

H. HUBBELL.
 SOCKET SHELL CAP FASTENING.
 APPLICATION FILED SEPT. 11, 1909.

947,547.

Patented Jan. 25, 1910.

Fig. 1.

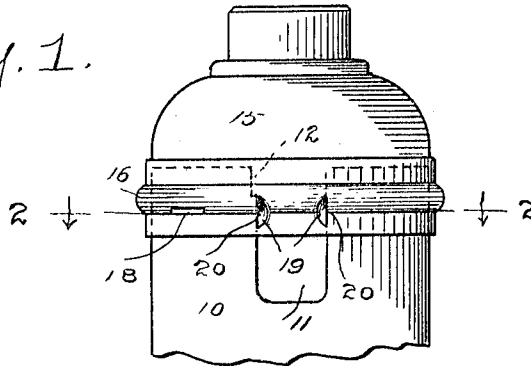


Fig. 3.

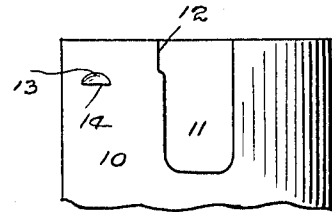


Fig. 2.

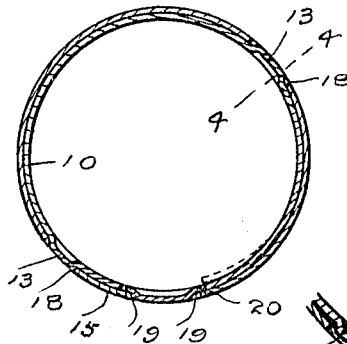


Fig. 5.

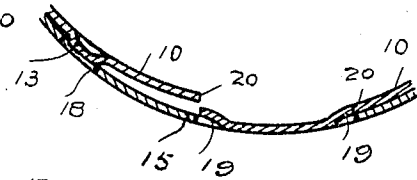
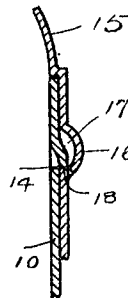


Fig. 4.



Witnesses:

H. A. Lamb.
 S. W. Ahlstrom.

By

Inventor
 Harvey Hubbell
 Attorney
 A. M. Wooster

UNITED STATES PATENT OFFICE.

HARVEY HUBBELL, OF BRIDGEPORT, CONNECTICUT.

SOCKET-SHELL-CAP FASTENING.

947,547.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed September 11, 1909. Serial No. 517,324.

To all whom it may concern:

Be it known that I, HARVEY HUBBELL, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Socket-Shell-Cap Fastenings, of which the following is a specification.

This invention has for its object to provide a simple and inexpensive snap lock or fastening for the caps of socket shells that will retain the parts against rotary movement relatively to each other and against separation, which can only be effected after springing the shell inward by pressure contiguous to the slot, and which will prevent the shell from being collapsed by outside pressure except in the act of unlocking.

With these and other objects in view I have devised the simple and novel construction of which the following description in connection with the accompanying drawing is a specification, reference characters being used to indicate the several parts:

Figure 1 is an elevation showing the cap and shell in the locked position as in use; Fig. 2 a transverse section on the line 2-2 in Fig. 1, looking in the direction of the arrows; Fig. 3 a detail elevation of the shell detached; Fig. 4 a greatly enlarged detail sectional view on the line 4-4 in Fig. 2; and Fig. 5 is a greatly enlarged detail horizontal section, illustrating the manner in which the shell is pressed inward contiguous to the slot to detach the wall of the slot from the outwardly-facing locking lug.

10 denotes an electric socket shell, in the present instance a key socket shell, which is made of spring metal and is provided with a slot 11 which in a key socket receives the shank (not shown) of a switch key. In case of keyless sockets the slot may be much narrower. The upper end of slot 11 is widened slightly, as at 12, for a purpose presently to be explained.

13 denotes locking lugs which are placed opposite to each other, one being contiguous to the slot, and are formed by striking the metal of the shell outward, the upper sides of the lugs being rounded and the metal left attached, and the metal on the lower sides of the lugs being detached from the shell to form abrupt locking shoulders 14.

15 denotes the cap which is of the usual or any preferred configuration and is provided near its lower end with a circumferen-

tial rib 16, the inner side of which comprises a correspondingly circumferential groove 17.

18 denotes locking shoulders in the groove which lie opposite to each other and correspond with the locking shoulders on the shell, as will be more fully explained. Locking shoulders 18 are formed by striking the metal on the underside of the rib inward, detaching it from the rib so as to make the shoulders abrupt. Contiguous to one of the locking shoulders 18 I form outwardly facing locking lugs 19. These lugs are formed by striking the metal inward detaching it at the outer sides of the lugs to form abrupt locking shoulders 20 which are adapted to engage the walls of slot 11, as clearly shown in Figs. 1 and 2.

It will be understood of course that the cap has a fixed diameter, that is it is relatively rigid and does not yield under the ordinary conditions of use. An important feature of the present invention is that the shell likewise is made rigid when locked and will not collapse under the ordinary conditions of use. The engagement of locking lugs 13 on the shell with locking shoulders 18 on the cap prevents detachment of the cap by longitudinal movement, and the engagement of outwardly facing locking lugs 19 on the cap with the walls of the slot in the shell prevents rotary movement of either part relatively to the other, and prevents the shell from being collapsed by outside pressure, as will be more fully explained. The parts may be connected by placing the cap over the shell in any position relatively to each other, but they are preferably connected with the outwardly facing locking lugs in alinement with the slot, as in Fig. 1. When the cap is passed over the shell the engagement of the shell below the rib with locking lugs 13 must necessarily contract the shell and move the walls of the slot toward each other. The widening, as at 12, of the upper end of the slot is to permit this contraction of the slot and still leave space to receive the outwardly-facing locking lugs between the walls of the slot when said lugs and slot are in alinement. When the cap is pushed home upon the shell, locking lugs 13 will snap into the groove and if in alinement with locking shoulders 18 on the cap will engage said shoulders and the outwardly-facing locking lugs on the cap will pass between the walls of the slot in close proximity thereto below widening 12, as in

Fig. 1. If the outwardly-facing locking lugs are not in alinement with the slot when the cap is placed in engagement with the shell, locking lugs 13 will snap into the groove, after which either the cap or shell is rotated relatively to the other part to place the outwardly facing locking lugs in alinement with the slot when said lugs will snap into the slot and will lock the parts against rotation relatively to each other as the lugs will prevent any closing together of the walls of the slot and will also prevent the shell from being collapsed by outside pressure, as the effect of pressure upon the shell is to force the walls of the slot against the outwardly facing locking lugs which support the shell and prevent collapsing. To detach the parts it is necessary to first disengage one of the outwardly facing locking lugs from the corresponding wall of the slot by pressing the shell inward contiguous to the slot, as shown in Fig. 5 and also by dotted lines in Fig. 2, it being understood that the shell may be pressed inward upon either side of the slot. Slight rotation of one of the

parts relatively to the other after the shell has been pressed inward will cause the contiguous outwardly-facing locking lug to ride up over the shell outside thereof and will cause locking shoulders 18 on the cap to pass out of alinement with locking lugs 13 on the shell when the parts may be readily disconnected by moving them longitudinally in opposite directions.

Having thus described my invention I claim:

The combination with a socket shell having a slot widened on one side at its upper end, for the purpose set forth, and locking lugs, of a cap having an internal circumferential groove and locking shoulders in said groove and outwardly facing locking lugs adapted to snap into the slot to prevent rotary movement.

In testimony whereof I affix my signature in presence of two witnesses.

HARVEY HUBBELL.

Witnesses:

A. M. WOOSTER,
S. W. ATHERTON.