

1,042,383.

Fig- 1.

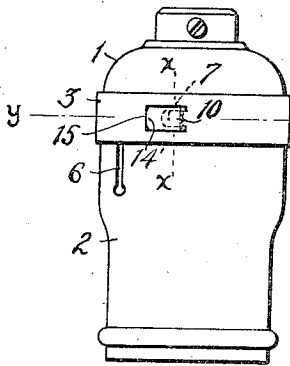


Fig. 2.

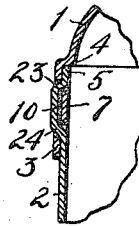
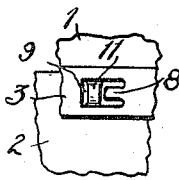
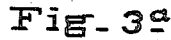


Fig. 3.

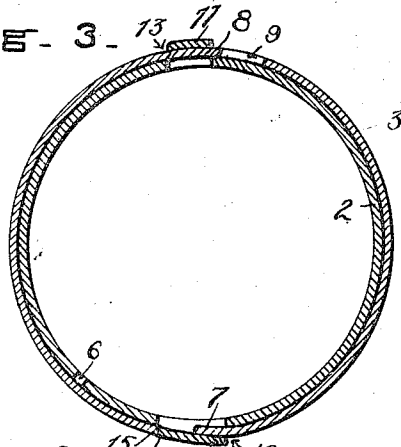


Fig. 4.

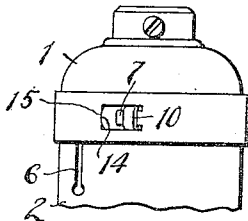


Fig. 6.

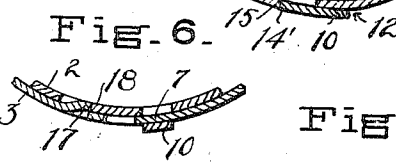


Fig. 5.

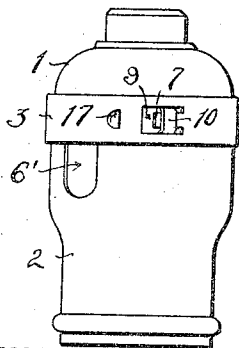


Fig. 8.

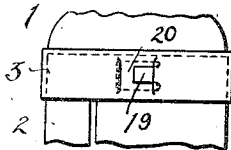


Fig. 7.

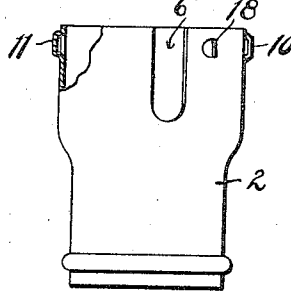


Fig. 9.



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FREDERIC BARR, OF NEW YORK, N. Y.

LOCKING DEVICE FOR LAMP-SOCKET SHELLS.

1,042,383.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed January 17, 1911. Serial No. 803,080.

To all whom it may concern:

Be it known that I, FREDERIC BARR, a citizen of the United States, and resident of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Locking Devices for Lamp-Socket Shells, of which the following is a specification.

My invention relates particularly to shells for incandescent electric lamp sockets.

The object of the invention is to provide a simple and inexpensive construction by means of which the cap and body of a shell may be readily assembled and when assembled are more safely and securely held from accidental disconnection and yet so that they may be readily separated by an intentional act.

The invention consists, broadly considered, in the provision of circumferentially extending tongues carried by one of the parts of the shell and projecting loops carried by the other part of the shell with which the tongues engage when the parts are longitudinally assembled and relatively rotated. A stop is also provided to prevent backward rotation and disengagement of the tongues and loops. The edges of the two parts of the shell adjacent the tongues and loops are continuous so as to preserve the strength of the parts intact so far as possible. The body of the shell is made elastic at the end which telescopes in the cap and one of the parts of the stop is carried by the elastic part of the body so that the stops may be disengaged by pressing on the body adjacent thereto. In the preferred form of the invention openings are provided adjacent the circumferentially extending tongues to receive the loops in assembling the parts so that when the parts are assembled and the loops project into the openings the parts are positioned and held ready for the interlocking of the tongues and loops. The upper and lower portions of the projections are preferably beveled or rounded so as to make it easier to insert the body of the shell into the cap and to retract the same when desired. Preferably one end of one of the openings referred to serves as one member of the stop for preventing rotation and the other member of the stop coacts therewith.

In the drawings I have illustrated the preferred form of the invention and modifications thereof.

Figure 1, is a front side view of one form

of shell embodying the improvements of my invention. Fig. 2, is a fragmentary vertical section of the same on the plane of the line X X of Fig. 1. Fig. 3, is a horizontal section of the same on the plane of the line Y Y of Fig. 1. Fig. 3^a, is a fragmentary detail view showing a loop of the body member in an opening of the cap member ready for the insertion of the tongue into the loop. This is the preferred form of lock at the back of the shell. Fig. 4, is a front view of a shell showing the preferred form of loop and stop. Fig. 5, is a side view of a shell showing another modified form of non-rotative stop. Fig. 6, is a fragmentary horizontal sectional view taken on the plane through the interlocking parts of Fig. 5. Fig. 7, is a side view of the body of a shell embodying my invention showing one of the members of the stop of Fig. 5, one part of the shell being broken away and shown in section. Fig. 8, is a side view of another modification of my invention. Fig. 9, is a horizontal sectional view of the same taken on the plane through the interlocking parts. The parts of the shell may be made of thin sheet metal as is customary. The cap 1 is adapted to telescope outside of the body 2 of the shell, the flange 3 affording a bearing with a shoulder 4 at its upper edge on the inside to serve as a stop for the upper edge 5 of the body when the parts are being assembled. The upper end of the body is made flexible or elastic by means of a slot such as 6 in the keyless form of socket shown in Figs 1, 3 and 4 or such as the slot 6' in the socket of Figs. 5 and 7 for key switches or pull switches.

The flange 3 of the cap is provided with two or more tongues such as 7 and 8 extending in a circumferential direction. An opening such as 9 is provided in the flange 3 around the tongues 7 and 8 to permit of the introduction of the loops such as 10 and 11 on the body into positions to receive the tongues such as 7 and 8 respectively in the openings as at 12 and 13 beneath the loops 10 and 11. The edges of the cap and body are continuous adjacent the tongues and loops just described so that the edges are strong and not liable to accidental bending or injury. The parts are assembled by inserting the upper end of the body 2 into the flange 3 of the cap so that the loops 10 and 11 stand opposite the ends of the tongues 7 and 8 respectively. The parts are

then relatively rotated until the tongues penetrate beneath the loops. The parts are thus securely held against longitudinal separation.

To prevent the relative backward rotation of the parts of the shell I provide a stop preferably consisting of an outwardly projecting shoulder 14 carried by the body of the shell and coacting with the left hand end 15 of the opening in the cap adjacent the tongue 7. The shoulder 14 snaps out into engagement with the shoulder 15 when the parts are relatively rotated to the position of Figs. 1, 3 and 4. The shoulder 14 is preferably formed by forcing a portion of the metal of the body outwardly. This shoulder is located near the upper edge of the body adjacent the slot 6. The shell being the most elastic or flexible at this point may be readily compressed by the thumb of finger so as to carry the shoulder 14 inward and disengage it from the shoulder 15 so that one of the parts of the shell may be then rotated backwardly relative to the other so as to retract the tongues 7 and 8 from the loops 10 and 11. The loop 10 of Fig. 1 is broad and has a shoulder 14' at its left hand edge so that the tongue 7 passes through into the inside of the body of the shell whereas in the preferred form of Fig. 4 the loop 10 is narrow and the tongue 7 not only passes through into the inside but passes outward again to the outside of the body thus affording a double lock.

In the form shown in Figs. 5, 6 and 7 the non-rotative stop is formed by an indented shoulder 17 carried by the flange 3 of the cap and a recess or opening having a shoulder 18 in the body of the shell. While the locking action is substantially the same the form shown in Fig. 4 has advantages in manufacture and operation which are superior.

The form shown in Figs. 8 and 9 may be said to be the reverse of the front lock of Figs. 2 and 3. The circumferentially extending tongue 19 is carried by the body of the shell and the loop 20 is carried by the cap of the shell and projects inwardly instead of outwardly. The left edge of the loop 20 forms a shoulder 21 which coacts with the shoulder 22 in an opening in the body of the shell to form the non-rotative stop.

The upper and lower edges of the loops such as 10 and 11 are preferably rounded or beveled as at 23 so as to enable the parts to be more readily assembled and as at 24 so as to permit them to be more readily separated. When the body of the shell is inserted in the cap it contracts at the upper end by reason of its elasticity until the loops 10 and 11 snap out into the openings in the cap adjacent the tongues 7 and 8. The parts are then held from accidental longi-

tudinal separation to a certain extent. When the tongues are rotated beneath the loops they are securely held even against a very considerable longitudinal force and when the shoulders 14 and 15 of the non-rotative stop snap together the parts cannot be rotated backwardly or disengaged except by intentional compression of the body of the shell, relative backward rotation of the parts and intentional longitudinal tension.

By the term "loop" as herein used I do not mean to be limited to a construction in which the tongue can pass through as in Fig. 4 but it is used simply as a convenient term to designate the projection of the metal leaving an opening beneath to receive a circumferentially extending tongue. In interpreting the drawings it should be borne in mind that in actual practice the metal of the shell is very thin and that in the sectional view of Figs. 2, 3, 6, 7 and 9 the thickness of the metal is considerably exaggerated. The specific form of the invention shown in Figs. 5, 6 and 7 herein was shown and described and claimed in my allowed application #546,084, filed February 26th, 1910, and this application is a continuation of the former application to that extent.

What I claim is:—

1. In a lock joint for an incandescent lamp socket shell, the construction for engaging the cap upon the body consisting of the combination with a body having a slot in the upper end such slot rendering the top of the body collapsible in a slight degree, of opposite loops projected outwardly from the body below the upper edge of the same, the cap having a flange fitted snugly over the body and said flange provided above its lower edge with openings to embrace the loops and having integral tongues extended from the metal at one end of each slot for a part of the length of the slot, leaving a space in the end of each slot to admit a loop thereto, the edges of the cap and body being integral continuous adjacent the openings and loops.

2. A socket shell comprising body and cap members, the body member having a compressible part at one end and the cap member having a flange to receive the compressible end of the body member, one of said members having an opening with a circumferentially extending tongue located a short distance from the edge of said member in said opening, the edge of said member adjacent said tongue and opening being continuous, the other member having a projection and an opening beneath the projection adapted to receive said tongue when the members are telescopically assembled and relatively rotated, the edge of said latter member being continuous adjacent said projection and opening, said members having locking shoulders adapted to snap

into engagement when the members have been telescopically assembled and relatively rotated, the edge of the opening adjacent the tongue of the first member forming one of the locking shoulders, the said locking shoulder carried by the body member being carried by the compressible part of the body member whereby the locking shoulders may be disengaged by compressing the body member adjacent the locking shoulders and the members may be then relatively rotated to disengage said tongue and permit longitudinal separation of said members.

3. In a telescopic tubular construction, a loop struck outwardly from a resilient portion of the inner member and having an opening at one side, the outer member having an opening with a circumferentially extending tongue at one side of the opening adapted to be inserted in the opening beneath said loop by relatively rotating the members to prevent longitudinal separation,

the opposite side of said loop being adapted to snap out into engagement with the opposite side of said opening in said outer member to prevent backward rotation.

4. In a telescopic tubular construction, a circumferentially extending tongue carried by the outer member and an outwardly struck portion carried by a resilient part of the inner member and inclined near the outer edge to permit the inner member to be readily forced into the outer member, said inner member having a slit at one side of said outwardly struck portion into which said tongue is adapted to be rotated, said outwardly struck portion being sufficiently wide to conceal and protect the tip of said tongue and means for preventing relative backward rotation of said members.

FREDERIC BARR.

Witnesses:

E. W. McGUIRE,
ROBT. S. ALLYN.