C. D. McLEAN & G. H. HOLT.

ELECTRIC CURRENT TAP.

APPLICATION FILED MAY 16, 1914.

1,146,084.

Patented July 13, 1915.

2 SHEETS—SHEET 1.

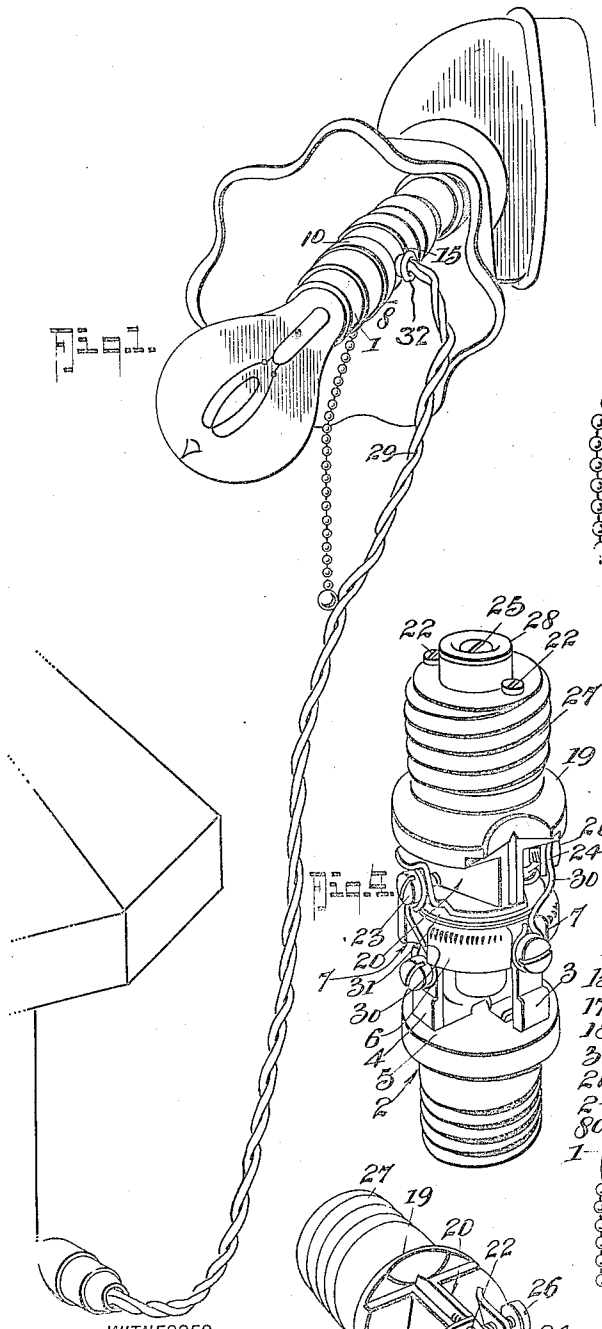


Fig. 1.

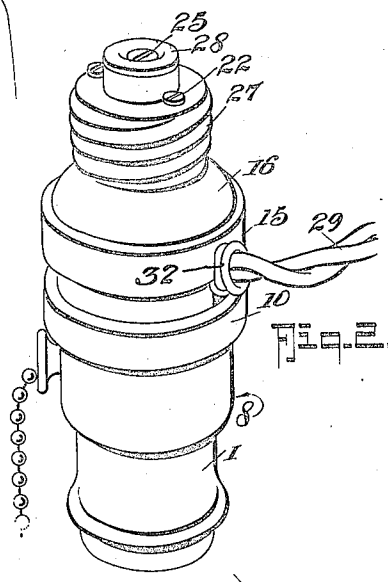


Fig. 2.

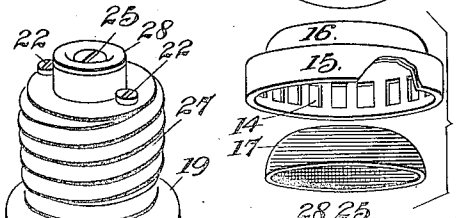


Fig. 7.

Fig. 4.

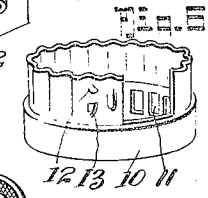


Fig. 6.

Fig. 3.

Fig. 5.

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2 SHEETS—SHEET 2.

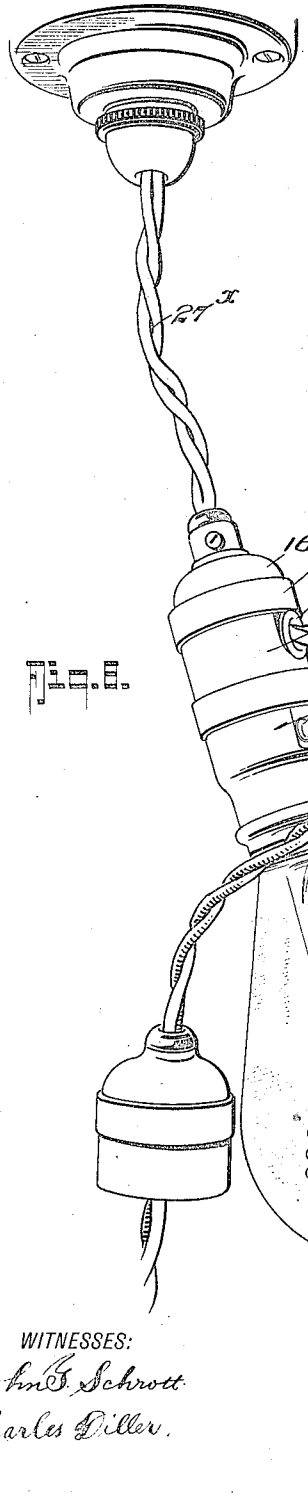


Fig. 8.

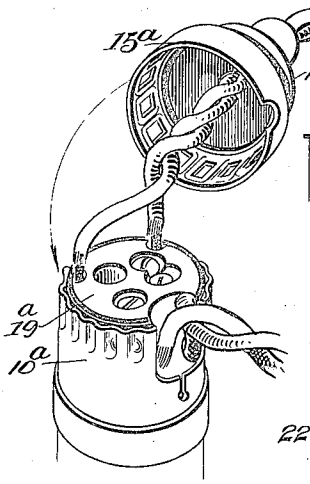


Fig. 9.

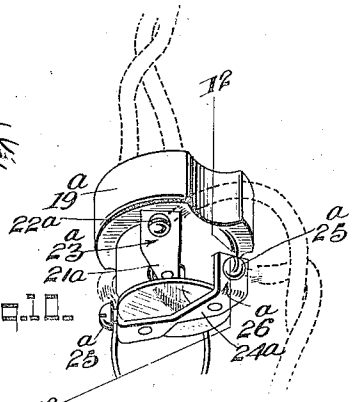


Fig. 10.

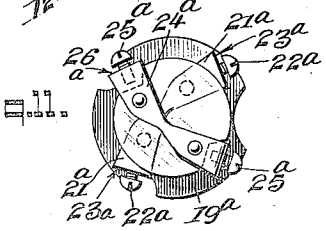


Fig. 11.

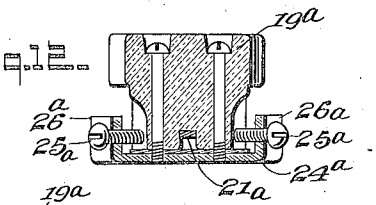


Fig. 12.

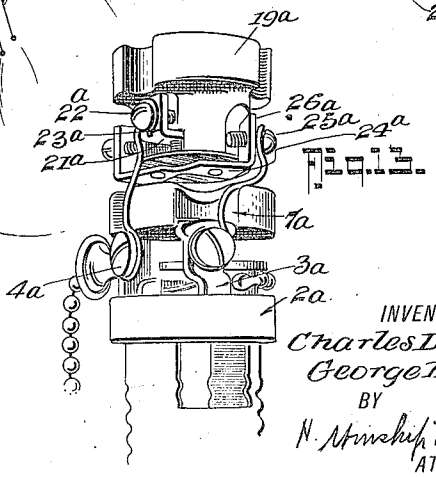


Fig. 13.

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UNITED STATES PATENT OFFICE.

CHARLES D. McLEAN AND GEORGE H. HOLT, OF BERLIN, NEW HAMPSHIRE.

ELECTRIC-CURRENT TAP.

1,146,084. Specification of Letters Patent. Patented July 13, 1915.

Application filed May 16, 1914. Serial No. 838,947.

To all whom it may concern:

Be it known that we, CHARLES D. McLEAN and GEORGE H. HOLT, residing at Berlin, in the county of Coos and State of New Hampshire, have invented certain new and useful Improvements in Electric-Current Taps, of which the following is a specification.

Our invention is an improved electrical current tap so constructed that it is attachable to any brass shell socket of the types in common use today, by making the cap and shell of the tap to fit the shell of any manufacturer. The shells of electric sockets as manufactured today are constructed with various means for holding the same together, and it is one of the principal objects of our invention to provide a tap construction that can be fitted onto the present type of shells without the necessity of a reconstruction of the same.

Another object of our invention is to so construct the tap that it will be ornamental in appearance and conform to the general ornamental outline of the socket to which it is adapted to be attached.

More subordinately the invention includes those novel details of construction, combination and arrangement of parts, all of which will be first fully described, and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1 is a perspective view illustrating the invention in use. Fig. 2 is an enlarged perspective view of the invention applied to a socket, known in the trade as the "Bryant" socket, of the type disclosed in Patent #872,283, of November 26, 1907. Fig. 3 is a vertical section of that portion of the tap which constitutes the principal part of our invention, and showing the same applied to the "Bryant" socket. Fig. 4 is a detail perspective view of the porcelains and connectors with the metallic shells removed. Fig. 5 is a detail perspective view of the porcelain or insulator portion of our attachment. Fig. 6 is a detail perspective view of the connecting shell ring. Fig. 7 is a detail perspective view of the shell cap and insulating lining therefor. Fig. 8 is a perspective view of a modification in which the socket is provided with a flexible cord connection instead of the threaded plug. Fig. 9 is a detail perspective view with the dome separated from the connecting sleeve. Fig. 10 is a detail perspective view of the porcelain or insulator portion of the attachment. Fig. 11 is an inverted plan of the same. Fig. 12 is a cross section on the line 12—12 of Fig. 10. Fig. 13 is a detail perspective view of the porcelains and connectors with the metallic shell removed.

In the drawings, like numerals of reference designate like parts in all the figures.

1 represents a socket of the Bryant type (it being understood that the Bryant type is referred to for purposes of illustration only and the invention is not to be limited in its use thereto). In applying the invention to the Bryant type of socket, the ordinary cap is removed so as to expose the porcelain 2. In a socket of the Bryant type, the porcelain 2 is cutaway, as at 5, to receive the current terminals 3 and 4, and the head 6 of the porcelain is cut away, as at 7, to permit the terminal wires to pass to the terminals 3 and 4.

8 is the usual shell which is provided with the usual insulating bushing 8^a, and incloses the porcelain 2.

The shell 8 is provided with the usual securing flutes and lugs 9 to coöperate with the cap, or when our invention is applied to coöperate with the lock notches 11 of the connecting sleeve 10, which joins the shell 8 with the cap 15, the sleeve 10 being provided with a fluted portion 12 and locking notches 13 to coöperate with the recesses 14 of the shell 15, the shell 15 being provided with a dome portion 16 that is apertured to permit passage of the neck of the porcelain 19 which is provided as a part of our invention. The cap 15 is lined with an insulating bushing 17, and the ring 10 is lined with an insulating bushing 18, so as to effectively insulate the shell from any of the electrical contacts.

The porcelain 19 is provided with the cut away portions or recesses 20 for the current terminals 23 and 26, the terminals 23 and 26 having portions 21 and 24 secured respectively by screws 22 and 25 in place, the screws 22 making electrical contact with the threaded metallic sleeve 27, while the screw 25 makes metallic contact with the contact plate 28, the plate 28 and sleeve 27 being of the usual type to fit Edison and other sockets of the ordinary type.

29 are the tap cords which are wired to the terminals 23 and 26, and the terminals 23 and 26 are respectively wired, as at 30, to the terminals 4 and 3 so as to continue the electrical continuity between the terminals

of the lower porcelain 2 and those of the upper porcelain 19. The tap cords 29 pass through insulating bushings 32.

31 indicates an insulation, preferably of mica, which is located between the two porcelains 2 and 19 so as to effectively insulate the contact screws and plates of the respective porcelains from each other.

The form shown in Figs. 8 *et seq.* differs essentially from the form shown in Fig. 1 only in the omission of the sleeve 27 and contact plate 28, and the substitution in lieu of the porcelain 19 of another porcelain 19^a which does not have the support for the sleeve 27, and the provision of flexible connections 27^x to the contact screws 22^a—25^a respectively. In the form shown in Figs. 8 *et seq.* those parts which function correspondingly to parts in the form shown in Figs. 1 to 7 inclusive, are numbered by the same letters of reference plus the index character "a," so a further description of the construction illustrated in Figs. 8 *et seq.* is thought to be unnecessary.

As to so much of the matter of this application as is illustrated on Sheet 1 of the drawings, this application is a continuation of our application filed September 23, 1913, Serial #791,319.

From the foregoing description taken in connection with the accompanying drawing, it is thought the complete construction, operation and advantages of the invention will be apparent to those skilled in the art to which it relates.

What we claim is.

1. A current tap, comprising in combination with a socket which includes a porcelain contact supporting member having a pair of contacts, and an outer shell insulated from the same, an upper porcelain, current terminals carried by said porcelain, a contact sleeve and a contact disk on said upper porcelain, electrical connections between said disk and sleeve and said contact members, means for maintaining the contact members of said porcelains from electrical engagement, electrical connections between the respective contact members of one porcelain and those of the other, and an extension shell for the upper porcelain, said extension shell including a cap and a connecting member for connection with the shell that surrounds the lower porcelain said extension shell having an aperture, an insulating bushing in said aperture, and tap cords passed through said bushing and electrically connected with said current terminals.

2. In a current tap, a socket member including an outer shell, an insulating support mounted within and insulated from said shell, current terminals mounted on said inner support, a supplemental current terminal support, current terminals mounted on said supplemental support, means for effecting electrical connection between said last named terminals and the source of current supply, electrical connections between the current terminals of the respective supports, and an extension shell connected to said first mentioned shell and engaging said supplemental support to hold said supports in proper relative position, and means for insulating said extension shell from its support said extension shell having an aperture, an insulating bushing in said aperture and tap cords passed through said bushing and electrically connected with said current terminals of said supplemental support.

3. A current tap comprising in combination with a socket that includes a porcelain terminal support, and a metallic shell embracing the same, and current terminals mounted on said support, of an extension member including a porcelain current terminal support, current terminals mounted on said support, means for bringing said current terminals into electrical engagement with the source of current supply, and an extension shell connected to said first mentioned shell and embracing said supplemental porcelain to hold said porcelains in vertical alinement said extension shell having an aperture, an insulating bushing in said aperture, and tap cords passed through said bushing and electrically connected to said current terminals.

4. A current tap comprising in combination with a socket which includes a porcelain contact supporting member having a pair of contacts and an outer shell insulated from the same, of an upper porcelain, current terminals carried by said porcelain, means for maintaining the contact members of said porcelains from electrical engagement, electrical connections between the respective contact members of one porcelain and those of another, and an extension shell for the upper porcelain, and including a connecting member for connection with the shell that surrounds the lower porcelain, and means for electrically connecting the contact members of the upper porcelain with the source of current supply said extension shell having an aperture, an insulating bushing in said aperture, and tap cords passed through said bushing and electrically connected with said current terminals.

5. In combination with a socket which includes a porcelain contact supporting member having a pair of contacts, and an outer shell insulated from the same; an upper porcelain, current terminals carried by said upper porcelain, a contact sleeve and a contact disk on said upper porcelain, electrical connections between said disk and sleeve and said contact members,

means for maintaining the contact members of said porcelains from electrical engagement, electrical connections between the respective contact members of one porcelain and those of the other, an extension shell for the upper porcelain, which shell includes a cap and a connecting ring between said cap and the shell that surrounds the lower porcelain, an insulation cap within said shell cap and an insulation ring within said connecting ring, said extension shell having an aperture and tap cords passed through said aperture and electrically connected with the current terminals of said upper porcelain.

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