

Nov. 26, 1935.

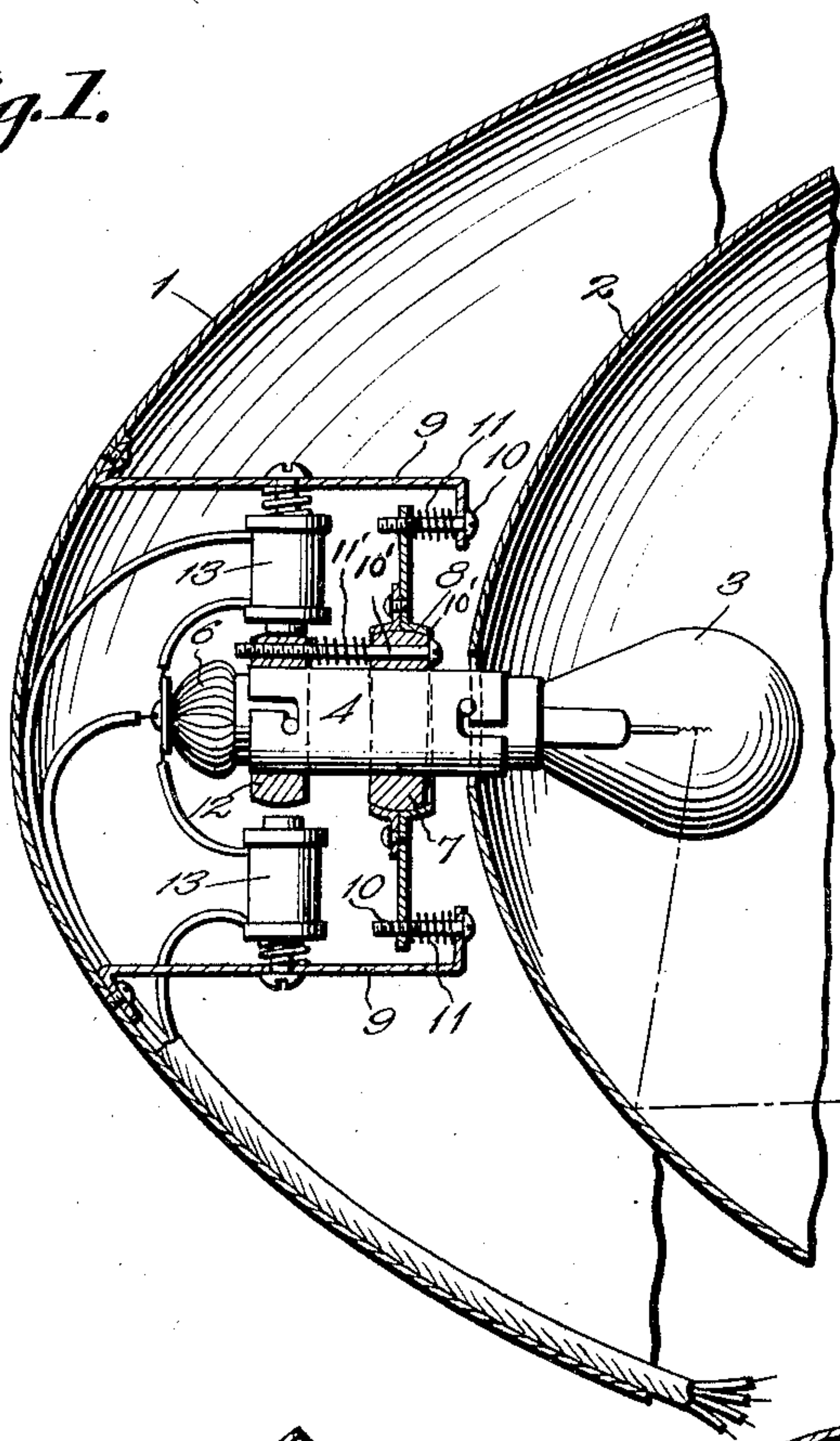
T. G. MELISH

2,022,295

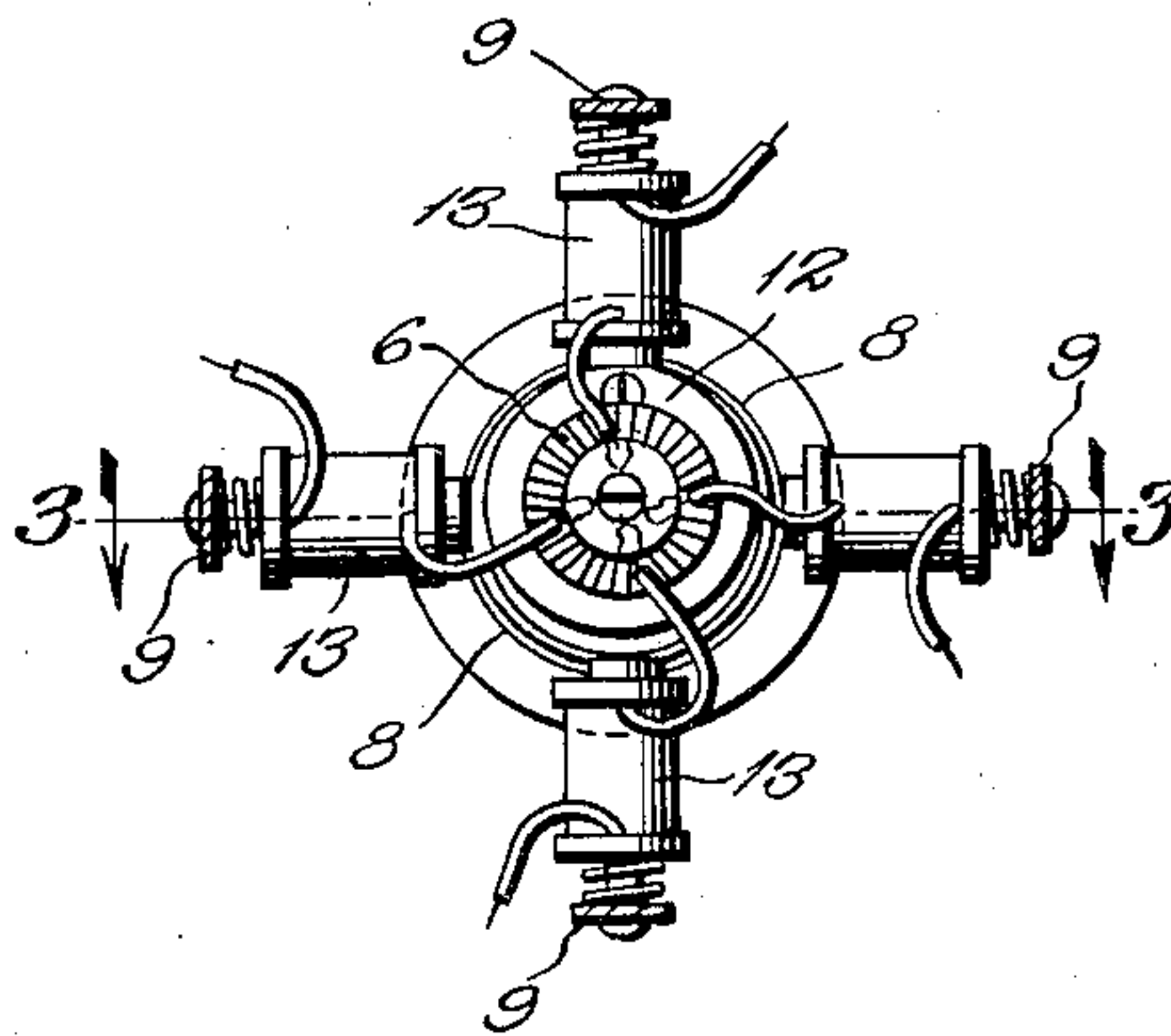
HEAD LAMP

Filed Nov. 3, 1933

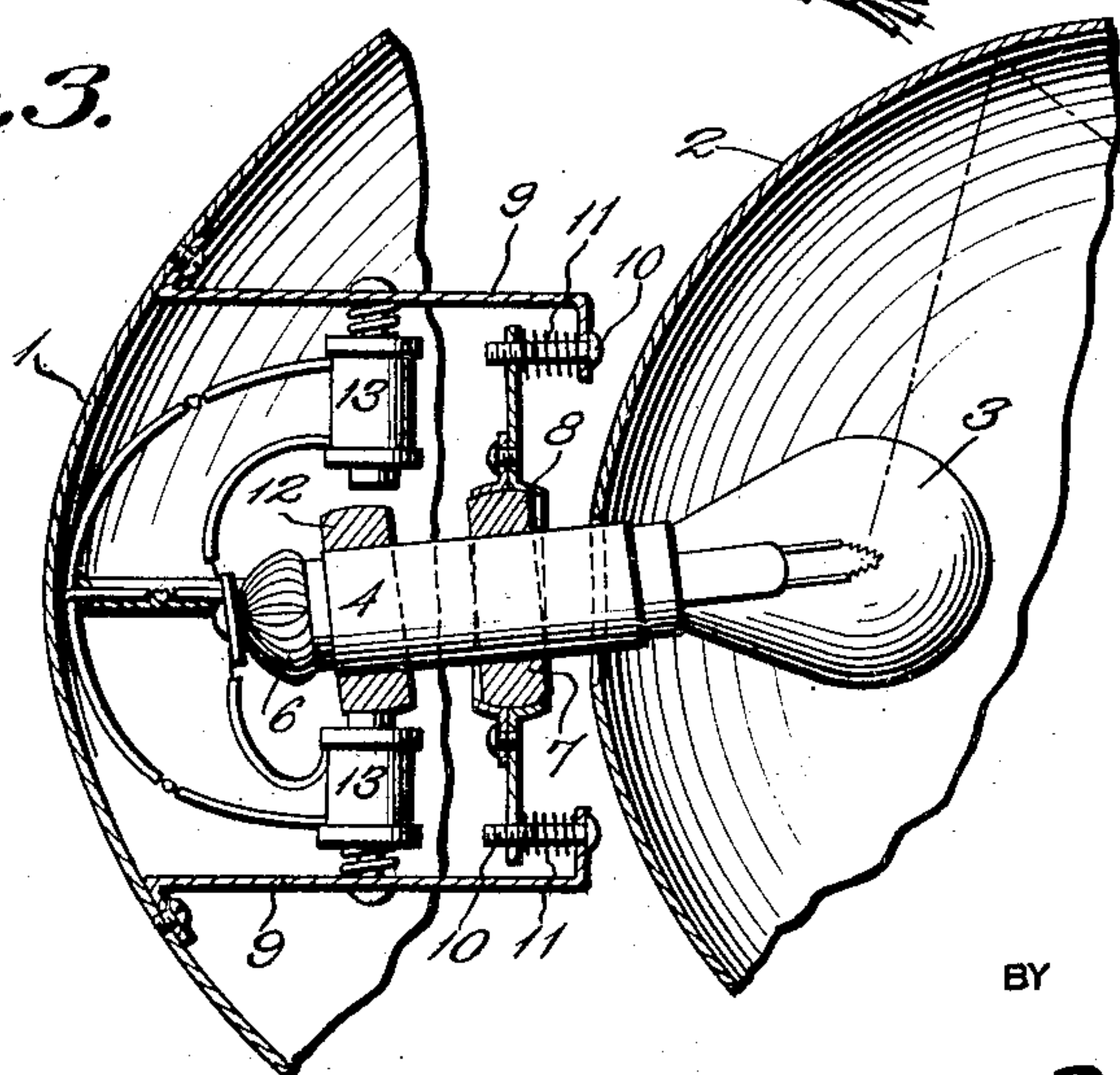
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



INVENTOR

*Thomas G. Melish*

BY

*Wood & Wood*

ATTORNEYS



## UNITED STATES PATENT OFFICE

2,022,295

## HEAD LAMP

Thomas G. Melish, Cincinnati, Ohio

Application November 3, 1933, Serial No. 696,563

## 1 Claim. (Cl. 240—44.25)

This invention relates to improvements in headlights, particularly for automobiles, and primarily to the control of direction in which the light beam is reflected.

5 An object of the invention is to provide the reflector of a headlight with a lamp bulb tiltable for bringing its filaments in relation to the focal axis of the reflector for selectively tilting to different positions or sides in off-set relation to the focal axis of the reflector for reflecting a beam of light in an angular direction and changing or alternating from one direction to another.

15 Other objects and further advantages of the invention are more fully set forth in a description of the accompanying drawing, in which:

Figure 1 is a central vertical section through a rear portion of a headlamp of an automobile, containing the means for tilting a single filament lamp bulb for changing the angular direction of the light beam reflection.

Figure 2 is a rear elevation of the mechanism mounted between the casing of the headlamp and reflector for supporting and actuating the holder or socket for a light bulb within the reflector.

25 Figure 3 is a horizontal sectional view taken on the line 3—3, Figure 2, illustrating the lamp socket, and its lamp bulb shifted or tilted to a selected angular position. In this case greater movement is allowed than for the vertical.

30 It is a recognized practice for automobile headlamps to employ double filament electric light bulbs with the circuit control therefor either separate or joint, and the filaments disposed in a parallel relation equi-distant at opposite sides of the axis of the bulb. Normally the bulb is positioned within the reflector of the headlamp to dispose the filaments horizontally at relatively opposites sides, upper and lower, of the focal axis of the reflector. With a separate electric circuit control for each filament, when the upper filament is energized, the rays of light will be deflected downwardly to below level of vision of the occupants of an approaching car and at the same time increase the illumination in front of the car.

45 Alternately when the lower filament is only energized the rays of light will be deflected upwardly. Correspondingly with the parabolic type of reflector used in most automobile headlamps by adjustments of a single filament lamp bulb in relation to the focal axis of the reflector similar and additional results are obtainable. For example, with the filament positioned at either of relatively opposite horizontal sides of the focal axis of the reflector, designated as right and left, when in the left position the rays of light will be deflected

to the right for an illumination toward and across the right edge of the roadway in a right side direction of highway travel. An alternate result is produced by positioning filament to the right of the focal axis of the reflector for a reflection of the light beam in an angular direction to the left.

The present invention therefore contemplates the use of the commercial single filament electric lamp bulb in a holder or socket tiltable within the reflector of a headlamp, swinging and tilting the electric lamp bulb to bring the filament in selected positions for changing the angular direction of the beam of light.

Referring to the drawing, 1 indicates the rear portion of an automobile headlamp casing and 2 15 the rear portion of a reflector mounted within the casing and in spaced relation thereto. The general construction of headlamp not forming a part of the present invention, no full detailed disclosure thereof is made herein and it may follow any of the commercial designs now used with a reflector preferably of parabolic type.

3 indicates a commercial single filament electric lamp bulb engaged into a socket 4 of double and bayonet type, the front end for receiving the base of a lamp bulb 5 and the opposite or rear end a lead connector plug 6 which may be of swivel or rotatable form to avoid twisting of the electric circuit conductors or wires. The socket, plug and lamp base may be either for single or double contacts. The socket is pivotally supported for tilting the lamp bulb and its filament at an angle to the focal axis of the reflector off-setting the filament from the focal axis for causing the beam of light to be reflected in an angular direction.

A collar 7 is concentrically mounted upon the socket 3 approximately intermediate of its length having its periphery arcuate in cross section to universally swivel within a holder or journal 8 adjustably supported upon a bracket or frame 9 fixed to the headlamp casing 1. The connection between the bracket or frame 9 and the holder or journal 8 is by means of screws 10 and interposed springs 11, whereby the socket can be adjusted longitudinally of the focal axis of the reflector for proper focal setting of the lamp or filament in relation to the reflector.

A second collar 12 is fixed or mounted upon the rear end of the socket 3 and adjustable in relation to the swivel collar 7 by means of a screw 10' and interposed spring 11'. The collar 12 serves as an armature for a series of electro-magnets 13 disposed at suitable positions about the socket and in the present instance four magnets 55



are disclosed arranged in opposing pairs and the pairs at right angles to one another for up or down and right or left angular reflection of the light beam.

5 The electro-magnetic means may be variously modified, from that disclosed herein, as for instance a solenoid type may be employed in place of the rigid core form, or may follow the structure of a motor or generator field. In fact it may follow any form of construction applicable for a remote operating control for tilting the lamp socket to any one of various points or sides from a normal central position for locating the filament for a definite angle or direction of light beam reflection.

10 15 The light bulb is shifted without breaking the electric circuit to the filament so that there is no interruption to the light beam in changing its direction.

20 Having described my invention, I claim:

In a headlamp, a reflector, a bracket in rear of the reflector, a journal member mounted on said bracket and formed for pivotally supporting

a lamp bulb socket, a lamp bulb socket extending through said journal member, a collar on said socket mounted within the journal member for universally pivotally supporting said socket, the socket normally extending in a plane coaxially with the focal axis of the reflector and carrying an electric light bulb in one end thereof, the bulb projecting into the reflector through a central aperture in the reflector, the universally pivotal mounting of the socket providing for swinging the same alternately in intersecting planes for offsetting the bulb filament from the focal axis of the reflector to a selected side therefrom for causing the beam of light emanating from the filament to be reflected in a selected angular direction, said socket, collar and journal member, as a unit, being adjustable on the bracket longitudinally of the focal axis of said reflector for establishing a focal setting of the lamp bulb, and electro-magnet means carried by said bracket for swinging said socket to a selected position.

THOMAS G. MELISH.