H. A. DOUGLAS.

REFLECTING LAMP.

APPLICATION FILED FEB. 19, 1917.

1,285,071.

Patented Nov. 19, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

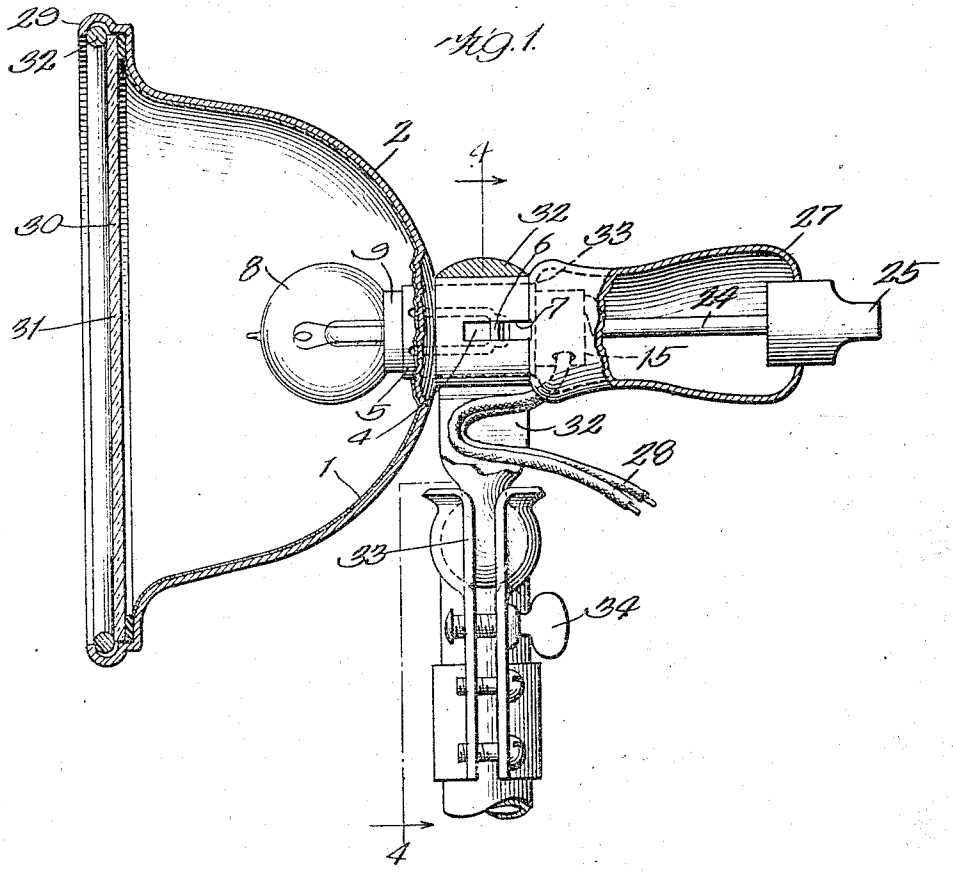
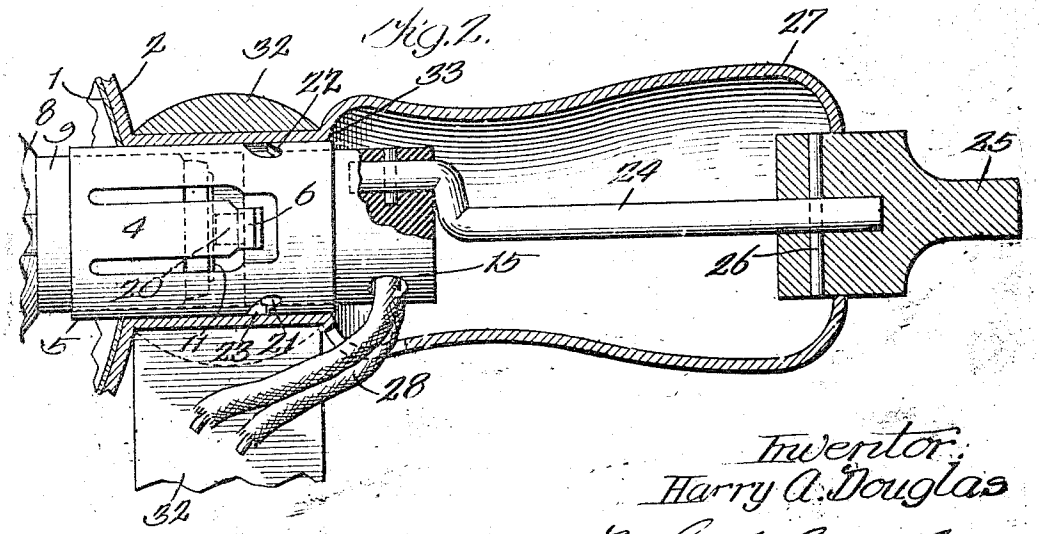


Fig. 2.



Inventor:
Harry A. Douglas
By G. L. Grosscup
Atty.

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2 SHEETS—SHEET 2.

Fig. 3.

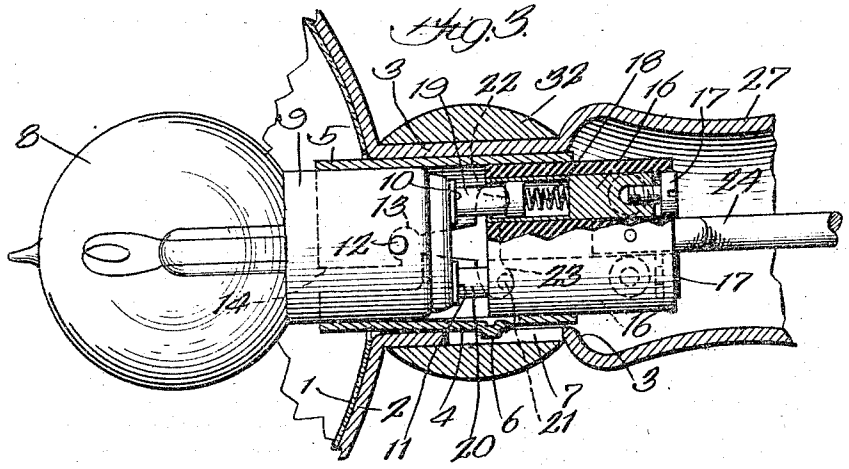
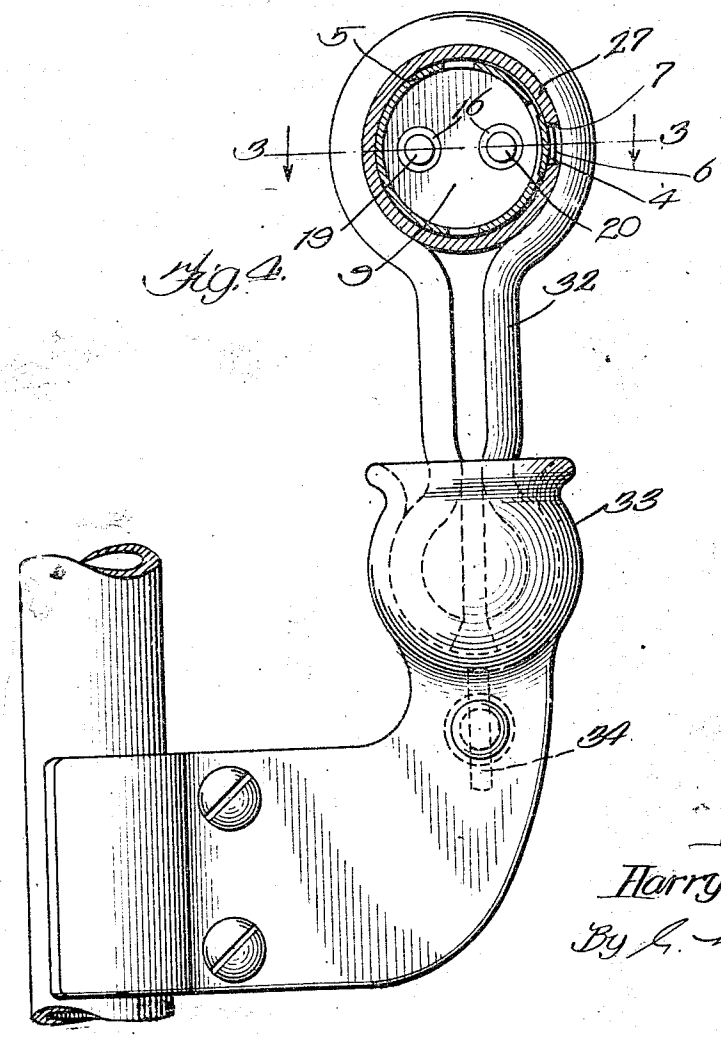


Fig. 4.



Inventor:
Harry A. Douglas
By A. L. Gropp Atty.

UNITED STATES PATENT OFFICE.

HARRY A. DOUGLAS, OF BRONSON, MICHIGAN, ASSIGNOR TO DOUGLAS & RUDD MFG. CO., OF BRONSON, MICHIGAN, A CORPORATION OF MICHIGAN.

REFLECTING-LAMP.

1,285,071. Specification of Letters Patent. **Patented Nov. 19, 1918.**

Application filed February 19, 1917. Serial No. 149,669.

To all whom it may concern:

Be it known that I, HARRY A. DOUGLAS, citizen of the United States, residing at Bronson, in the county of Branch and State of Michigan, have invented a certain new and useful Improvement in Reflecting-Lamps, of which the following is a full, clear, concise, and exact description.

My invention relates to reflecting lamps of the so-called "spot light" variety and has a number of objects and advantages in view.

In accordance with one characteristic of my invention the reflector, the retaining rim for holding the light transmitting cover in assembly with the reflector and the handle are integrally formed out of one piece of material. This handle is made hollow with its interior merged with the interior of the reflector and the light source is contained in the handle in the front portion thereof, this second feature of my invention being preferably embodied in the same construction in which the cover retaining rim is integrally formed with the reflector and handle.

In accordance with another feature of the invention the handle which may be connected with the reflector or reflector carrying casing in any suitable way, is reduced at its forward end where it joins the casing to form a neck. In this neck the light source of the lamp may be disposed and about this neck the lamp supporting bracket may be secured. In an electric lamp structure the formation of a neck in the forward portion of the handle is of material advantage since such a construction permits of the ready adjustment of the lamp bulb, in focusing, and also permits of the ready adaptation of switching mechanism in the shell and the disposition of current carrying conductors in the rear of the light source.

These and other characteristics of my invention will be fully set forth by reference to the accompanying drawings showing the preferred embodiment of the invention and in which Figure 1 is a side elevation, partially in section, of a reflecting lamp containing features of my invention; Fig. 2 is a longitudinal view, partially in section and partially in elevation, of portions of the structure illustrated in Fig. 1; Fig. 3 is a view on line 3—3 of Fig. 4; and Fig. 4 is a view on line 4—4 of Fig. 1.

Like parts are indicated by similar characters of reference throughout the different figures.

The concave reflecting part 1 of the structure may be the interior surface of a reflector containing casing 2, this surface being suitably polished or formed to have the desired capacity for reflection. The reflector carrying casing includes a rearwardly extending cylindrical tubular continuation 3 that constitutes a holder or mounting for the light source. A spring tongue 4 is integrally formed with a shell 5 that constitutes a holder for contact carriers, this spring tongue having ample clearance at its side margins to permit it freely to function. Some part of the tongue, such as the rear free end thereof, has a part 6 projecting therefrom which is narrower than the balance of the tongue and is slightly narrower than a slot 7 in the holder 3 whereby this portion may project into the slot to prevent the shell from turning with respect to the slot while at the same time the side margins of the tongue 4 are adapted to press against the side margins of the slot 7. The tongue thus presses upon a surface of the holder 3 and, where there is but one tongue, forces the shell toward the opposite side of the holder whereby the shell is held in engagement with the holder 3. The slot 7 is elongated so that the shell 5 may be moved back and forth in its holder 3 whereby in the structure illustrated the position of the lamp bulb 8 which is carried by the forward end of the shell in front of the reflector may be adjusted with respect to the reflector. The base 9 of the lamp bulb 8 constitutes the forward contact carrier and as the arrangement illustrated is a double pole arrangement this contact carrier 9 carries two rear contacts 10 and 11. The lamp base or contact carrier 9 is provided with bayonet pins 12 engageable within bayonet seats 13 constituting parts of bayonet slots 14. The rear contact carrying plug 15 within the casing 2 is provided with terminal blocks 16 having binding screws 17 by which circuit wires may be secured to the terminal blocks. These terminal blocks are cylindrical and the forward ends thereof are tubular, springs 18 being included in the tubular portions of the terminal blocks and operating to press contacts 19, 20 forwardly into engagement with the contacts 10 and 11, all

of these contacts being within the casing. The springs 18 and the contacts 19 and 20 thus not only serve to establish circuit for the lamp but also operate to hold the lamp base 9 in bayonet pin and slot connection with the shell 5.

The plug 15 is rotatable within the rear end of the shell 5 in order that it may perform its switching function and when thus movably mounted it is provided with bayonet pins 21 and which are receivable in alternate bayonet seats 22, 23, the plug being inserted from the front end of the shell with its pins passing along the bayonet slots 14 until they are in the zone that includes the bayonet seats 22, 23 whereafter the base of the lamp bulb is inserted in the shell with its pins 12 placed in the bayonet seats 13. The springs 18 thus not only serve to hold the bayonet pins 12 in the seats but also serve to hold the bayonet pins 21 in the seats to which they are adjusted.

It will be observed that the complemental switching contacts 10 and 19 are eccentric with respect to the shell as are also the complemental switching contacts 19 and 20 so that as the plug is turned these contacts are either brought into engagement or are separated according to the direction of movement of the switching plug 15. When the lamp is in open circuit the contacts 19 and 20 are pressed against the insulating portions of the lamp base that are adjacent the contacts 10 and 11, the springs 18 continuing to press the contacts 19 and 20 forwardly to maintain the bayonet pins upon the switching plug and upon the lamp base in their respective bayonet seats. The shell and the parts within it are in front of the casing 2 and in order that the switching plug 15 may be turned or otherwise moved with respect to the lamp base to cut the lamp in and out of circuit I employ a motion transmitting connection, in the form of a switching rod 24, which is connected at its inner end with the switching plug and which is operable from the exterior of the casing. The outer end of this switching rod desirably has a gripping head piece 25 assembled therewith by means of a pin 26. This head piece may be gripped in order that the rod 24 may be turned into on or off circuit positions and may be moved in and out to adjust the bulb.

The holder 3 is continued rearwardly and constitutes a part of the handle 27 by which the lamp may be manipulated, the portion of the handle which is grasped being larger than the portion 3, which latter portion thus constitutes a neck portion. This arrangement affords suitable freedom for the adjustment of the shell 5, there being ample clearance at the rear of the shell between it and the surrounding part of the gripping portion of the handle. The enlargement of the handle to the rear of the neck 3 thereof also affords suitable space in which the conductors 28 that lead to the switching plug may be disposed and in which space the inner ends of the conductors may readily move when switching occurs. It will be observed that the handle and the reflector are formed integrally out of the same piece of material, preferably sheet metal, which is formed into the requisite shape. This integral formation of the handle and reflector is desirably continued into a rim 29 that serves to retain the light transmitting cover 30 (preferably glass) in assembly with the reflector. A gasket 31 is seated within the reflector and the rim 29 contains a retaining split ring that serves to hold the glass cover upon its seat 31. The neck 3 of the handle not only serves as a suitable holder or mounting for the light source, but suitably receives the bracket 32, if such be employed, which is desirably in the form of a spring stirrup that grips the handle neck 3. This bracket is suitably formed in its lower end for attachment to a split anchorage 33 whose parts may be clamped about the base of the bracket to secure the bracket in desired positions of adjustment, a thumb nut 34 being shown for the purpose of clamping the anchorage 33 in engagement with the lower end of the bracket to maintain the selected adjustment for the bracket. The conductors 28 are passed between the side bars of the bracket 32 to find passage at the rear of the neck 3 into the interior of the hollow handle with the advantages set forth.

As illustrated, the handle is virtually a continuation of the reflector and the interiors of the reflector and handle are merged into one in which composite interior the light source is disposed and may be adjusted and in which the focusing and switching rod 24 may be moved and into which the head piece 25 may project to the extent required to secure the desired focal adjustment of the lamp, said switch being rotatable in any of its positions to enable the switching of the lamp into and out of circuit. The handle is enlarged upon its interior to the rear of the shell to permit freedom of movement of the shell and at its exterior to the rear of the bracket to define, in conjunction with the casing, the zone in which the bracket is disposed.

The rear face of the casing or at least the upper part thereof may be polished to constitute it a reflecting surface upon which objects at the rear may be reflected. As exhibited, the lamp may readily be detached to be used as an inspection lamp.

I claim:

A reflecting electric lamp including a reflector carrying casing; a hollow handle having its interior merged with the interior of

said casing; a lamp bulb; a shell that holds the lamp bulb and receives in the portion of the handle adjacent the casing and movable in and out; and a bracket for supporting the lamp and engaging the part of the handle adjacent the casing, the handle being enlarged upon its interior to the rear of the shell to permit freedom of movement of the shell and at its exterior to the rear of the bracket to define, in conjunction with the casing, the zone in which the bracket is disposed.

In witness whereof, I hereunto subscribe my name this 31st day of January, A. D., 1917.

HARRY A. DOUGLAS.