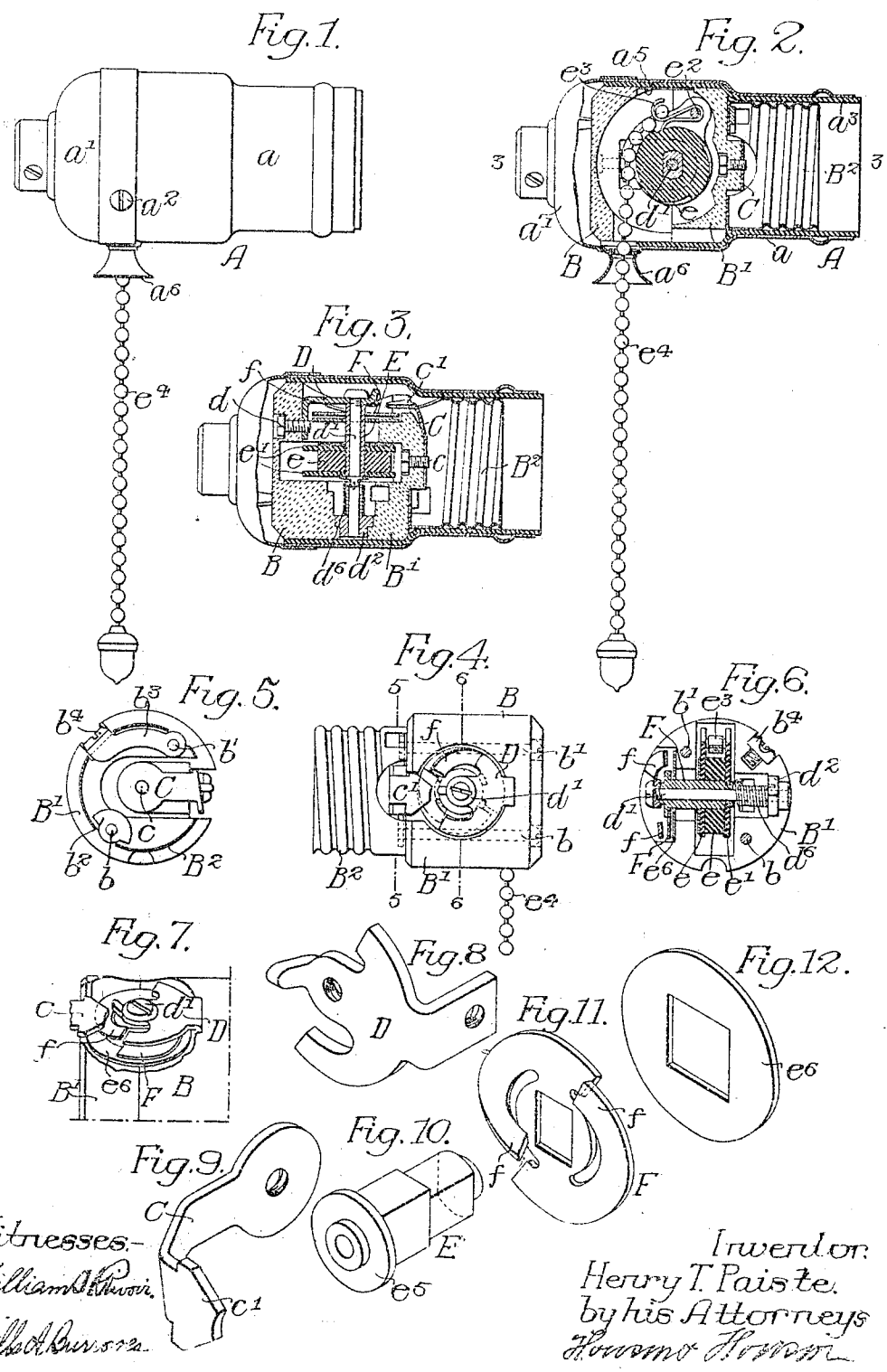


965,734.

Patented July 26, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY T. PAISTE, OF PHILADELPHIA, PENNSYLVANIA.

PULL-SOCKET.

965,734.

Specification of Letters Patent. Patented July 26, 1910.

Application filed December 22, 1908. Serial No. 468,799.

To all whom it may concern:

Be it known that I, HENRY T. PAISTE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Pull-Sockets, of which the following is a specification.

One object of my invention is to so arrange and construct the parts of a lamp socket and of the switch contained therein and forming part thereof, that the device as a whole shall be of a relatively uncomplicated nature and not likely to get out of order or to require repairs.

I further desire to provide a special form of quick break electric switch for use as part of a pull socket, which, while being compact, shall be positive and reliable in action as well as of such a construction as to occupy but relatively little space.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which:

Figure 1, is a side elevation of a pull socket constructed according to my invention; Fig. 2, is a vertical section of the socket shown in Fig. 1; Fig. 3, is a vertical section taken on the line 3-3, Fig. 2; Fig. 4, is a side elevation of the body of the socket, the shell being removed; Figs. 5 and 6, are vertical sections on the lines 5-5, and 6-6, Fig. 4; Fig. 7, is a perspective view of the switch employed as part of the socket; and Figs. 8 to 12 inclusive are respective views of certain of the details of my invention.

In the above drawings A represents the casing of the socket which consists of a body portion *a* and a cap *a'* fitting together and held in the positions shown by the screws, of which one is illustrated at *a''*.

The interior of the body portion of the casing is lined with insulating material *a'''* and contains two blocks B and B' of porcelain or other suitable non-conducting material, held together by screws *b* and *b'*, of which the threaded end of the first engages a metallic plate *b''* whereby the well-known threaded shell B² for the reception of a lamp, is held to the block B'. One end of the second of these screws enters a threaded opening in a terminal plate *b'''* the end of which extends down one side of the block B' and is provided with a screw *b''''* for the attachment of an electrical conductor; said screw serving to hold said terminal plate in

good electrical contact with the metal of the threaded shell B².

As is understood by those skilled in the art, the shell B² constitutes one of the socket terminals for engagement with the threaded base of an incandescent lamp, while a plate C, preferably of the form shown in Fig. 9, is held to the block B' by a screw *c*, so that it extends from a central point at the bottom of the shell B² to one side of said block, and is then turned at right angles to form the contact head *c'* of the switch. The second terminal of the switch is provided by a plate D held to the block B by a screw *d* and projecting toward the head *c'* of the plate C at one side of said block.

A spindle *d'* (which also serves as a terminal for the connection of a second electrical conductor) is threaded immediately adjacent to its head so as to be rigidly held by the plate D, and extends transversely of the socket so that it lies in or immediately adjacent to the plane of junction of the two blocks B and B', its opposite end being journaled in a metallic nut *d''* rigidly held between said blocks. Loosely mounted on this spindle *d'* is an elongated sleeve E having a central squared portion on which is a ratchet wheel *e* of non-conducting material. On each side of this ratchet wheel are loosely mounted two plates *e'*, also of non-conducting material, and rigidly connected by a pin *e''* carrying a pawl *e'''* which is designed to engage the teeth of said wheel *e*. This pawl has connected to it a chain *e''''* which extends from the recess within blocks B and B' in which the above noted parts are mounted, through an outwardly flanged funnel shaped mouth piece *e'''''* attached to the shell.

The sleeve E has at its outer end a collar *e''''''* and carries just under said collar a metallic washer *e'''''''* which rests upon the bottom of a circular recess formed in the side portions of the two blocks B and B'. Between said head and the collar is mounted a substantially circular contact member F, which, being fitted to the squared portion of the sleeve, necessarily has to turn therewith. From Fig. 11 it will be noted that this member is provided with two upwardly projecting tongues *f* 180° distant from each other, and since it is made of spring metal, said tongues while being free to be pressed toward or into the plane of its main portion, tend to occupy the positions shown, immediately under the head *c'* of the plate C and

also the body of the plate D as well as in a projected position between said parts. Said tongues are so proportioned or bent that their upturned ends bear against the under faces of the plate D and the head c' , when the contact member F is in certain definite positions. It will be noted, however, that said plate D is cut away at one side, and that the ratchet wheel e is provided in the present instance with four teeth. Moreover, there is mounted upon the spindle d' between the nut d^2 and one of the plates e' a spiral spring d^6 whose ends are respectively fixed to said plate and nut. Under operating conditions the spiral spring d^6 maintains the two plates e' with their pawl e^3 in such a position that a certain length of the chain e^4 is drawn into the socket and rests upon the surface of the ratchet wheel e .

Assuming that one of the tongues f is in engagement with the under side of the plate D and the other is in contact with the under side of the head c' ; the outward pull of the chain e^4 causes the pawl e^3 to engage one of the four teeth of the ratchet wheel e and turn said wheel through an arc of 90° , thereafter permitting the spring d^6 to return the two plates e' with the pawl, to their normal positions, shown in Fig. 2. This quarter turn of the ratchet wheel causes turning of the sleeve E and with it the contact plate F, so that while one of the spring tongues f still remains in engagement with the under side of the plate D, the other passes out from under the head c' and projects upwardly out of contact with the same, as shown in Fig. 4. The circuit through the plate D and the head c' to the center of the lamp socket is thus broken, although another outward movement of the chain e^4 will cause the second one of the spring tongues f to pass from under said plate D and permit it to spring up into engagement with the head c' , so that the circuit above noted is again completed.

By the arrangement above described, it will be seen that the wiping engagement of the spring tongues on the contact plate F with the plate D and the head c' insures at all times good electrical connection between these parts while the arrangement of said parts is such that the likelihood of loosening or breakage to any of them is reduced to a minimum. Moreover owing to the peculiar construction and arrangement of the tongues f and their coöperating parts the circuit is rapidly broken and made thus avoiding in a great measure all damage from burning of these parts.

I claim:

1. The combination in a pull socket of a supporting structure having a transversely extending spindle; a ratchet wheel thereon; a pawl having operating means and placed to act on said wheel; a disk like structure attached to the ratchet wheel upon the out-

side face of the supporting structure, and having a projecting contact; with a fixed contact or contacts extending adjacent said disk like structure also on the outside face of the supporting structure so as to be alternately engaged by and disengaged from the contact thereof when the pawl is operated.

2. The combination of a pull socket having terminals for connection to a lamp; terminals for the attachment of conductors; means for permanently connecting one of the conductor terminals with one of the lamp terminals; a ratchet wheel; a pawl having actuating means operative on said wheel; and a movable contact member connected to the ratchet wheel and provided with a projecting spring contact capable of being rotated from the ratchet wheel to alternately make and break the circuit between the second conductor terminal and the second lamp terminal.

3. The combination in a switch of a lamp terminal and a conductor terminal; a spindle electrically connected to one of said terminals; a sleeve rotatably mounted on said spindle; a ratchet wheel and spring contact member both fixed to said sleeve; a pawl having operating means and mounted so as to be capable of engaging the ratchet wheel; said spring contact being placed to alternately engage and disengage the second of said terminals when the sleeve is turned.

4. A pull socket consisting of two bodies of insulating material, having a chamber within them and provided with bearings; a spindle mounted in said bearings between said pieces of material; a pawl and ratchet mounted upon the spindle within the chamber but rotatable independently thereof; a spring contact tongue rotatably mounted on the spindle and operatively connected to the ratchet; lamp terminals of which one overhangs the path of movement of the contact; means for connecting current conductors to the spindle and to the other lamp terminal; and means for actuating the pawl.

5. The combination in a pull socket of an insulating body having a recess in one side and an interior chamber; a spindle extending through said chamber into the recess; a ratchet wheel of insulating material mounted on the spindle within the chamber; a pawl also in the chamber and operative on the ratchet; a disk on the spindle operatively connected to the ratchet, and having a spring tongue projecting from its plane; and lamp terminals mounted on the insulating body in such positions that one of them overhangs the recess thereof; with means for actuating the pawl to cause the spring tongue to be intermittently drawn into engagement with said overhanging contact and disengaged therefrom.

6. The combination in a pull socket; of an insulating body having a recess in one side

thereof; a plate and a contact overhanging
said recess; said contact having a lamp ter-
minal connected to it; a second lamp ter-
minal; a conductor terminal connected to the
5. second lamp terminal; with means for con-
necting a conductor to the overhanging
plate; a rotatable structure mounted in the
recess and having a spring tongue capable
of alternately engaging the plate and the
10 overhanging contact; with means for inter-

mittently rotating said structure in the re-
cess.

In testimony whereof, I have signed my
name to this specification, in the presence of
two subscribing witnesses.

HENRY T. PAISTE.

Witnesses:

WILLIAM E. BRADLEY,
WM. A. BARR.