Witnesses:
C. M. HOEFTMAN,
M. DAVIS.