

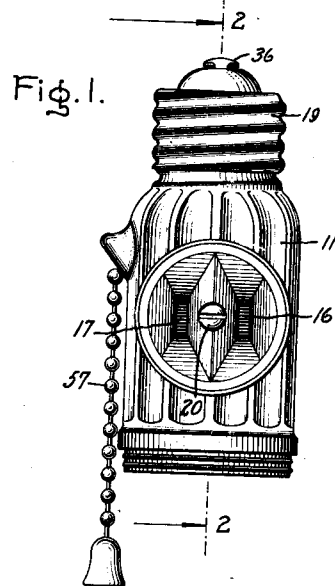
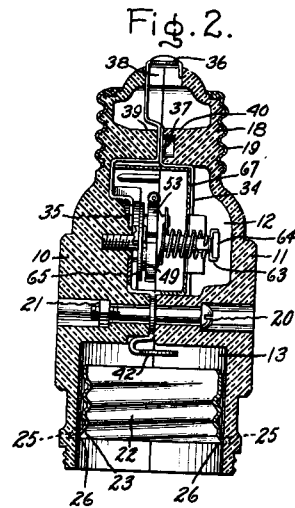
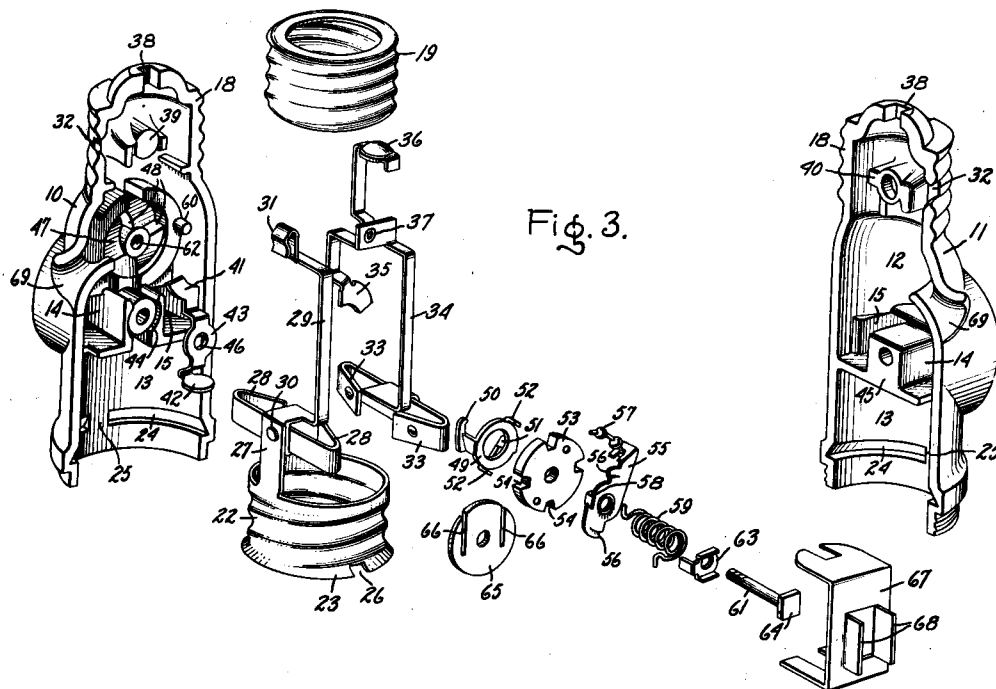
March 26, 1935.

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1,995,879

LAMP SOCKET AND CURRENT TAP

Filed Aug. 15, 1933



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UNITED STATES PATENT OFFICE

1,995,879

LAMP SOCKET AND CURRENT TAP

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Application August 15, 1933, Serial No. 685,197

5 Claims. (Cl. 173—336)

My invention relates to an improved lamp socket and current tap in which a pull chain switch is provided for controlling the lamp socket and the current tap is independent of the switch.

5 An object of my invention is to provide a combined lamp socket and current tap with a two piece body of insulating material so formed that the switch mechanism is secured in position by a single screw and the remaining parts are rigidly
10 clamped in position between the two parts of the body.

Another object of my invention is to so arrange the parts that they may be firmly held in position and yet the two parts of the body are of simple construction and relatively inexpensive to form
15 in a molding operation.

A further object of my invention is to provide a combined lamp socket and current tap which is simple in construction, of low cost of manufacture, easy to assemble, efficient in operation, and
20 durable.

What I consider to be novel and my invention will be better understood by reference to the following specification and appended claims when
25 considered in connection with the accompanying drawing in which Fig. 1 is a side elevation of my improved lamp socket and current tap; Fig. 2 is a sectional view along line 2—2 of Fig. 1 looking in the direction indicated by the arrows, and
30 Fig. 3 is an exploded view with the parts shown in perspective.

Referring to the drawing in which like numerals indicate the same parts in the several figures, 10 and 11 indicate the two part complementary body members of insulating material. Body members 10 and 11 are provided with registering cavities forming a switch chamber 12 and cylindrical well 13. Between switch chamber 12 and well 13 transverse channels 14 and 15
40 are located, and communicate with attachment cap blade receiving openings 16 and 17 provided in both body members 10 and 11. A hollow boss 18 is externally threaded to receive screw shell 19. Screw shell 19 in addition to providing one
45 of the contacts for the lamp socket and current tap assists in securing body members 10 and 11 together. Screw 20 and nut 21 serve as additional securing means for body members 10 and 11. Socket shell 22 which is adapted to receive a
50 lamp or screw plug is located in well 13. Socket shell 22 is provided with a flared end 23 extending into a groove 24 in well 13 near its opening to prevent the pulling out of shell 22 when a lamp or screw plug is threaded into the shell 22 with sufficient force to obtain the desired contact pres-

sure. To prevent rotation of socket shell 22 as a lamp or screw plug is threaded into it groove 24 is made discontinuous by the provision of two projections 25 which are straddled by two slots 26 provided in flared end 23 of socket shell 22. A
5 strap 27 integral with shell 22 serves to connect it to spring contact clips 28 which are located in channel 14. Strap 27 and contact clips 28 are secured to a bus bar 29 by means of a rivet 30. Bus bar 29 is provided at its upper end with a
10 contact strip 31 which passes through an opening 32 in boss 18, overlies a portion of boss 18 and engages screw shell 19. Thus bus bar 29 carries through an electrical connection from screw shell 19 to spring contacts 18 and socket shell 22.
15 Spring contact clips 33 are located in channel 15 and are connected to a bus bar 34. Bus bar 34 is connected at its opposite end to stationary switch contact 35 and tip contact 36. Bus bar 34, switch contact 35 and tip contact 36 are secured to-
20 gether by a rivet 37. Tip contact 36 extends through a central opening 38 of boss 18. Bus bar 34 adjacent the point at which it is secured to tip contact 36 and switch contact 35 extends parallel to the plane of division between body mem-
25 bers 10 and 11 and rests on integral projections 39 and 40 extending within boss 18 in body members 10 and 11 respectively. By this arrangement bus bar 34 with contact clips 33, switch contact 35, and tip contact 36 are clamped in position
30 between body members 10 and 11. Stationary switch contact 41 is integrally connected with a center contact 42 located in well 13. Connector 43 which joins switch contact 41 to center contact 42 extends in a plane parallel to the plane of
35 division between body members 10 and 11 and rests on a projection 44 between channels 14 and 15 in body member 10 and is clamped in position by engagement with a projection 45 between
40 channels 14 and 15 of body member 11. An opening 46 is provided in connector 43 to permit the passage of screw 20 therethrough and the opening 46 is made sufficiently large so that it does not engage the screw 20. By this arrangement
45 switch contact 41 and center contact 42 are secured in position merely by clamping between the body members 10 and 11 and do not require any special securing means. The arrangement of securing bus bars 34 and connector 43 by providing a surface parallel to the plane of division
50 of body members 10 and 11 in addition to providing a simple means of securing the parts in position eliminates the necessity of a narrow recess which would be required if the parts were secured in the usual manner by being placed on edge or
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at right angles to the plane of division of parts 10 and 11. A narrow recess for a thin metal part is difficult to mold in a body of insulating material and cannot be made sufficiently accurate to insure rigid securing of the parts and so is generally not very satisfactory. By my arrangement the molding of the body member is greatly simplified and the parts are more rigidly and permanently secured in position.

In switch chamber 12, a surface 47 is provided on which the switch mechanism is adapted to rest and is divided into quadrants with inclined surfaces terminating in shoulders 48. Stationary switch contacts 35 and 41 rest on two of these quadrants and are spaced 180° apart. Rotary switch contact 49 is provided with two extensions 50 and 51 spaced apart 180° which are adapted to bridge stationary switch contacts 35 and 41 when in one position and to rest on the two unoccupied quadrants of surface 47 when moved through an angle of 90°. Shoulders 48 serve to stop projections 50 and 51 when they are moved from one position to another and also serve to provide an insulating surface between projections 50 and 51 when they are located 90° from the contact bridging position with the stationary contacts 35 and 41. Two lugs 52 are provided on rotary switch contact member 49 and engage a plate 53 of insulating material which is provided with four radial slots 54 which are spaced equally about its periphery. To move rotary switch contact 49 through the intermediary of plate 53 a switch operating mechanism 55 is provided and has two depressed portions 56 on opposite sides which engage in two slots 54 when it is moved by pull chain 57. Operating mechanism 55 is provided with an upturned lug 58 which is engaged by one end of a spring 59. Spring 59 provides the bias for the operating mechanism 55 and returns it to inoperative position when pull chain 57 is released. As the operating mechanism 55 returns to the inoperative position depressions 56 ride up out of slots 54 over the surface of plate 53 and then seat in the next two adjacent slots 54 when operating mechanism 55 is again operated by pull chain 57. A stop 60 is provided in body member 10 adjacent to surface 47 which engages operating mechanism 55 when it is in the inoperative position. Spring 59 in addition to causing the return movement of operating mechanism 55 provides the necessary compression to hold depressions 56 in engagement with the edges of slots 54 as the operating mechanism is moved. To secure rotary switch contact 49, plate 53, and operating mechanism 55 in position, a stud 61 is provided which passes through openings in the parts and threads into a central opening 62 provided in surface 47. To anchor spring 59 an anchor plate 63 is provided and has two upturned abutments which engage the square head 64 of stud 61. To adjust the spring tension of spring 59, anchor plate 63 is moved downwardly along the shank of stud 61 out of engagement with square head 64 and then is turned until the desired spring tension is obtained and then released in engagement with square head 64. To assist in snuffing the arc on the movement of rotary switch contact 49 from the bridging position, a disc 65 is provided and has slots 66 to permit the disc 65 to pass over the connection of contact projections 50 and 51 to rotary contact 49 so that disc 65 may be located closely adjacent to the contact surfaces. A central aperture is provided in disc 65 for the passage of stud 61 therethrough. To insulate the

bus bars 29 and 34 from the switch a barrier 67 is provided and formed from a thin plate of insulating material. The depending ends of barrier 67 extend along the opposite walls of switch chamber 12 and the barrier is held in position by engagement with bus bars 29 and 34. Upstanding portions 68 are provided about a central opening through barrier 67 insulating bus bars from stud 61 which extends through the central opening. To permit the passage of pull chain 57 into switch chamber 12 a bell mouthed opening 69 is provided.

From the foregoing it may be seen that most of the parts of the lamp socket and current tap are secured in position by engagement with the two parts of body members 10 and 11. Socket shell 22 and integrally connected parts are secured in position by engagement between the flared end of the shell 22 and groove 24. Bus bar 34 and integrally connected parts are held in position by engagement of a portion of bus bar 34 with projections 39 and 40 of body members 10 and 11 respectively. Connector 43 with switch contact 41 and center contact 42 are secured in position by engagement with projections 44 and 45 of body members 10 and 11. The movable switch parts are all secured in position by stud 61. By the arrangement of securing these parts in position the molding of the body members is greatly simplified and the cost of manufacture of the parts reduced to a minimum. In addition, the parts are so secured as to insure their efficient operation throughout the life of the device. It is also to be noted that the arrangement of securing all of the switch members by a single stud and providing an anchor plate 63 for adjusting the spring tension; the adjustment of the spring tension does not affect the rigid securing of the parts and at the same time the adjustment is a very simple operation.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. A lamp socket and current tap comprising two complementary body members having a boss at one end, a central switch chamber, intermediate transverse channels, and a lamp socket receiving well at the other end, a screw shell threaded over said boss, a tip contact located in a central opening of said boss, a switch secured in said switch chamber by a stud threaded into one of said body members, contact clips located in said transverse channels, a socket shell secured in said well, a center contact located in the bottom of said well, a bus bar connecting said socket shell and one of said spring contacts to said screw shell, a stationary switch contact connected to said tip contact, a bus bar connecting another of said spring contacts to said tip contact, another stationary switch contact, a connector for connecting said last mentioned stationary switch contact to said center contact, a pull chain extending through an opening into said switch chamber and connected to said switch, openings in each of said body members communicating with said transverse channels, projections between said transverse channels having surfaces parallel to the plane of division of said body members and engaging opposite sides of said connector to clamp it in position between said body members, and means to secure said body members together.

2. An electrical outlet comprising two complementary body members having cavities forming a switch chamber, a lamp socket receiving well, and transverse channels, a lamp socket lo-

cated in said well with a flared end extending into a groove in the side of the well, spring contact clips located in one of said transverse channels and connected to said socket shell, a screw shell threaded on a boss of said body members, a bus bar connecting said screw shell to said spring contact clips and said socket shell, other spring contact clips located in another of said transverse grooves, a stationary switch contact, a tip contact connected to said switch contact, a second bus bar connecting said other spring contacts to said tip contact, a second stationary switch contact, a center contact located in said socket well, a flat connector securing said switch contact to said center contact and providing a surface clamped between two projections of said body members, a rotary switch mechanism located in said switch chamber, a stud securing said switch mechanism in one of said body members, and means to secure said body members together.

3. A lamp socket and current tap comprising two body members of insulating material having a boss at one end, a central switch chamber, transverse channels, and a lamp socket receiving well at the other end, a screw shell threaded over the outside of said boss, a tip contact located in an opening in the center of said boss, contact clips located in each of said transverse channels, a socket shell secured in said well by a flared end extending into a groove in the side of said well, a strap integral with said socket and connected to one of said contact clips, a bus bar connected to said socket shell at one end and extending through an opening in said boss and connected to said screw shell at the other end, a stationary switch contact connected to said tip contact, a bus bar connecting the other of said contact clips to said tip contact, a second stationary switch contact, a center contact connected to said stationary switch contact and located in said well, a rotary switch mechanism located in said switch chamber, a stud securing said switch mechanism in one of said body members, a barrier of insulating material located between said switch mechanism and said bus bars, and means to secure said body members together.

4. A lamp socket and current tap comprising two part body members of insulating material having a boss at one end, a central switch chamber, transverse channels, and a lamp socket receiving well at the other end, a screw shell threaded over said boss, a tip contact extending through an opening in the center of said boss, a rotary switch mechanism located in said switch chamber, a stud threaded into one of said body members and securing said switch mechanism in

position, contact clips located in said transverse grooves, a socket shell secured in said well by a flared end extending into a groove in the side of said well, a strap connecting said socket shell and one of said contact clips together, a bus bar connecting said socket shell and one of said contact clips to said screw shell, a stationary switch contact connected to said tip contact, a bus bar connecting the other of said contact clips to said tip contact, an arc snuffing disc of insulating material located closely adjacent said stationary switch contacts and movable with said switch mechanism, a pull chain passing through an opening into the switch chamber and connected to the switch mechanism, projections in said body members forming surfaces parallel to the plane of division of said members for clamping said stationary switch contacts between said body members, and means to secure said body members together.

5. A lamp socket and current tap comprising two complementary body members of insulating material forming a boss at one end, a central switch chamber, transverse channels and a lamp socket receiving well at the other end, a screw shell threaded over said boss, a tip contact secured in an opening in the center of said boss, a stationary switch contact located in said chamber and connected to said tip contact, a second stationary switch contact located in said switch chamber, a center contact located in said well and connected to said second stationary switch contact, a socket shell located in said well and having a flared end extending into a groove in the side of said shell, contact clips located in one of said transverse grooves and connected to said socket shell, a bus bar connected to said socket shell and contact clips at one end and extending through an opening in said boss and connected to said screw shell at the other end, other contact clips located in another of said transverse channels, a bus bar connecting said last named contact clips to said tip contact, said stationary switch contacts being connected to surfaces parallel to the plane of division between said body members and resting on projections from each of said body members, a rotary switch contact, switch operating mechanism, a stud passing through said rotary switch contact and said switch operating mechanism and threaded into an opening in one of said body members, means to secure said body members together and clamp said stationary switch contacts, said contact clips, and said socket shell in position without special securing means.

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