May 23, 1961 R. B. LAMBERT 2,985,729

ELECTRIC LAMP SOCKET WITH RING SWITCH SLEEVE

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Fig. 1

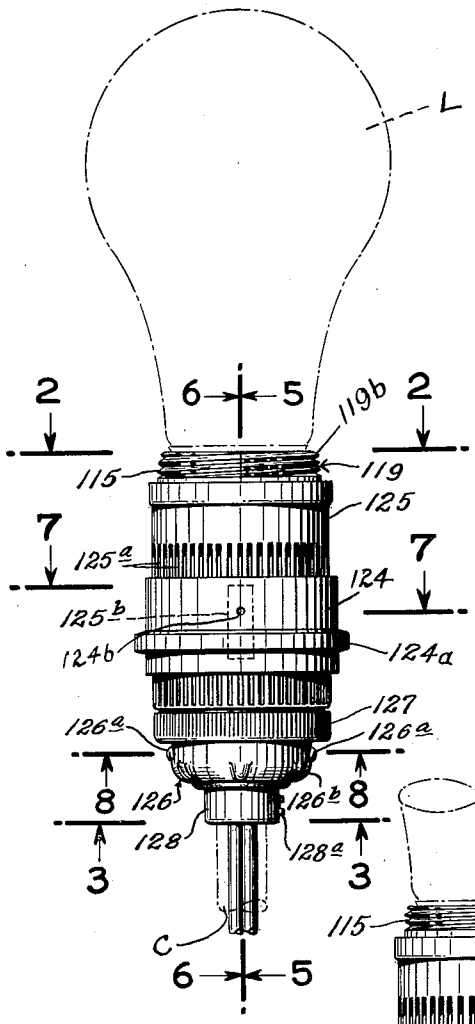


Fig. 2

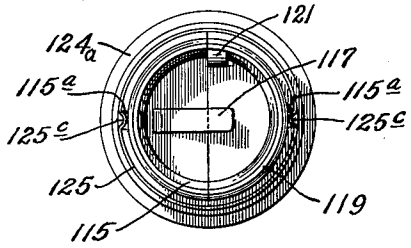


Fig. 3

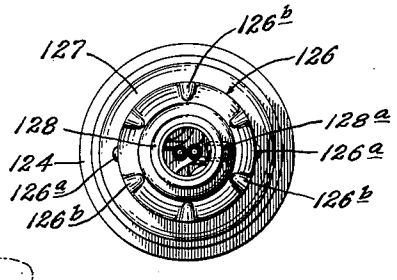
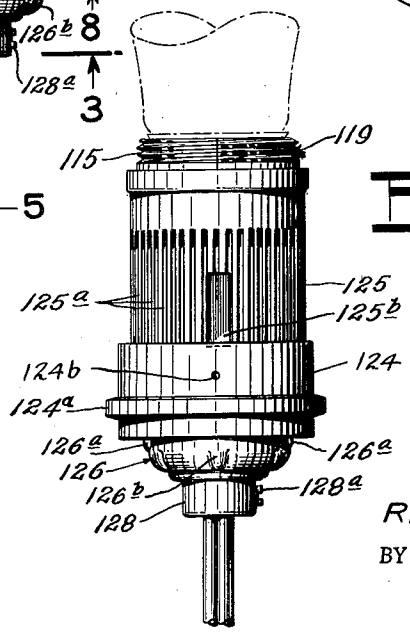


Fig. 4



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ELECTRIC LAMP SOCKET WITH RING SWITCH SLEEVE

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Fig. 5

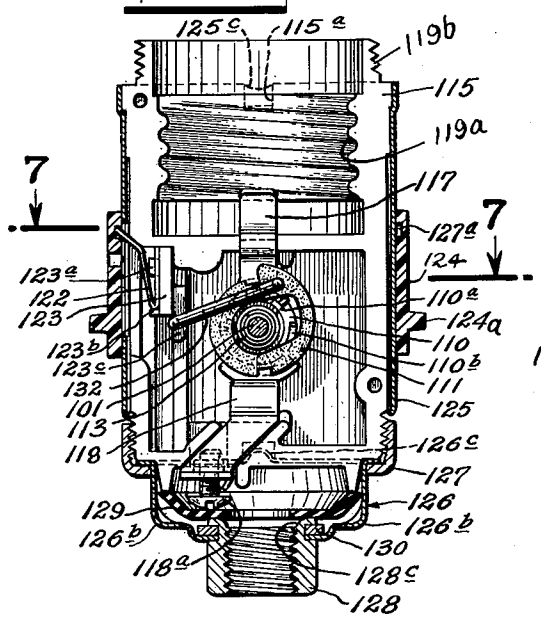


Fig. 6

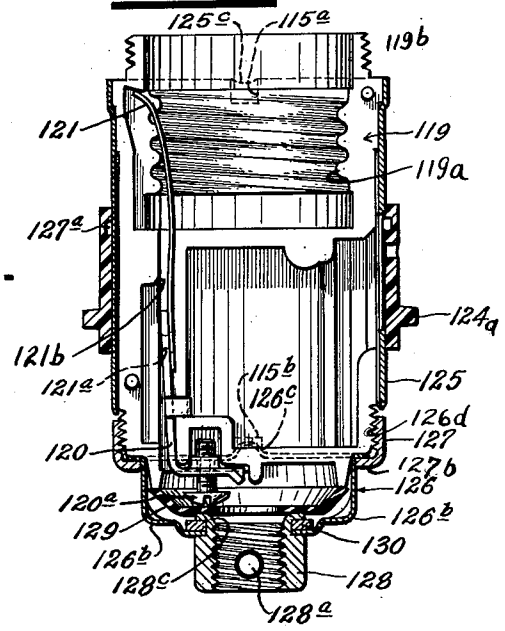


Fig. 7

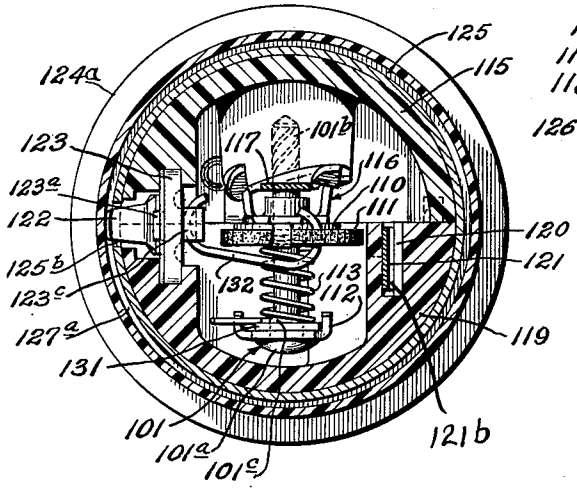
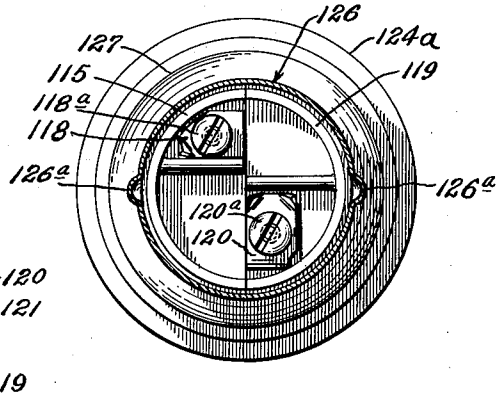


Fig. 8



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ELECTRIC LAMP SOCKET WITH RING SWITCH SLEEVE

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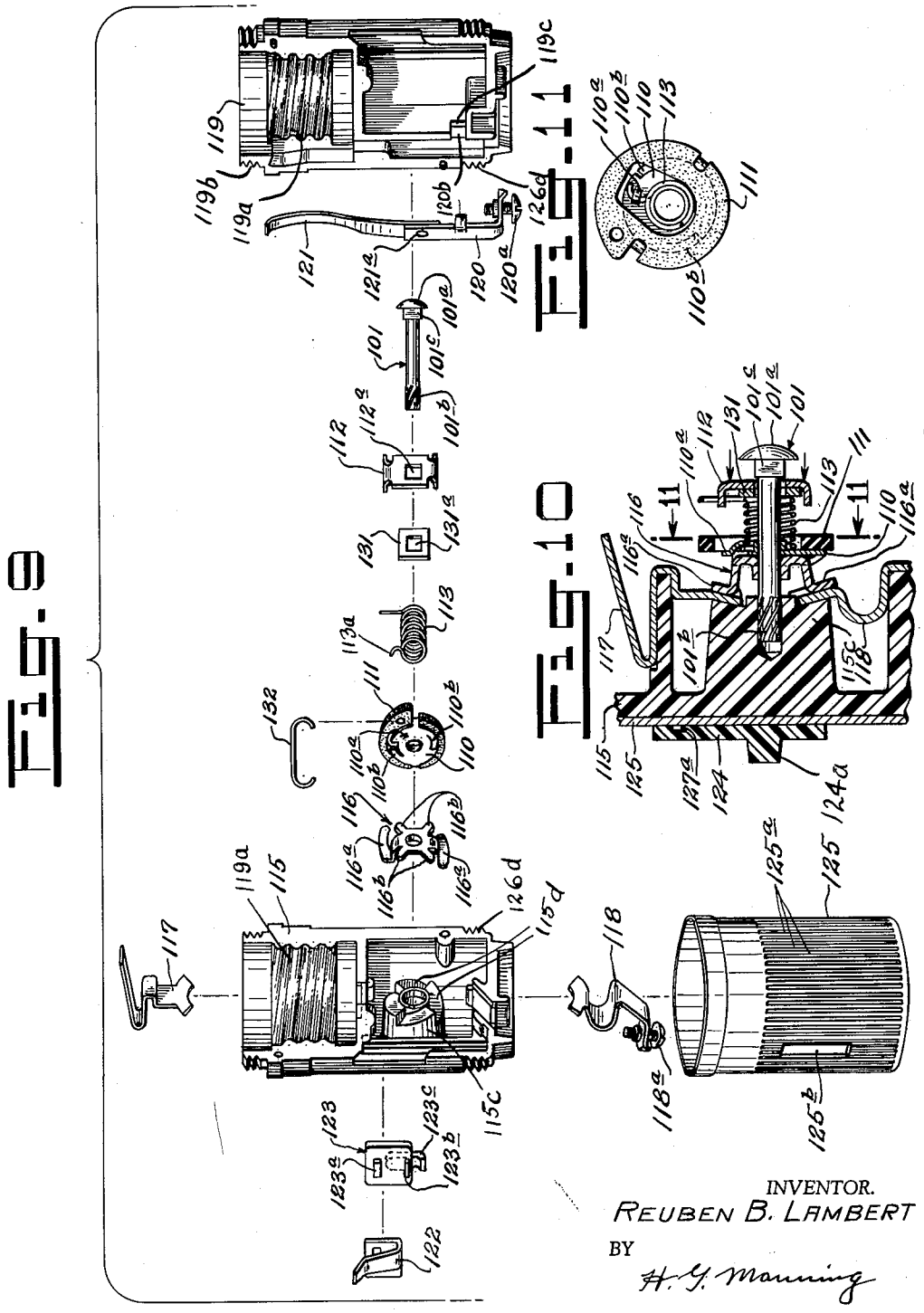

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ELECTRIC LAMP SOCKET WITH RING SWITCH SLEEVE

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Fig. 12

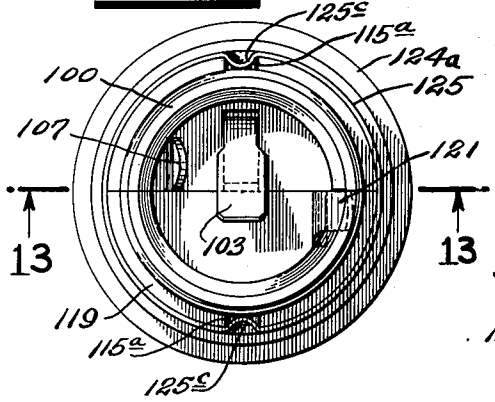


Fig. 13

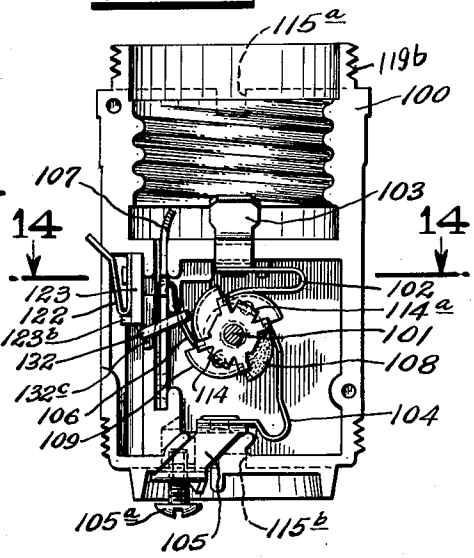


Fig. 14

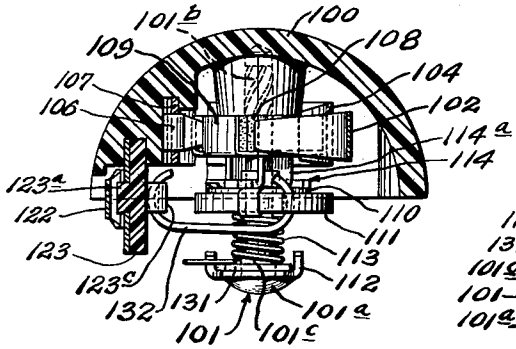


Fig. 15

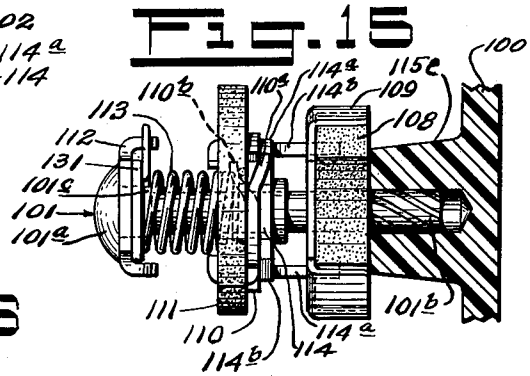


Fig. 16

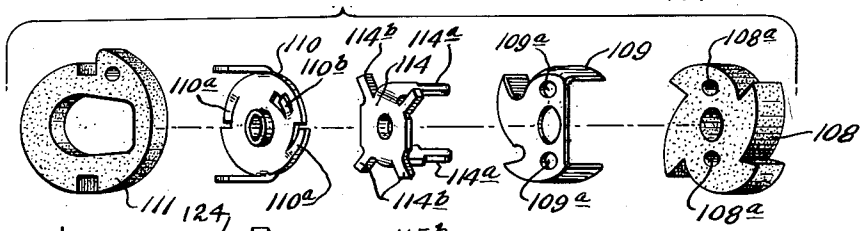
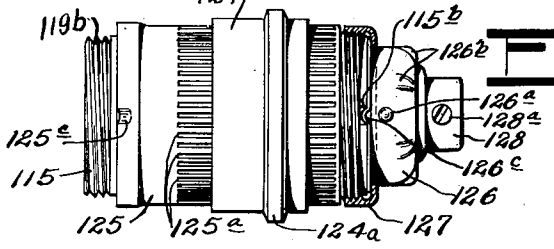


Fig. 17



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2,985,729

ELECTRIC LAMP SOCKET WITH RING SWITCH SLEEVE

Reuben B. Lambert, 56 Main St., Terryville, Conn.

Filed Oct. 7, 1958, Ser. No. 765,834

16 Claims. (Cl. 200—51.14)

This invention relates to electrical switches and is directed particularly to switches of the type combined with lamp sockets.

The principal object of this invention is to provide a control mechanism for electrical lamp switches of the above nature, whereby "on" and "off" switch control is cyclically and repeatedly effected merely by successively sliding downwardly a cylindrical switch sleeve member surrounding the body of the lamp socket.

A more particular object of this invention is to provide a control mechanism for an electrical lamp switch of the above nature, including a rotary ratchet type switching mechanism whereby the switching is accomplished by manually sliding the sleeve-like ring resiliently supported upon the switch body.

Another object of this invention is to provide a switch of the character described, which can readily be actuated in the dark without fumbling for turning on a lamp or other appliance.

Another object of this invention is to provide a switch of the character described consisting of a minimum number of parts, which will not require skilled labor to assemble, and will be long wearing and foolproof in use.

Another object of this invention is to provide a switch of the above nature whereby the spring controlling the rotary ratchet mechanism and its operating cylindrical switch sleeve member can be adjusted without the use of tools.

Another object of this invention is to provide a lamp socket switch of the above nature having a three-way electrical circuit.

A further object is to provide a switch of the character described, whereby most of the assembly operations may be completed without the use of tools.

Still another object is to provide switches having one and three-way electrical circuits whereby the housing for the switching mechanisms is so constructed and divided that one common half is used for each of the two types, and whereby the two housing halves are securely held positively in operative alignment by a thin metallic shell without the aid of screws.

Still another object of this invention is to provide a combination lamp socket and switch of the above nature, which is smooth in operation and attractive in appearance.

Other objects, features and advantages of this invention will be apparent from the following description when read with reference to the accompanying drawings.

In the drawings, which illustrate two forms in which the invention may conveniently be embodied in practice:

Fig. 1 represents an elevational view of one form of a switch socket embodying the invention employing a single circuit and showing the switch operating sleeve in its upper position.

Fig. 2 is a top view of the same, taken along the line 2—2 of Fig. 1.

Fig. 3 is a bottom view of the same, looking upwardly from the line 3—3 of Fig. 1.

Fig. 4 is an elevational view of the same similar to that of Fig. 1, but showing the switch operating sleeve in its lowermost position.

Fig. 5 is a vertical cross-section, on an enlarged scale, of the switch socket shown in Fig. 1, taken along the line 5—5 thereof in the direction of the arrows.

Fig. 6 is a similar vertical cross-section, taken along the line 6—6 of Fig. 1.

Fig. 7 is a horizontal cross-section on a still larger scale of the first form of switch socket, taken along the broken lines 7—7 of Figs. 1 and 5 looking downwardly in the direction of the arrows.

Fig. 8 is a horizontal cross-section on an enlarged scale, of the switch socket shown in Fig. 1, taken along the line 8—8 thereof looking upwardly in the direction of the arrows.

Fig. 9 is an exploded view of the first form of the lamp switch socket, illustrating the details of its component parts.

Fig. 10 is a vertical cross-sectional view of a portion of the first form of switch socket, on an enlarged scale, illustrating how the parts of the rotary switch mechanism are assembled.

Fig. 11 is a vertical cross-sectional view taken along the line 11—11 of Fig. 10.

Fig. 12 is a top plan view of the second form of switch for use with a lamp socket having a three-way electric circuit.

Fig. 13 is an elevational view of one half of the casing of the second form of the switch socket, containing the rotary switching mechanism.

Fig. 14 is a horizontal cross-sectional view taken along the line 14—14 of Fig. 13.

Fig. 15 is a partial vertical cross-sectional view of the second form of switch socket, illustrating the method of assembly and operation of the rotary switch mechanism.

Fig. 16 is an exploded view of the rotary switching mechanism of the second form of the invention, illustrating details of the component parts, and

Fig. 17 is a side view partly in section, of an assembled switch embodying either form of the invention.

Referring now in detail to the drawings, wherein like reference numerals denote corresponding parts throughout the several views, and considering first the embodiment of the invention illustrated in Figs. 1 through 11, the first form of switch socket for a standard single circuit "on and off" lamp comprises a complementary pair of casing halves **115**, **119**, preferably molded of a hard insulating material such as "Bakelite," which halves when interfitted form a cylindrical housing for the switching mechanism, as hereinbelow described.

Each of the assembled casing halves **115**, **119** is recessed at one end and internally threaded at **119***a* to receive the screw base of an electric light bulb L, and is also provided with an external screw thread **119***b*, for receiving a lamp shade, not shown. The casing halves **115**, **119** are held in assembled relation by means of an outer casing shell **125** (Fig. 9) which is slid on from the lower end of the socket. The outer surface of the casing shell **125** is formed with longitudinal ribs **125***a* and the upper end of said shell is provided with diametrically opposed indentations **125***c* which fit into respective recesses **115***a* in the casing halves **115**, **119** to prevent relative rotary motion after the socket has been assembled (see Figs. 2 and 6).

A flanged convex lower cap **126** seats over the lower end of the assembled casing halves **115**, **119**, said cap being provided on its flange portion with an opposed pair of bumps or projections **126***c* (Fig. 5) which seat in recesses **115***b* provided in the lower end of the casing halves **115**, **119** (see Fig. 6), to prevent relative rotary motion.

A knurled, internally-threaded flanged ring **127** sur-

rounds the flanged lower cap **126** and screws upon an external thread **126***d* provided at the lower end of the assembled casing halves **115, 119**. The ring **127** is provided at its lower end with an annular, inwardly-directed shoulder **127***b* which bears against the underside of the flange portion of the lower cap **126**, thereby clamping it in place against the lower end of the assembled socket. The upper edge of the ring **127** abuts the lower end of the casing shell **125**, to hold the latter in assembled relation.

The lower cap **126** is also provided with a pair of opposed, outwardly-directed round bumps **126***a* (Figs. 1 and 8), which serve to lock the ring **127** on said lower cap, but which allow relative rotary motion between the two parts for the screwing on or off of said ring **127** during the assembly or disassembly of the socket.

The lower cap **126** is further formed with a plurality of circumferentially-arranged ribs **126***b* to facilitate gripping of said cap during assembly, and the lower end of said cap has an internally-threaded neck **128** having a set screw **128***a*, by means of which the socket may be secured in place in a lamp, for example. As illustrated in Figs. 5 and 6, the threaded neck **128** is secured in place on the lower cap **126** by swedging an upper rim **128***c* of said neck over an internally serrated steel washer **130** disposed within said cap. The usual annular cupped insulating paper disc **129** is fitted within the lower cap **126**.

Slidably disposed about the ribbed portion of the socket casing shell **125**, is a sleeve-like switch operating ring **124**, formed of metal, plastic or other suitable material, and which is formed near its lower end with an external circumferential gripping rib **124***a* to facilitate actuation of the socket switch, in the manner hereinbelow described. The switch ring **124** is also provided at its upper end with an internal annular groove **127***a* (see Figs. 5, 6, and 7) which provides connecting means between said switch ring and the switching mechanism contained by the casing halves **115, 119**.

Considering now the electrical switching mechanism contained in the casing halves **115, 119**, and referring first to Figs. 6 and 9, it will be seen that electrical contact with the metallic screw sleeve of the lamp bulb is made by means of a resilient upstanding metal tongue **121** which is disposed in and extends through a vertical slot **121***b* formed in the casing half **119** and into a side recess formed in the upper bulb-receiving threaded portion of said casing half. The lower end of the contact tongue **121** is riveted at **121***a* (Fig. 6) to the upper end of a metallic connector member **120**, which also fits into the slot **121***b* in the casing half **119**, and is bent over at its lower end and fitted with a binding screw **120***a* (Fig. 8) for connecting one of the leads of an electrical supply cord C.

Referring now to Figs. 9 and 10, it will be seen that the casing half **115** is formed with a central boss **115***c* having opposed pairs of beveled quadrants **115***d*. The upper one of the beveled quadrants is engaged by the arcuate vertical lower end section of a resilient bulb center-contact member **117**. The upper portion of the contact member **117** is formed with a U-shaped portion which fits over a central horizontal wall provided in the casing half **115** to hold said contact member in place.

The lower one of the beveled quadrants **115***d* of the central boss **115***c* formed in the casing half **115** is engaged by the arcuate upper end portion of an electrical conductor **118** which extends over the lower end of the casing half **115** at a position opposite the connector member **120**, and which is likewise provided with a binding screw **118***a* for connection to the second lead of the two wire insulated electrical supply cord C.

Press-fitted into a central axial opening in the central boss **115***c* formed in the casing half **115**, is a stud pin **101** (Fig. 10) formed at its inner end with a spiral tip **101***b*. Rotatably mounted on the stud pin **101** is a circuit breaker **116** formed with a pair of opposed, arcuate contact ears **116***a*, and four equidistantly-spaced outwardly-extending lugs **116***b*.

Means is provided for rotating the circuit breaker **116** 90 degrees at a time in a counterclockwise direction, as viewed in Figs. 5 and 9, each time the switch operating ring **124** is moved downwardly, whereby the contact member **117** and the electrical conductor **118** will alternately be shorted and open-circuited by said circuit breaker for turning the lamp bulb L on and off. To this end, the stud pin **101** is also fitted with a steel ratchet pawl **110** having two opposed inwardly-extending resilient teeth **110***b* adapted to engage successively the opposed pairs of the outwardly-extending lugs **116***b* of the circuit breaker **116**, as said pawl is repeatedly moved through its counterclockwise cycle of operation.

The ratchet pawl **110** is secured by means of opposed clamping lugs **110***a* to an upper fiber insulating disk **111** (Fig. 9), and said disk **111** is provided with a small, off center opening within which is hooked one of the arcuate ends of a connector link **132** interconnecting the ratchet switching mechanism and the switch actuating slide ring **124**. The connector link **132** is preferably made of spring steel such as music wire.

Also fitted on the stud pin **101** is a helical spring **113** the inner end **113***a* of which is in the form of a hook to anchor on a lug **110***a* struck outwardly from the ratchet pawl **110**. The fiber washer **111** is provided with a central opening which allows the lower end of the spring **113** to seat against the upper surface of the pawl **110** (see Fig. 10).

The stud pin **101** is formed at its outer end with a head **101***a* beneath which is a square shoulder **101***c*. Moreover, a rectangular catch plate **112** having a square central opening is mounted under the head **101***a* of the stud pin **101** and is adapted to be seated upon the square shoulder **101***c* thereof. A square washer **131** having a square central opening **131***a* is also arranged on the stud pin **101** below the catch plate **112**, and is adapted to fit on the square shoulder **101***c* of the stud pin **101** along with the catch plate **112**.

As best illustrated in Figs. 7 and 10, the catch plate **112** is formed with end portions which extend down over opposed ends of the square washer **131** and is formed with curled corners adapted to catch the outwardly extending upper end of the spring **113**.

As illustrated in Figs. 5, 7 and 9, the casing halves **115** and **119** are provided at their abutting sides with complementary grooves forming a vertical guide for an insulating rectangular "nylon" or "Bakelite" slide member **123** provided at its lower end with a hook **123***c* adapted to engage the outer end of the connector link **132**, and a lug **123***b*, adapted to fit into an elongated rectangular opening in the outer wall of the cylinder structure formed by the interfitting casing members **115** and **119**. The slide member **123** is also formed on its outside, above the lug **123***b*, with a rectangular projection or lug **123***a* seated upon which is a U-shaped spring steel driver member **122** having a resilient arm extending upwardly and outwardly of the rectangular opening in the casing and extending through a slot **125***b* provided in the casing shell **125**. The upper end of the driver **122** is engaged in the groove **127***a* of the switch ring **124**, as illustrated in Figs. 5 and 7.

To facilitate disassembly of the socket, a small hole is provided in the switch ring **124** in register with the driver **122** (see Figs. 1, 5) to allow the insertion of a pin or other suitable tool for releasing the upper end of said driver **122** from the groove **127***a*, and thereby allowing removal of said switch ring. The connector **120** has a lug **120***b* which is adapted to fit in a slot **119***c* whereby the tongue **121** will be held securely in position.

OPERATION

To actuate the switch, the switch operating ring **124** will be pushed downward from the position shown in Fig.

1 to that illustrated in Fig. 4. Referring to Fig. 5, it will be seen that this downward movement of the ring **124** will cause the steel driver **122** to push the slide **123** downwardly because of the upper end of said driver being resiliently engaged in the annular groove **127***a* of said ring **124**. This downward movement of the slide **123** pulls the connector link **132** down with it, causing counterclockwise rotary motion to be imparted to the fiber disk **111** and the pawl **110** fixed thereto. The movement of the slide **123** is just enough to rotate the pawl **110** 90 degrees.

The outwardly-extending teeth **110***b* of the pawl **110** engage two of the opposed lugs **116***b* of the circuit breaker **116**, thereby rotating said circuit breaker through 90 degrees and causing its two contact ears **116***a* to ride upward and off the two horizontal non-contact beveled quadrants **115***d* at the end of the central boss **115***c* of the casing half **115** (see Figs. 7 and 9). At the end of the 90 degree rotary motion, the contact ears **116***a* will snap down upon the two vertical beveled quadrants **115***d* of the boss **115***c* making contact between the arcuate and portions of the center contact member **117** and the conductor **118** which face said vertical quadrants (see Figs. 9 and 10) to close-circuit the switch and energize the light bulb L fitted in the socket. The beveled quadrants **115***d* of the central hub **115***c* of the casing half **115** also act as a ratchet to retain the contact breaker in its rotated position, as is hereinafter more fully described. The "snap-on" action of the contact ears **116***a* is effected by means of the helical spring **113** acting both in torsion and compression. To cause the spring **113** to have torsional pull, pressure will be applied against the catch plate **112** in the direction of the arrows shown in Fig. 10, to compress the spring and allow the square holes **112***a* and **131***a* of the catch plate **112** and the washer **131** respectively to become disengaged from the square shoulder **101***c* under the head of the stud pin **101**. When in this position, the catch plate **112** can be rotated in a clockwise direction to build up the torsion in the spring to the desired amount. Thereafter, the square holes in the catch plate **112** and the washer **131** will be lined up with the square shoulder **101***c* of the stud pin **101** and allowed to seat thereon under the head **101***a* of said stud pin in their original holding positions under the compressional force of the spring **113**. This operation will be performed only after the driver **122** and the slide **123** are located in their respective grooves in the casing half **115** and connected to the fiber disk **111** by the connector link **132**.

The torsional force of the spring **113** serves to hold the slide **123** in its uppermost position against an abutment, as shown in Figs. 5 and 13. When in this position, the teeth **110***b* of the pawl **110** engage the rear of a pair of opposed lugs **116***b* of the circuit breaker **116**, as described above, to turn said circuit breaker through 90 degrees. During the turning of the circuit breaker **116** against the beveled surface of the quadrants **115***d* on the central boss **115***c* of the casing half **115**, axial pressure will be exerted against the pawl **110** which further compresses the spring **113**, thereby insuring a positive turning contact between the pawl teeth **110***b* and the circuit breaker lugs **116***b*, and guaranteeing perfect rotary action of the circuit breaker **116** with every downward movement of the slide **123**.

The rotary action of the circuit breaker **116** is completed when the driver member **122** contacts the bottom of the slot **125***b* in the casing shell **125**. Upon manual release of the switch ring **124**, it will automatically be moved upward to its original position (shown in Fig. 1) by the torsional force of the spring **113**. In returning to this original position, the interjoined pawl **110** and fiber disk **111** will have been rotated 90 degrees in a clockwise direction. This causes the teeth **110***b* of the pawl **110** to slide over the lugs **116***b* of the circuit breaker **116** by reason of their inclined surfaces. This again compresses the spring **113** slightly, and snaps the pawl teeth behind the next pair of diametrically opposed teeth **116***b* of the circuit breaker **116**, said circuit breaker itself being held in position against clockwise motion by the shoulders of the ratchet formation of the beveled quadrants **115***d* on the end of the boss **115***a* of the casing half **115**.

The parts in the rotated position as herein described and illustrated, are in their closed circuit position and thus will effect energization of an electric light bulb L through the center contact member **117** and the resilient tongue contact member **121**, as shown in Figs. 2 and 6. The next downward movement of the switch ring **124** will duplicate the action described above with the exception that the circuit breaker shoes **116***a* of the circuit breaker will be returned to the non-conductive beveled quadrants **115***d* of the housing boss to create an open circuit.

Ease of operation and motion between the vertical sliding action of the slide **123** and the rotary and axial motion on the stud pin **101** of the combined pawl **110** and fiber disk **111** is due principally to the semi-circular form of the ends of the connector link **132** which serve as universal joints where they connect, respectively, with the opening of the fiber disk **111** and the hook portion **123***c* of the slide member **123**.

MODIFIED FORM

The modified form of switch socket for a 3 filament lamp having a 3-way circuit is illustrated in Figs. 12 to 16, and differs principally from the single circuit switch socket for a single filament lamp bulb described above in the rotary timing circuit breaking mechanism. In this form instead of the circuit breaker **116** of the first form, a four-segment fiber circuit breaker cam **108** having a partial metallic cover therefor **109** (see Fig. 16), is provided. It will be noted that the casing half **100** is a counterpart of the casing half **115** of the first form of the invention with minor changes, the principal one of which is the provision of a groove in the central horizontal wall for holding a third resilient contact member **106** in position. In addition, the casing half **100** is formed with a slightly shorter unbeveled central hub **115***e* for receiving the stud pin **101**. The stud pin **101** in this form has assembled on it the same catch plate **112**, washer **131**, spring **113** and interjoined fiber washer **111** and pawl **110**, used in the construction of the single-operation switch, but employs a modified form of rotary circuit breaker comprising the fiber circuit breaker cam **108**, the cover **109** and a modified steel driver **114**.

The modified form of rotary circuit breaker is formed by fitting the cover **109** over the breaker cam **108** with holes **109***a* in alignment with holes **108***a* in said breaker cam, and then locating the driver **114** thereon with its two lugs **114***a* passing into the aligned holes **108***a* and **109***a*. Shoulders formed on the lugs **114***a* provide spacing between the front surface of the driver **114** and the front of the cover **109**, as shown in Fig. 15.

As further illustrated in Fig. 15, all of the above-described circuit breaker mechanism parts are assembled on the stud pin **101**; and then the self-threading end **101***b* of said stud pin will be pressed into the central hub **115***a* of the casing half **100**. This construction and the method of creating torsional pull on the spring **113** is the same as that described above for the single circuit switch. Also, the same parts and method are used to rotate the circuit breaker during switching operations as in the first form of the invention, and as is illustrated in Figs. 13 and 14. To complete the housing for the switch mechanism of the three-way circuit switch, the same casing half **119** with its flexible lamp bulb contact **121** as shown in Figs. 6, 9, and 13 may be utilized.

OPERATION of 3-WAY SWITCH SOCKET

As shown in Fig. 13, the circuit breaker cam **108** and its cover **109** are in open-circuit position, due to the

spring contact 104 resting against the uncovered quadrant of said breaker cam. When the slide 123 is moved down during actuation of the switch, the circuit breaker cam 108 and its cover 109 are moved 90 degrees in the same manner as already described above in connection with the description of the single-operation switch. This action will bring one of the metallic segments of the cam cover 109 into contact with the spring contact 104, the uncovered quadrant of the breaker cam taking a position under the spring contact 102 forming part of a resilient bulb base center contact 103. Thus, the circuit will be closed through said cam cover, the spring contacts 106, 107 to the base of the electric bulb, through the low-wattage filament to the screw base ferrule of the bulb to the flexible contact 121.

A second downward movement of the slide member 123 will rotate the circuit breaker cam 108 together with its cover 109 another 90 degrees to bring the uncovered quadrant of said breaker cam under the spring contact 106 and two of the metal segments of its cover 109 under the spring contacts 102 and 104 respectively. The closed circuit thus effected is through the spring contact 104, breaker cam cover 109, spring contact 102, the bulb base center contact 103, through a filament in a lamp (not shown) of twice, for example, the wattage of the first filament to the screw base ferrule of the lamp and the flexible contact 121.

The third 90 degree rotation of the breaker cam 108 will bring the three metallic segments of the cam cover 109 under the three spring contacts 102, 104 and 106, thereby closing the two previously described circuits to energize both lamp filaments and thus use their combined wattage.

The fourth 90 degree rotation of the breaker cam 108 will return it to its original open-circuit position to turn off the lamp again, as illustrated in Fig. 13.

While there have been described in this specification two forms in which the invention may conveniently be embodied in practice, it is to be understood that these forms are presented by way of example only and that the invention is not limited to the specific disclosures, but may be modified and embodied in various other equivalent forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new and for which it is desired to secure Letters Patent is:

1. An electrical socket switch comprising, in combination, a cylindrical housing, means in said housing for attachment to an electrical appliance to be operated, rotary switch means in said housing for controlling the energization of said appliance, an annular switch ring surrounding said housing and arranged for slidable motion in an axial direction thereon, and mechanism extending through said housing and interconnecting said switch ring and said rotary switch means for rotating said rotary switch means upon successive sliding actuations of said switch ring on said housing, said interconnecting mechanism including a slide member arranged in an axial groove in said housing, a spring member secured to said slide member, said switch ring having an annular interior groove, an end portion of said spring member extending into said annular groove, and a link member interconnecting said slide member and said rotary switch means, said link member being formed at each end with semi-circular hook portions, one of which engages with an opening in said slide member, and the other of which engages with an opening in said rotary switch means.

2. An electrical socket switch as defined in claim 1, wherein said cylindrical housing comprises a pair of longitudinally divided casing halves molded of dielectric material, and a housing shell fitted over said casing halves and adapted to hold them together.

3. An electrical socket switch as defined in claim 2, in which said housing is externally threaded on its lower end, and an internally threaded end cap screwed thereon and adapted to hold said housing shell in place.

4. An electrical socket switch as defined in claim 3, including locating means for holding said housing shell against rotary motion with respect to said housing.

5. An electrical lamp switch comprising, in combination, a housing having means at one end for supporting a lamp bulb, rotary switch means in said housing for controlling the energization of said lamp bulb, a sleeve switch ring surrounding said housing and arranged for slidable motion in an axial direction thereon, mechanism extending through said housing for interconnecting said switch ring and said rotary switch means for step-by-step rotation of said rotary switch means, upon successive sliding actuations of said switch ring on said housing, to turn said bulb "on" and "off," and wherein said interconnecting mechanism comprises a slide member arranged in an axial groove in said housing, a spring member secured to said slide member, said switch ring having an annular interior groove, and a link member interconnecting said slide member and said rotary switch means, said link member being formed at each end with semi-circular hook portions, one of which engages with an opening in said slide member, and the other of which engages with an opening in said rotary switch means.

6. An electrical lamp switch comprising, in combination, a housing having means at one end for supporting a lamp bulb, rotary switch means in said housing for controlling the energization of said lamp bulb comprising a pair of longitudinally divided casing halves molded of a dielectric material, a housing shell fitted over said casing halves and adapted to hold them together, said rotary switch means comprising a lateral hub portion molded in the interior of one of said casing halves, a symmetrical four segment circular ratchet formed on the end of said hub portion, an opposed pair of said segments being faced with conductor elements for the energization circuit of a light bulb, a pin axially arranged with respect to and secured at one end in said hub portion, a metal circuit breaker rotatably mounted on said pin and having a pair of opposed contact shoes adapted to fit against opposed pairs of said ratchet segments as said circuit breaker is turned in 90 degree increments, a pawl on said pin and having means to engage with said circuit breaker member when rotated in one direction for step-by-step rotation of said circuit breaker, spring means for normally holding said pawl in a rotative position of rest, an annular switch ring surrounding said housing and arranged for slidable motion in axial direction thereon, and mechanism extending through said housing and interconnecting said switch ring and said pawl for step-by-step rotating said pawl and said circuit breaker upon successive sliding actuations of said switch ring on said housing structure for actuating said switch means.

7. An electrical switch as defined in claim 6, wherein said interconnecting mechanism comprises a slide member arranged in an axial groove in said housing, a spring member secured to said slide member, said switch ring having an annular interior groove, the end portion of said spring member extending into said interior groove, and a link member interconnecting said slide member and said pawl.

8. An electrical switch as defined in claim 7, wherein said link member is formed at each end with a semi-circular hook, one of which hooks engages with an opening in said slide member, and the other of which engages with an opening in said pawl.

9. An electrical switch as defined in claim 6, wherein said spring means comprises a helical spring surrounding said pin and having one end secured to said pawl, a head on the other end of said pin, and adjustable means for securing the other end of said helical spring.

10. An electrical switch structure as defined in claim 9,

wherein said adjustable securing means comprises a square shoulder formed under the head of said pin, and a catch plate on said pin having a square opening for seating on said shoulder under said head, said catch plate having means for engaging with said other end of said helical spring.

11. An electrical switch as defined in claim 9, wherein said pawl comprises a fiber disk having an eccentrically-disposed, axially-directed opening, wherein said interconnecting mechanism comprises a slide member slidably arranged in an axial groove in said housing, said switch ring having an annular interior groove, and an end portion of said spring extending into said interior groove, and a link member interconnecting said slide member and said link member and being formed at each end with a semi-circular hook, one of which hooks engages with an opening in said slide member, and the other of which engages said opening in said disk.

12. An electrical lamp switch comprising, in combination, a housing having means at one end for supporting a lamp bulb, rotary switch means in said housing for controlling the energization of said lamp, said housing comprising a pair of longitudinally-divided casing halves molded of a dielectric material, and a housing shell fitted over said casing halves and adapted to hold them together, said rotary switch means comprising a lateral hub portion molded in the interior of one of said casing halves, a pin secured laterally in said hub portion, a dielectric circular ratchet member having four equal arcuate ratchet segments centrally journalled on said pin, a metallic ratchet member cover fitted on said ratchet member and having arcuate contact surface portions overlying three of said ratchet segments, a driver member fitted on said pin and connected for simultaneous rotation with said ratchet member and ratchet member cover, a pawl on said pin and having means to engage with said driven member for step-by-step rotating said ratchet member and ratchet member cover, spring means for normally holding said pawl structure in a rotative position of rest, an annular switch ring surrounding said housing and arranged for slidable motion in the axial direction thereon, and mechanism extending through said housing and interconnecting said switch ring and said pawl for step-by-step rotating said pawl and said ratchet member and its cover upon successive sliding actuations of said switch ring on said housing, and resilient contact shoe members supported by said casing and arranged to be contacted by successive segments of said ratchet member and its cover as said ratchet member and cover are step-by-step rotated during switching operations, said contact shoe members being in circuit with the energization circuit for a lamp bulb.

13. An electrical switch as defined in claim 12, wherein said link member is formed at each end with a semi-circular hook portion, one of which engages with an opening in said slide member, and the other of which engages with an opening in said pawl.

14. An electrical switch as defined in claim 13, wherein said spring means comprises a helical spring surrounding said pin and having one end secured to said pawl, a head on the other end of said pin, and adjustable means for securing the other end of said helical spring against rotary motion with respect thereto in the direction of rotation of said pawl.

15. An electrical switch as defined in claim 14, wherein said adjustable securing means comprises a square shoulder formed under the head of said pin, and a catch plate on said pin, having a square opening for seating on said shoulder against the underside of said head, said catch plate having means for engaging with said other end of said helical spring.

16. The electrical switch as defined in claim 15, wherein said pawl comprises a fiber disk having an eccentrically-disposed, axially-directed opening, wherein said interconnecting mechanism comprises a slide member slidably arranged in an axial groove in said housing, a spring member secured to said slide member, said switch ring having an annular interior groove, the end portion of said spring member extending into said interior groove, and a link member interconnecting said slide member and said pawl, said link member being formed at each end with a semi-circular hook, one of which hooks engages with an opening in said slide member, and the other of which engages said opening in said pawl.

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