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ONE-PIECE MOLDABLE CAMERA SOCKET FOR DETACHABLY HOLDING A MULTILAMP PHOTOFLASH PACKAGE

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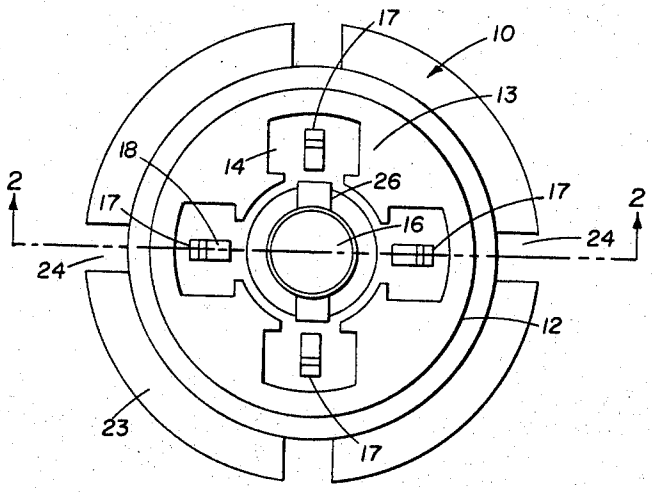

FIG. 1

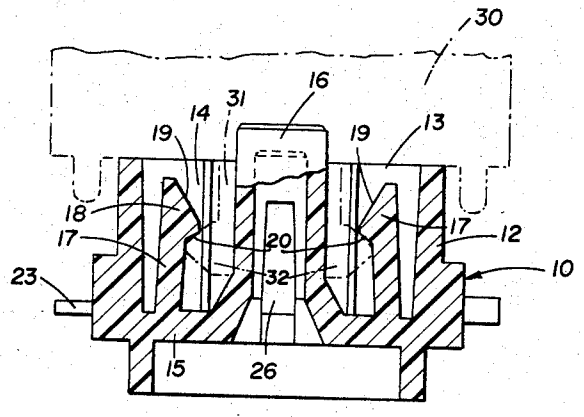

FIG. 2

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ONE-PIECE MOLDABLE CAMERA SOCKET FOR DETACHABLY HOLDING A MULTI-LAMP PHOTOFLASH PACKAGE

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ABSTRACT OF THE DISCLOSURE

A multilamp photoflash socket having a base, a control ring with indexing notches for cooperating with the camera indexing mechanism, a plurality of upwardly extending flexible retaining fingers for engaging the retaining lugs extending downwardly from the connecting base of the multilamp package, and a cylindrical outer wall having a plurality of radially inwardly extending ribs the top surfaces of which define an access opening into the socket to aid insertion of the multilamp package.

This invention relates to flash photography, and more particularly, to socket arrangements for receiving multilamp photoflash packages.

There has recently been developed a disposable multilamp photoflash package disclosed, for example, in U.S. applications Ser. No. 417,913, now Patent No. 3,353,465, and 417,914, now Patent No. 3,327,105, both filed Dec. 14, 1964. Such a package includes an attaching platform on which are mounted a plurality of photoflash lamps and individual reflectors. My invention comprises a one-piece socket, which may be used in a suitable flash device, to detachably receive and retain these packages.

A primary object of my invention resides, therefore, in the provision of one-piece multilamp package receiving socket for use in a suitable flash device.

This and other objects and advantages will become more apparent during the course of the following description, the accompanying drawing forming a part thereof and wherein:

FIG. 1 is a plan view of a preferred embodiment of a one piece socket according to my invention; and

FIG. 2 is a cross sectional view taken on line 2—2 of FIG. 1, showing the socket with a multilamp package attached.

Referring to the drawing, a one-piece multilamp receiving socket **10** comprises an annular body portion **12** including four ribs extending inwardly therefrom, the top surface **13** of which defines a central access opening **14** in the shape shown. An integral base **15** at the lower end of body **12** defines an upwardly extending stabilizing stud **16**.

Also extending upwardly from base **15** are a plurality of resilient retaining fingers **17** having engaging projections **18** defining upper cam surfaces **19** and lower latch surfaces **20**.

The socket **10** may also include a suitable control ring **23** with indexing notches **24** to control the position of the socket by an indexing mechanism. A suitable indexing mechanism in a photographic still camera is shown in U.S. application Ser. No. 458,015, now Patent No. 3,353,467, filed May 24, 1965. As is also disclosed in that application, the central stabilizing stud **16** may define a slot **26** through which an ejector pin may pass to provide for selective ejection of an inserted lamp package.

The lamp package as described in the above applications Ser. No. 417,913 and 417,914 includes a base **30** and a depending connecting post **31** of cylindrical shape which is placed over the stabilizing stud **16** when inserted into the access opening **14**. The post **31** includes at its lower

end four retaining lugs **32** extending radially outwardly and having upper and lower ramp surfaces.

As a lamp package is attached by inserting the post **31** into the central access opening **14**, the lower ramped surface of each lug **32** engages the cam surface **19** of a respective finger projection **18** to move the finger laterally outwardly against its bias. As the package is fully seated, the fingers spring back until the latch surfaces **20** engage the upper ramped surfaces of the lugs **32** to retain the package as shown in FIG. 2. Removal of the package from the socket by pushing with an ejector pin at the lower edge of post **31**, or by pulling the package out, causes the upper ramped surfaces of lugs **32** to again move fingers **17** outwardly until they are clear of the lugs **32**.

An important aspect of my invention is that the socket and package retaining means is in one piece, which may be formed by molding. A suitable material from which to mold the socket **10** is a polycarbonate plastic, although any material having sufficient elastic resiliency to form the fingers **17** may be used.

While my invention has been described with reference to a preferred embodiment, it is obvious that variations can be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

I claim:

1. A one-piece molded socket adapted to detachably hold a multilamp photoflash package comprising:

a base adapted for mounting on a camera;

a plurality of flexible, retaining fingers, extending upwardly from said base, each of said fingers terminating in an enlarged projection defining an upper cam surface and a lower latch surface; and

a central stabilizing stud.

2. The apparatus according to claim **1** wherein said stud is hollow and defines an ejector slot extending through the wall thereof for receiving an ejector pin of the camera for use in detaching the multilamp photoflash package from said socket; and including

a control ring extending radially outwardly of said base and defining a plurality of notches therein adapted for operative engagement with an indexing mechanism of the camera.

3. The apparatus according to claim **1** including:

a substantially cylindrical outer wall extending upwardly from said base, radially outwardly of said fingers, said wall having a height greater than that of said fingers and less than that of said stud, and

a plurality of ribs extending radially inwardly from said wall and terminating short of said stud, said ribs being interleaved with said fingers, the top surface of said ribs defining an access opening into said socket for said package.

4. A one-piece molded socket for detachably holding a multilamp photoflash package, comprising:

a body member adapted to receive a multilamp photoflash package;

a plurality of flexible retaining fingers extending from said body member and positioned so as to engage retaining lugs on a multilamp photoflash package inserted into the socket, each of said fingers including a projection having upper and lower ramped surfaces; and

a stabilizing stud extending from said body member and adapted to engage a downwardly extending post on a multilamp photoflash package inserted into the socket.

5. A one-piece molded camera socket for detachably retaining a multilamp photoflash package of the type having a base including a downwardly extending, hollow center post having a plurality of equally spaced retaining lugs extending radially outwardly from the lower end of the post, said socket comprising:

a base adapted for mounting the socket on a camera;

a plurality of flexible fingers extending upwardly from said base for engaging the lugs of said package, each of said fingers terminating in an enlarged projection defining an upper cam surface and a lower latch surface; and

a centrally positioned stabilizing stud extending upwardly from said base and terminating above the ends of said fingers, said stud having a size adapted to provide a relatively tight fit within said hollow center post.

6. The apparatus according to claim 5 including:

a control ring integrally molded to said base and extending radially outwardly therefrom, said ring defining a plurality of notches for operative engagement with an indexing mechanism of the camera.

7. The apparatus according to claim 6 in which said stud defines an ejector slot extending through the wall thereof for receiving an ejector pin of the camera for use in detaching the package from said socket, and including a substantially cylindrical outer wall extending upwardly from said base radially outwardly of said fingers, said wall having a height greater than that of said fingers and less than that of said stud; and

a plurality of ribs extending radially inwardly from said wall and terminating short of said stud, the top surface of said ribs defining an access opening into said socket for said package.

8. A one-piece, molded socket for mounting a multilamp photoflash package in secured alignment therewith by engagement with the package base, said package being of the type which is rotated on a central axis to align selectively separate lamp elements thereof with respect to a camera, said socket comprising:

(a) support means mountable on a camera for rotation on an axis thereof and for supporting a multilamp photoflash package;

(b) a plurality of flexible, retaining fingers extending from said support means in a direction generally parallel to said axis of rotation of said support means, each of said fingers having a projection defining an upper cam surface and a lower latch surface engageable with the base of a supported package, said fingers being located in spaced relation around said axis of said support means so as to retain a mounted photoflash package by the base with its central axis in substantial alignment with said axis of rotation of said support means; and

(c) a plurality of ribs integral with said support means and extending inwardly between said retaining fingers, generally toward said axis of said support means, said ribs respectively having bearing surfaces located so as to opposingly support the base of an inserted package against movement in all directions normal to said central axis.

9. A one-piece, molded socket adapted to detachably retain a multilamp photoflash package comprising:

a base;

a control ring extending radially outwardly from said base and defining a plurality of notches therein;

a plurality of flexible, retaining fingers extending upwardly from said base, each of said fingers terminating in an enlarged projection defining an upper cam surface and a lower latch surface;

a central, hollow, stabilizing stud extending upwardly from said base and terminating beyond the ends of said fingers, said stud defining an ejector slot extending through the walls thereof;

a cylindrical outer wall extending upwardly from said base, radially outwardly of said fingers, said wall having a height greater than that of said fingers and less than that of said stud; and

a plurality of ribs extending radially inwardly from said wall and terminating short of said stud, said ribs being interleaved with said fingers, the top surface of said ribs defining an access opening into said socket for said package.

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