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MODULAR TYPE INDICATOR UNIT

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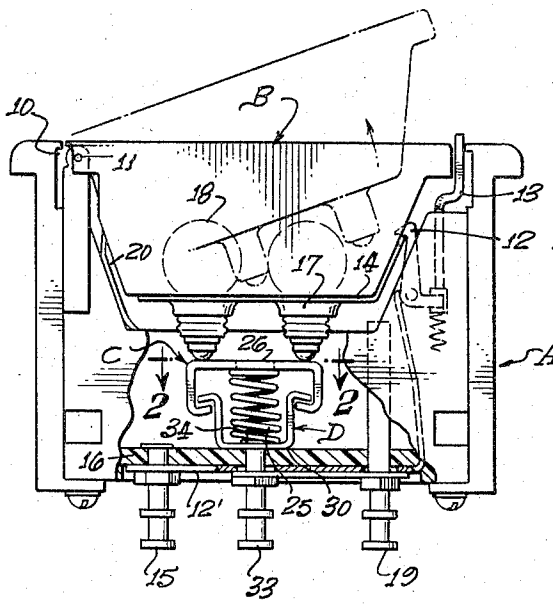


FIG. 1.

FIG. 2.

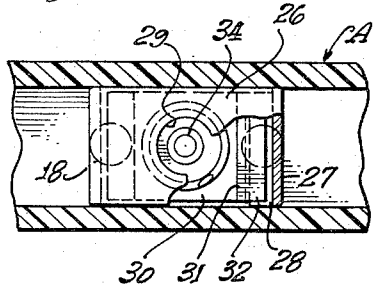
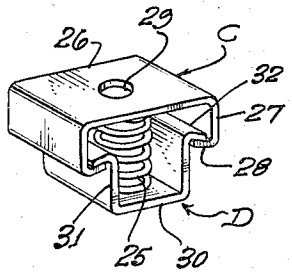


FIG. 3.



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MODULAR TYPE INDICATOR UNIT

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This invention relates to indicator light units of the modular type, adapted to be grouped in vertical tiers and/or horizontal rows, each unit embodying a rectangular case having a front opening that is relatively long and narrow, and a lamp holder that is correspondingly long and narrow, having an indicator lens or window bearing a suitable indicator legend of one or more words, the holder normally being disposed in the front opening of the casing, but being removable therefrom (as by swinging on a hinge at one end) for servicing access to the back of the holder, for replacement of lamps mounted in sockets in the back of the holder.

The object of the present invention is to provide an improved back contact assembly for establishing a common connection to the end contacts of the lamps.

An important object is to provide a spring-loaded engagement between a common contact and two spaced lamp contacts, with balanced spring loading at both contact points.

A particular object is to provide a back contact assembly of simplified construction and reduced fabrication cost. Accordingly, the invention contemplates a back contact assembly of stamped ribbon metal parts, adapted to establish balanced spring-loaded contact simultaneously with the end contacts of two laterally spaced lamps.

Other objects will become apparent in the ensuing specification and appended drawing, in which:

FIG. 1 is a plan view of an indicator unit embodying the invention with central portions thereof broken away and shown in section;

FIG. 2 is a front elevational view of the improved back contact assembly, with parts broken away and shown in section, as indicated on line 2—2 of FIG. 1; and

FIG. 3 is a perspective view of the back contact assembly.

Referring now to the drawing in detail, I have shown therein, as an example of one form in which the invention may be embodied, a modular type indicator unit comprising, in general a rectangular casing A of substantial depth from front to rear as seen in FIG. 2; and a lamp holder and lamp assembly B which is normally disposed within the casing A in closing relation to a front opening **10** therein, and which has one end thereof hinged at **11** to casing A in one end of opening **10**, and its other end normally latched to casing A by a latch **12** which is spring-loaded toward latched position and released by a push bar **13**. Latch **13** latches against the end of a bus bar **14** on the back of holder B and constitutes one of several series connections (also including a bus bar **12'**) between a terminal post **15** mounted in the back **16** of casing A, and a pair of lamp sockets **17** formed in bus bar **14**. Lamps **18** are mounted in sockets **17**, within the holder B, which is in the form of a deep tray. The latched end of holder B can be depressed by finger tip pressure to establish a test circuit to lamps **18** by engaging bus bar **14** against a test contact post **19**. A return spring **20** yieldingly biases the holder B outwardly for engagement with latch **12**. This arrangement of parts is described more fully in U.S. Patent No. 2,916,725, issued December 8, 1959, to C. W. Noyes.

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The improved back contact assembly of the present invention comprises, in general, a back contact C, a bracket D, and a coil spring **25**. Contact C, of yoke form, comprises a bridge bar **26**, a pair of fingers **27** bent at right angles from respective ends of bar **26** and projecting rearwardly, and claws **28** projecting laterally inwardly from the rear ends of fingers **27**. In the center of bar **26** is a spring pilot **29**, punched or embossed rearwardly and extending into the forward end of spring **25**. Bracket D, also of yoke form, comprises a base **30**, a pair of arms **31** bent forwardly therefrom, and a pair of stops **32** bent outwardly from the forward ends of arms **31** forwardly of the claws **28**, in overlapping relation thereto. Bracket D is secured to the back **16** of casing A by means of a terminal post **33** which extends through the back **16** and through the bracket base **30** and has a head **34** riveted against base **30** to secure it to back **16**. Head **34** is piloted in the rear end of spring **25**. Spring **25** is retained by head **34** and pilot **29**.

Spring **25** is engaged under compression between the center of contact bar **26** and bracket base **30** and spring-loads the contact C so that its respective ends make equalized yielding engagement with the contacts of respective lamps **26**, the claws **28** being slightly spaced from stops **32**, and the contact C being in a floating condition. This occurs when the holder B is in its normal latched position shown in full lines in FIG. 1. When the holder B is unlatched and tilted out of the opening **10** as indicated in phantom in FIG. 1, the contact C' will follow the lamps **18** forwardly until stopped by engagement of the claws **28** against stops **32**, and will be held there by spring pressure until the holder B is returned to its latched position.

We claim:

1. In a modular type indicator unit, in combination: an elongated casing including a back wall and a front opening; an elongated lamp holder normally received in and closing said front opening and removable therefrom for servicing, said holder including a back having a pair of lamp sockets spaced along the length thereof; a pair of lamps mounted in said sockets and having side contacts and end contacts; means providing a connection through said sockets to side contacts of said lamps; a back contact in the form of a yoke including a current conducting bar normally bridging between and engaged by the end contacts of said lamps, a pair of fingers composite with and extending rearwardly from the ends of said bridging bar and having at their rear ends respective hooks projecting laterally therefrom generally parallel to said bar; a bracket of yoke form including a current conducting base attached to said casing back wall, a pair of arms projecting forwardly from said base past the rear ends of respective fingers of said back contact, and stops on the ends of the respective arms, projecting transversely therefrom forwardly of said hooks in overlapping relation thereto; a spring engaged under compression between said base and said bridging bar and normally pressing said back contact into yielding engagement with said end contacts of the lamps while establishing and maintaining electrical connection between said bracket and said back contact, said hooks engaging said stops to limit the spring-loaded forward projection of said back contact when said lamp holder is removed forwardly from said opening; and terminals connected respectively to said bracket base and to said sockets.

2. An indicator unit as defined in claim **1**, wherein the terminal for said bracket embodies a post extended through

said casing back and said bracket base and having a head engaging the inner side of said base, and wherein said spring is a coil spring having one end piloted over said head and seated against said base.

3. An indicator unit as defined in claim 2, wherein said bridging bar has an integral pilot projection struck rearwardly from the center thereof and piloted in the other end of said spring.

4. An indicator unit as defined in claim 1, wherein said bracket arms are embraced between said back contact fingers, said hooks project inwardly and said stops project outwardly.

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NEIL C. READ, *Primary Examiner.*