June 30, 1964 R. B. MEYER ETAL 3,139,316

LAMP SOCKET

Filed Dec. 20, 1962

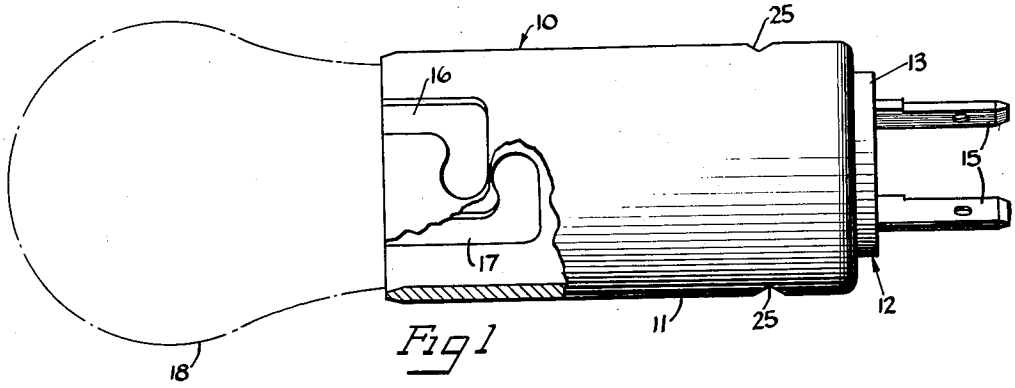


Fig 1

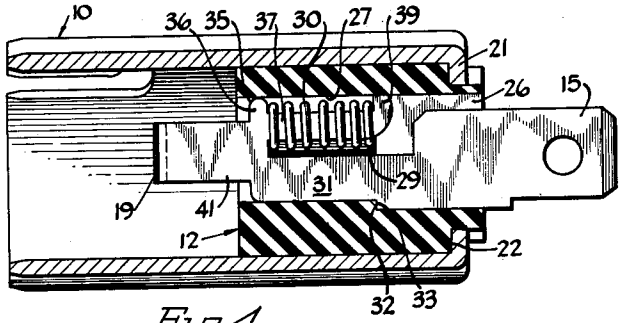


Fig 4

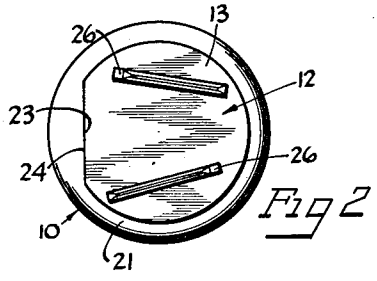


Fig 2

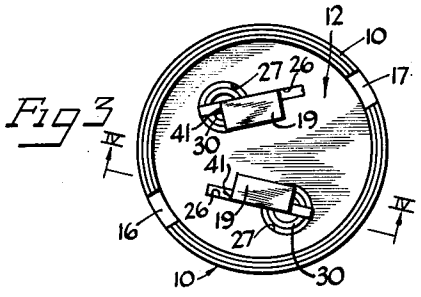


Fig 3

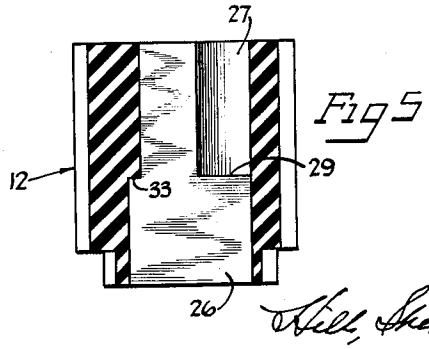


Fig 5

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LAMP SOCKET

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This invention relates to improvements in lamp sockets and more particularly relates to a simplified form of lamp socket particularly adapted for use in automotive vehicles.

A principal object of the invention is to provide a novel and improved form of lamp socket arranged with a view toward utmost simplicity and efficiency in construction.

A further object of the invention is to provide a simplified form of lamp socket particularly adapted for use in automotive vehicles in which the terminal on the outside of the socket and the contact within the socket are of a one piece construction.

A still further object of the invention is to provide a novel and improved form of lamp socket in which a socket body of a generally cylindrical form carries an insulating core adjacent one end thereof, and has bayonet joint-like slots opening to the other end thereof, and in which the insulating core forms a mounting for slidable spaced terminals extending through said insulating core and forming spade terminals at one end and contacts at the opposite end, and also forms a spring seating means for springs yieldably extending the contacts within the core.

These and other objects of the invention will appear from time to time as the following specification proceeds and with reference to the accompanying drawing wherein:

FIGURE 1 is a view in side elevation of a lamp socket constructed in accordance with the principles of the present invention, with part of the socket body broken away and shown in section;

FIGURE 2 is an end view of the socket assembly looking at the spade terminal end of the socket assembly;

FIGURE 3 is an end view of the socket assembly looking at the opposite end of the socket assembly from the end shown in FIGURE 2;

FIGURE 4 is a longitudinal sectional view of the socket assembly taken substantially along line IV—IV of FIGURE 3; and

FIGURE 5 is a longitudinal sectional view taken through the insulator core along the same general lines as sectional lines IV—IV.

In the embodiment of the invention illustrated in the drawings, we have shown in FIGURE 1 a socket assembly **10** including a generally cylindrical socket body **11** having an insulator core **12** mounted therein and extending therealong for a portion of the length thereof, and having a base portion **13** extending outwardly of the socket body, having terminals **15** extending outwardly therefrom and shown as being spade terminals.

The socket body also has conventional bayonet joint-like slots **16** and **17** opening to the opposite end of said socket body from the base **13**, for retaining a lamp bulb **18** to the socket body in engagement with contacts **19**, **19**, shown in FIGURE 4 as being formed integrally with the spade terminals **15**, **15**, and as extending at right angles to the body thereof.

The socket body has an inturned radially extending flange **21** engaging a shouldered portion **22** of the insulator core **12**. The flange **21** has a flattened surface **23** engageable with a flattened surface **24** formed on the base **13**, to index the insulator core and to retain the insulator core from turning movement with respect to said base. The insulator core is retained to the socket

body as by peening the wall of the socket body inwardly into engagement with the insulator core, as indicated by reference characters **25**, in FIG. 1.

Referring now in particular to the integral spade terminal and contact assembly of the invention, the insulator core **12** has a pair of chordally extending slots **26** extending therethrough, each of which forms a slidable guide for a spade terminal **15**. The insulator core also has a spring chamber **27** in association with each slot **26** and opening to the inner or lamp socket end of the insulator core and extending inwardly along the insulator core for a portion of the length thereof, as shown in FIGURES 3, 4 and 5. Each chamber **27** terminates into an inner wall **29** forming a seat for a spring **30**.

The spade terminal **15** is made from a material, which is a good electrical conductor such as brass or a like material, and has a body portion **31** slidable within the slot **26** and having a limiting shoulder **32** thereon, engageable with a shouldered portion **33** of the slot **26**, and limiting inward movement of the spade terminal with respect to said slot. The body portion **31** slidably engages one wall of the slot and has a bearing nib **35** projecting laterally therefrom and slidably engaging the opposite wall of the slot **26**. The bearing nib **35** is on the end of an arm **36** extending laterally from the body portion **31**. The arm **36** has a leg **37** extending inwardly therefrom along and parallel to the body portion **31** and having the spring **30** mounted thereon.

The leg **37** has an outwardly extending end portion **39** engaging the same end of the wall of the slot **26** as the nib **35**, to prevent tilting of the spade terminal within the slot.

The spring **30**, seated at one end on the shoulder **29**, and at its opposite end on the arm **36**, biases the spade terminals and contacts **19** into inwardly extending relation with respect to the insulator core into the lamp socket end of the socket body and accommodates the contacts **19** to yield as a lamp is inserted within the socket body along the bayonet joint-like slots **16** and **17**, and is locked in position thereby.

It may be seen from the foregoing that an extremely simple and efficient socket assembly has been provided, constructed from a minimum number of parts and that the simplicity of the socket assembly is attained by the integral spade terminals and contacts slidably mounted within the insulator core, and by the seating of the biasing springs for the contacts within the insulator core.

While we have herein shown and described one form in which our invention may be embodied it may readily be understood that various variations and modifications in the invention may be attained without departing from the spirit and scope of the novel concepts thereof as defined by the claims appended hereto.

We claim as our invention:

1. In a socket assembly, a socket body, an insulator core within said socket body, said insulator core having at least one rectangular slot extending axially therealong and opening to each end thereof said rectangular slot having parallel side walls and parallel end walls connecting said side walls together and one end wall being stepped outwardly with respect to the other to form a shoulder, a spring socket intersecting said slot and extending along one of said end walls, a one piece spade terminal, having a contact end portion, slidably mounted in said slot and having a spade terminal portion extending outwardly of said core and socket body and having a portion of a width sufficient to fit within the narrower portion of said slot and having a stepped shoulder engageable with said shoulder of said slot and limiting inward movement of said terminal along said slot, said contact end portion having slidable engagement with oppo-

site end walls of the narrower portion of said slot and also having a leg extending therefrom within said spring socket and slidably engageable with said slot at its free end and having a spring mounted thereon and engaging said contact end portion and extending within said socket and seated on the inner end of said socket.

2. In a socket assembly, a socket body, an insulator core within said socket body, said insulator core having at least one slot extending axially therealong and opening to each end of said core and having parallel spaced side and end walls and a spring socket intersecting said slot and extending along one of said end walls, a one piece spade terminal and contact slidably mounted in said slot and having an intermediate body portion, a terminal portion extending from one end of said body portion along said slot to the outside of said core and socket body and a contact portion extending from the opposite end of said body portion inwardly of said socket body, said body portion having a leg extending from said contact portion in generally parallel spaced relation with respect to said body portion along said spring socket and having a laterally turned free end portion having guiding engagement with said end wall of said slot, and a spring extending along said leg between said contact portion and said laterally turned end portion and seated on the inner wall of said socket at one end and on said contact portion at its opposite end and biasing said contact portion to extend within said socket body.

3. In a socket assembly, a socket body, a one piece insulator core within said socket body, said insulator core having at least one slot extending therealong having parallel side and end walls, one of said end walls being stepped to form communicating narrow and widened slot portions and the other of said end walls having a spring socket extending therealong for a portion of the length thereof and terminating at its inner end in a spring seat, a one piece termial and contact slidably movable along said slot and including a body of a stepped width, no wider at any portion of the width of said body than the width of the narrow portion of said slot, and having a terminal portion extending from one end thereof and a contact portion extending from the opposite end thereof, said contact portion having a nib extending laterally therefrom having guiding engagement with the outer wall of said socket and having a leg extending inwardly along said socket from said nib in parallel spaced relation with respect to said body portion, said leg having a spring extending therealong seated on the inner wall of said socket and having a laterally turned end portion slidably engaging the end wall of said slot opposite from said stepped wall, and guiding said contact and terminal for rectilinear movement along said slot and retaining said contact and terminal from tilting movement with respect to said slot.

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