United States Patent

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[54] **INCANDESCENT LAMP WITH OSCILLATING FILAMENT**
3 Claims, 3 Drawing Figs.

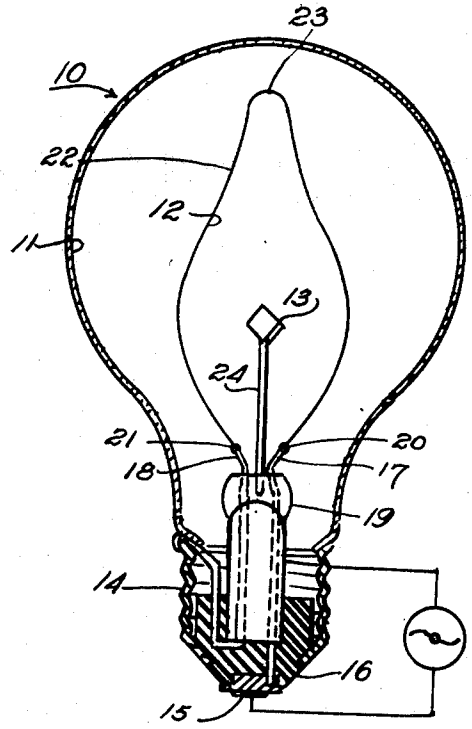
[52] **U.S. Cl.** **315/267,** 313/160, 313/315
[51] **Int. Cl.** **H01k 1/02,** H01k 7/06, H05h 41/16
[50] **Field of Search** ..... 315/267; 313/152, 160, 222; 316/1(Cursory)

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ABSTRACT: My electric light bulb has a movable filament adapted to be illuminated by AC electrical current. My filament and my envelope are each of such a size that my filament is positioned within and spaced from the envelope so that my filament will not contact the envelope, even during movement of the filament. My magnet is positioned either within or without the envelope, but in sufficient proximity to the filament to provide direct movement of the illuminated filament, and with return movement set up by the AC current to maintain vibration of the illuminated filament and to fan out light within the filament loop to produce the effect of a solid wide living burning flame. I prefer to use an aged filament, which has previously been aged by my method of subjecting it to a higher voltage than normally used.



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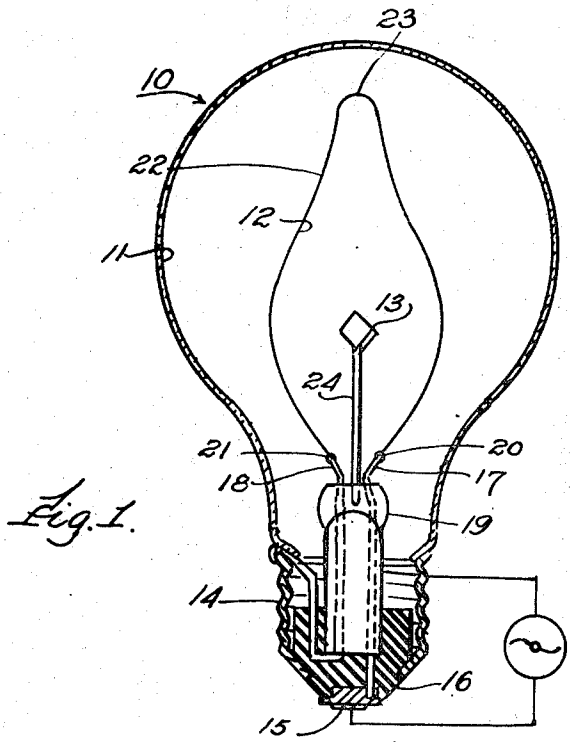


Fig. 1.

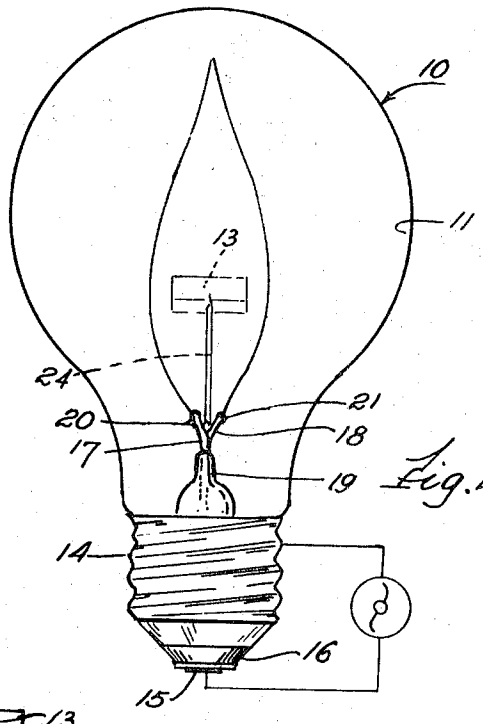


Fig. 2.

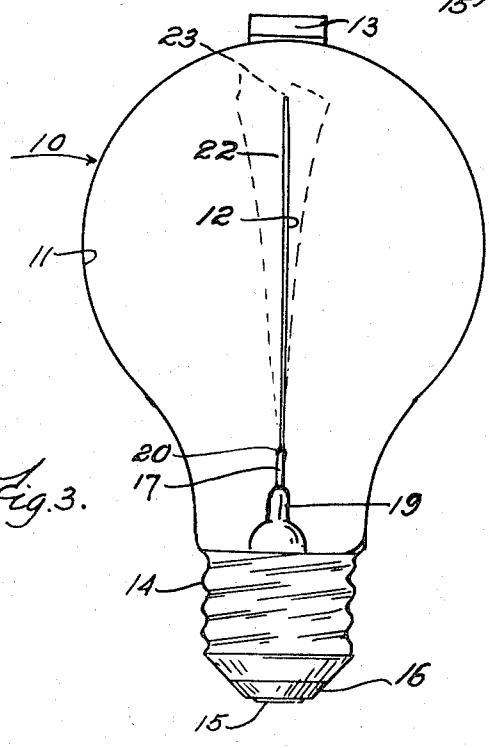


Fig. 3.

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INCANDESCENT LAMP WITH OSCILLATING FILAMENT

My invention relates to an electric light bulb having an illuminated oscillating filament with the illumination fanning out within and filling the loop of the filament to produce the effect of a solid wide living burning flame.

It is among the objects of my invention to provide an illuminated vibrating filament within an electric light bulb that in the entire area within the illuminated filament will appear as a solid fanning, living, burning flame.

My invention also contemplates such other objects, advantages and capabilities as will later more fully appear and which are inherently possessed by my invention.

While I have shown in the accompanying drawings a preferred embodiment of my invention, yet it is to be understood that the same is susceptible of modification and change without departing from the spirit of my invention.

Referring to the drawings, FIG. 1 is a vertical sectional view of my electric light bulb; FIG. 2 is a side elevational view of the same; and FIG. 3 is an elevational view showing the magnet mounted on the outside of the envelope.

The embodiment selected to illustrate my invention comprises an electric light bulb 10, having a closed transparent glass body envelope 11, a filament 12 positioned within the envelope 11, and a magnet 13 positioned in sufficient proximity to the filament 12 to make it move.

It is important that the envelope 11 be of sufficient size so that when filament 12 is oscillated that there will be sufficient space so that it will not touch the envelope. Conversely filament 12 must be small enough with respect to envelope 11, so that when filament 12 is oscillated, it will have sufficient space so that it will not touch the envelope 11.

My body member 11 has at its lower portion a threaded part 14 spaced from a bottom electrical contact portion 15 by an insulated portion 16. Extending upwardly from said contact portion 15, within body member 11 is one leg 17 of filament 12. The other leg 18 of filament 12 extends to threaded part 14. Legs 17 and 18 of filament 12 are attached to glass stem press 19 supported on contact portion 15 and have enlarged extensions 20 and 21 therebeyond. An elongated loop portion 22 extends upwardly within body member 11 and connects extensions 20 and 21. Loop portion 22 converges to a curved upper end 23. Filament 12 is preferably made of carbon.

Positioned within loop 22 in body member 11, support pin 24 has its lower end mounted centrally into stem press 19. The upper end of support pin 24 is curved to support and is spot welded to magnet 13, which is positioned at right angles to the axis of stem press 19.

My magnet 13 may have a slot, groove or hold in its center for mounting the magnet on the support pin, with pinching of the top and bottom of the support pin to hold the magnet in place.

The magnet may be attached by spot welding or it can be soldered, brazed, glued, punched, pressed, also with spring tension mounted with a bracket or a brace.

In FIG. 3 my magnet 13 is attached to the outside of envelope 11, but close enough to filament 12 to make it move.

While I prefer to position my magnet within the filament in the envelope, yet it may be positioned either within or outside of the envelope so long as it is in sufficient proximity to the filament for the filament to be within its magnetic field, for the magnet to operate on and make the filament move and fan out.

My magnet may be placed in different positions with relation to the filament to impart different motions to the filament such as back and forth, sideways, crossways, or even twisting.

In use when bulb 10 is screwed into an electric light socket leading to an electrical source of AC current, contact portion 15 receives electricity which is communicated to filament 12 to light up incandescent loop portion 22. Magnet 13 moves loop portion 22, and the electric circuit moves it back so that there is a continuing oscillating or vibrating of loop portion 22. This provides a moving solid spread out flame effect within the filament's loop.

In addition to my filament being either small enough, or my envelope being sufficiently large so that even when my filament is oscillated, that it and its flame will not touch the envelope, I prefer that my filament prior to use be aged. I provide for the aging of the filament at a higher voltage than normally used. By using an aged filament, the filament shapes itself to the proper magnetic field of the magnet, so that when actuated by the magnet and the normal electrical AC current, it looks like an oscillating wide mass of flame cohering together in one body providing a fanned out living flame effect.

My method of ageing a filament comprises subjecting the filament to higher voltage than normally used.

I claim:

1. An electric light bulb comprising a light emitting envelope, a movable aged loop filament positioned within said envelope, said filament and said envelope of such a size that said filament is spaced from any contact with said envelope even during movement of said filament, said filament adapted to be illuminated when said bulb is attached to a source of AC electrical current, a magnet positioned in sufficient proximity to said filament to provide direct movement of said illuminated filament and with return movement set up by the AC electrical current to maintain continuing vibration of the illuminated filament, said illuminated vibrating aged filament producing a fanned out light in the entire loop area within and beyond the filament to produce the effect of a mass of living flame.

2. An electric light bulb as set forth in claim 1, in which the magnet is attached within the envelope.

3. An electric light bulb as set forth in claim 1, in which the magnet is attached to the outside of the envelope.