H. CATLIN.

ATTACHMENT PLUG.

APPLICATION FILED APR. 30, 1919.

1,417,452.

Patented May 23, 1922.

Fig. 1.

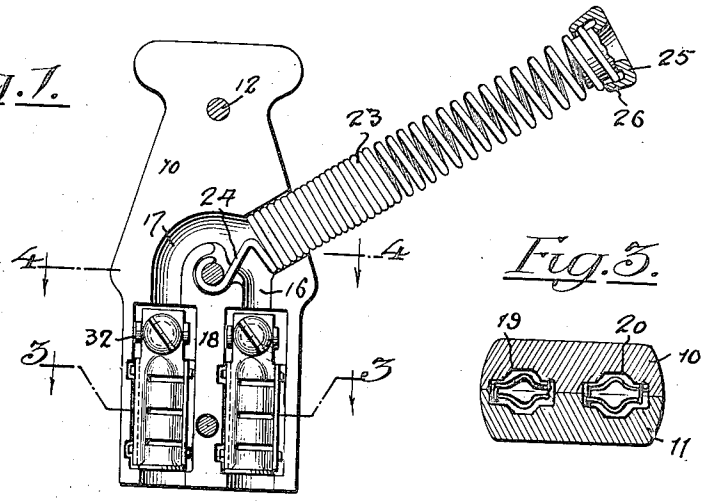


Fig. 3.

Fig. 7.

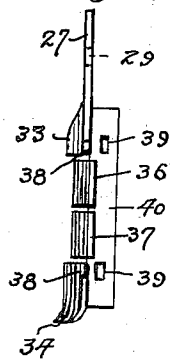
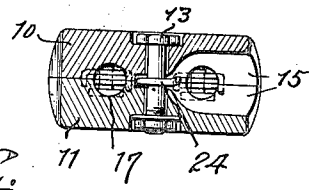


Fig. 4.



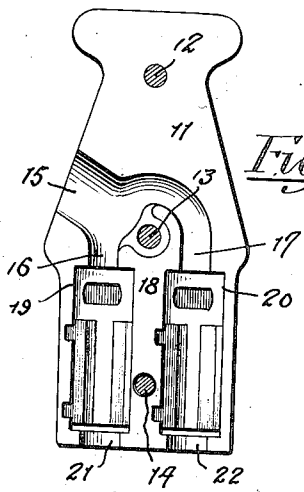
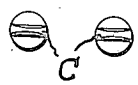
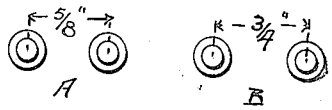


Fig. 2.

Fig. 6.





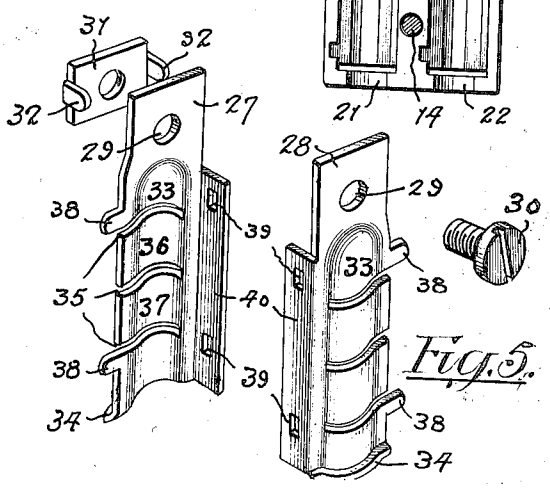


Fig. 5.

Inventor:
HOYT CATLIN
by his Attorneys
Strauss and Strauss

UNITED STATES PATENT OFFICE.

HOYT CATLIN, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE BRYANT ELECTRIC COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ATTACHMENT PLUG.

1,417,452. Specification of Letters Patent. Patented May 23, 1922.

Application filed April 30, 1919. Serial No. 293,703.

To all whom it may concern:

Be it known that I, HOYT CATLIN, a citizen of the United States of America, residing at Bridgeport, in the county of Fairfield and State of Connecticut, having a post-office address care of The Bryant Electric Company, Bridgeport, Connecticut, have invented new and useful Improvements in Attachment Plugs, of which the following is a specification.

My invention relates to attachment plugs, and particularly to a plug intended for use with heating appliances and the like, such as flat irons, the object of my invention being to provide a plug having terminals of novel construction adapted to accommodate jacks variously spaced, and of different character, and associated features of construction in the plug body. Certain other detailed improvements are also embodied in the present construction as will appear from the following description, and the accompanying drawings, in which—

Figure 1 is a longitudinal section through the plug showing the contacts and cord protector in position;

Fig. 2 is a similar view of the other half of the plug;

Figs. 3 and 4 are transverse sections on the lines 3—3 and 4—4 of Fig. 1;

Fig. 5 is a detailed perspective of one of the contact clips;

Fig. 6 is a diagrammatic representation of co-operating jacks with which the plug is adapted to make contact; and

Fig. 7 is a side elevation of one part of a contact clip drawn to a larger scale.

The present plug is of the type in which the contact terminals are connected to the mains when the plug is detached and these terminals are therefore appropriately housed in an insulating body. The body comprises two blocks 10 and 11 of like general shape adapted to be held in juxtaposition by transverse screw bolts 12, 13 and 14. The meeting faces of the blocks are recessed in register to form a channel 15 through which lead wires may be carried to the terminals of the contact clips. The channel 15 divides into two passages 16 and 17, spaced apart by an interposed barrier 18, and lead to the rectangular recesses 19 and 20, in which the terminal clips are accommodated. These recesses open at the entering end of the plug to holes 21 and 22, through which the co-operating studs pass into engagement with the contact clips.

The wire cable (not shown) leading to the plug is protected at its entrance by a coil spring guard 23 surrounding the same and held in position by an anchor loop 24, through which the securing bolt 13 passes. At its outer end the guard 23 is provided with a metal ferrule 25 having a hub passing down into the coil and a peripheral flange 26 spun inward over the terminal spire of the coil. This bushing replaces the ordinary rubber bushing commonly used, and to which the coil is attached by an insecure threaded engagement. The present metal bushing is not only permanently secured to the coil end by the spun end flange 26, but is not subject to the breakage which is a common occurrence with the rubber bushing in general use.

The terminal clips, which are identical in construction, are formed from sheet metal struck to shape. Each terminal comprises a pair of similar straps 27 and 28 perforated in register at 29 to permit the shank of the binding screw 30 to pass therethrough and engage a nut 31. At opposite ends of the nut are lugs 32 which embrace the straps 28 and 29 and project beyond the latter in assembled position to form ears which confine the wire beards beneath the head of the binding screw 30. Each strap is centrally channeled at 33 to form a central tubular recess in which the co-operating stud is received. In order to facilitate the entry of the stud into this recess the end of the strap is offset outwardly to form a guide lip 34. To insure a good frictional engagement between the clip and the stud each strap is transversely slotted at 35 to form a pair of tongues 36 and 37 which are preferably inwardly offset and lie in the path of the stud so that they are forced outward by the latter on its entry into the terminal clip. While the straps 27 and 28 are held together by the screw 30 they are also united by the tongues 38 projecting from one margin of the strap and taking into holes 39 formed in a marginal flange 40 offset from the opposite side of the co-operating strap.

The rectangular recesses formed in the blocks 10 and 11 are of such shape and size that while they conform generally to the shape of the clips, a certain amount of play in all directions is permitted in order

that the clips may move slightly in said recesses to adapt themselves to studs of different spacing. Thus, for example, when engaged by studs spaced five-eighths of an inch apart (on centers) as indicated at A in Fig. 6, the clips would move toward each other and toward the central barrier 18. On the other hand when engaged by studs spaced three-quarters of an inch apart, as indicated at B in Fig. 6, the clips would move away from the central barrier toward the outer walls of the plug. The shape of the terminal clips is such, furthermore, that while cylindrical studs, such as those shown at A and B in Fig. 6, are accommodated in the channeled areas 33 of the clips, it is also possible for the clips to be engaged by blades such as shown at C in Fig. 6, the margins of the blades engaging the portions of the clips lying on opposite sides of the channeled areas 33 and being confined between the side flanges 40 of the two straps from which the clips are formed. The terminal clips are thus of a more or less universal type, and the plug can be utilized with various makes of fittings in which the studs are of different spacings and types.

I do not limit my invention to the precise details of the construction shown, which may be modified in various ways to accomplish the ends which I claim as my invention.

I claim—

1. In an attachment plug fitting or the like, a terminal comprising a pair of opposed straps of like construction recessed in register to form a channel to receive a co-operating stud, and freely interengaged elements at their sides serving to prevent the separation of the straps under the action of an inserted jack.

2. In an attachment plug fitting or the like, a terminal comprising a pair of opposed straps of like construction recessed in register to form a channel to receive a co-operating stud, and freely interengaged elements at their sides serving to prevent the separation of the straps under the action of an inserted jack and said straps being transversely slotted in the channeled area to form spring tongues engaging the inserted stud.

3. In an attachment plug fitting or the like, a terminal comprising a pair of opposed straps of like construction recessed in register to form a channel to receive a co-operating stud, and freely interengaged elements at their sides serving to prevent the separation of the straps under the action of an inserted jack and said straps being transversely slotted in the channeled area to form spring tongues offset toward each other and engaging the inserted stud.

4. In an attachment plug fitting or the like, a terminal comprising opposed straps, each having at one margin an offset perforated flange, and at its opposite margin projecting tongues adapted to engage the holes in the flange of the co-operating strap.

5. In an attachment plug fitting or the like, a terminal comprising opposed straps, each having at one margin an offset perforated flange, and at its opposite margin projecting tongues adapted to engage the holes in the flange of the co-operating strap, said holes and tongues being so located as to space the straps apart to receive between them a co-operating stud.

6. In an attachment plug fitting or the like, a terminal comprising opposed straps, each having at one margin an offset perforated flange, and at its opposite margin projecting tongues adapted to engage the holes in the flange of the co-operating strap, together with screw means for holding said straps assembled.

7. In an attachment plug fitting or the like, a terminal comprising opposed straps, each having at one margin an offset perforated flange, and at its opposite margin projecting tongues adapted to engage the holes in the flange of the co-operating strap, said straps being apertured in register at one end, together with a binding screw piercing said apertures and seving not only to secure the straps together but also to afford means for connecting a wire end thereto.

8. In an attachment plug fitting or the like, a terminal comprising opposed straps, each having at one margin an offset perforated flange, and at its opposite margin projecting tongues adapted to engage the holes in the flange of the co-operating strap, said straps being apertured in register at one end, together with a binding screw piercing said apertures and a co-operating nut engaged thereby and having marginal ears embracing the straps and extending beyond the same to confine a wire end beneath the head of the binding screw.

In testimony whereof I have signed my name to this specification.

HOYT CATLIN.