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R. N. FALGE

2,296,633

HEADLIGHT CONNECTOR

Filed Dec. 9, 1940

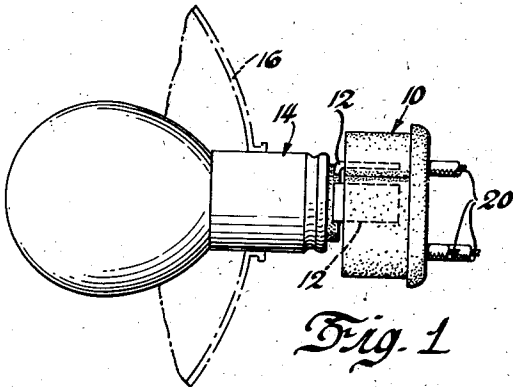


Fig. 1

3-|

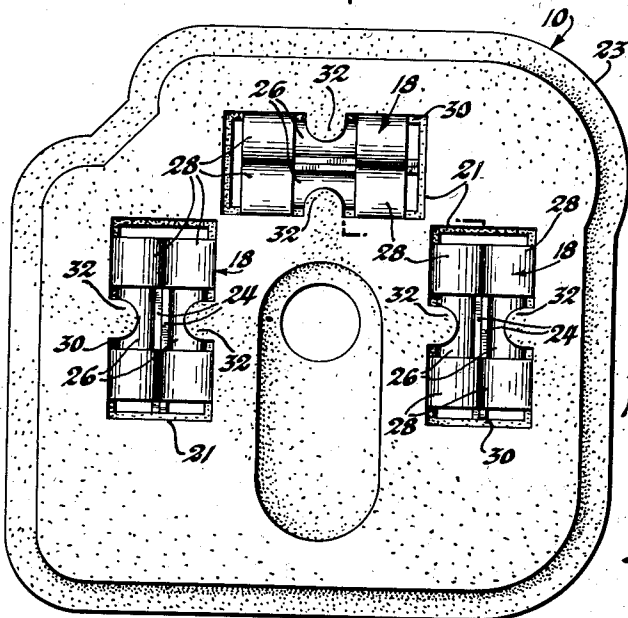


Fig. 2

3-|

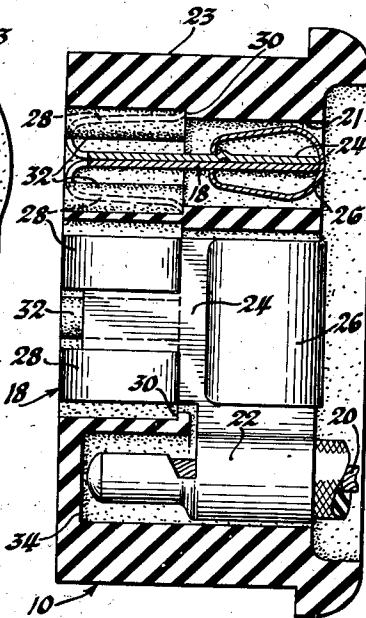


Fig. 3

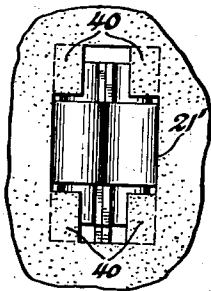


Fig. 4

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2,296,633

HEADLIGHT CONNECTOR

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Application December 9, 1940, Serial No. 369,170

2 Claims. (Cl. 173—328)

This invention had to do with connectors such as are used to detachably connect electrical wires and terminals.

The object of the invention is to provide a connector so designed that it cannot be improperly applied to the cooperating terminal. The improved connector consists essentially of an insulator having a passage therein in which is housed a clip secured to one of the connecting wires, the clip comprising cooperating blades normally yieldingly urged toward each other. Difficulty is often experienced in inserting the connector over the terminal as the terminal may engage between one of the blades and the wall of the passage instead of between the two blades. I have found that this difficulty may be readily overcome by so shaping the clip and the passage that the terminal can be inserted only between the blades.

In the drawing:

Figure 1 is a side elevation showing the improved connector applied to the terminals of a headlamp bulb.

Figure 2 is a front view of the connector.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a fragmentary front view of a modified form of connector.

In Figure 1 the connector indicated at 10 is shown applied to the terminals 12 of bulb 14 mounted in reflector 16. The bulb 14, reflector 16 and the cooperating lens, not shown, may form part of a sealed lighting unit. Terminals 12 take the form of flat blades as shown and are adapted to be engaged by clips 18 secured to the ends of conductors 20 mounted in passages 21 in insulator 23. The clips shown consist of one-piece stampings including a central sleeve portion 22 from which extend laterally the opposed blade portions 24. These blade portions may be yieldingly urged toward each other by U-shaped springs 26 as best shown at the top of Figure 3. The spring arrangement illustrated is described and claimed in the prior application of Robert N. Falge and Charles E. Wade, S. N. 360,756, filed October 11, 1940.

The portions of the blades opposite the clips 26 are bifurcated and bent back upon themselves as indicated at 28, the return bent portions forming spring members the free ends of which engage shoulders 30 formed in passages 21.

Attention is particularly called to lugs 32 formed on insulator 23 and extending between the bifurcations of the blades.

In assembling the connector, clips 18 are secured to the ends of the conductors 20 by soldering or the like and the U-shaped springs 26 are then secured in place as shown. The clips with the conductors attached are then inserted from the right as viewed in Figure 3 into passages 21 in the insulator. The inward movement of the clip is limited by engagement of the por-

tion adjacent the conductor with the walls of the socket 34 adjacent the passage 21 but this engagement does not take place until the return bent portions 28 have snapped into engagement with shoulders 30 thereby preventing withdrawal of the clip. When the connector is applied to the terminals 12 it will be apparent that the terminals can only go between the blades 24 inasmuch as lugs 32 prevent their entering between the blades and the sides of the passages 21.

In the modification shown in Figure 4 instead of bifurcating the lateral portions of the blades 24 these portions are reduced in width, as shown, and the passage 21' is shaped to provide shoulders 40 which serve to prevent terminal 12 from being inserted anywhere except between the blades.

I claim:

1. In a connector the combination of an insulator having a passage therein, a clip in said passage comprising opposed blades having return-bent portions having their free ends engaging the walls of said passage so as to yieldingly urge the blades into engagement with each other, said blades being adapted to receive the terminal between them, the bent over parts of said return-bent portions being exposed at one end of said passage and having recesses therein, and opposed projections on said insulator at said end of said passage extending into said recesses and spaced apart to permit the terminal to pass between them into engagement with said blades but obstructing passage of the terminal between the blade and the adjacent wall of the passage.

2. In a connector the combination of an insulator having a passage therethrough, a shoulder on the connector extending into said passage intermediate the length thereof, a clip in said passage adapted to be connected to a conductor, said clip comprising opposed blades having return-bent portions having their free ends engaging the walls of said passage so as to yieldingly urge the blades into engagement with each other, said ends seating on said shoulders so as to prevent withdrawal of the clip from the passage in one direction, said insulator being provided with means engaging the clip and preventing its withdrawal from the passage in the other direction, said blades being adapted to receive the terminal between them, the bent-over parts of said return-bent portions being exposed at one end of said passage, said return-bent portions having recesses therein, and opposed projections on said insulator at said end of said passage extending into said recesses and spaced apart to permit the terminal to pass between them into engagement with said blades but obstructing passage of the terminal between the blade and the adjacent wall of the passage.

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