

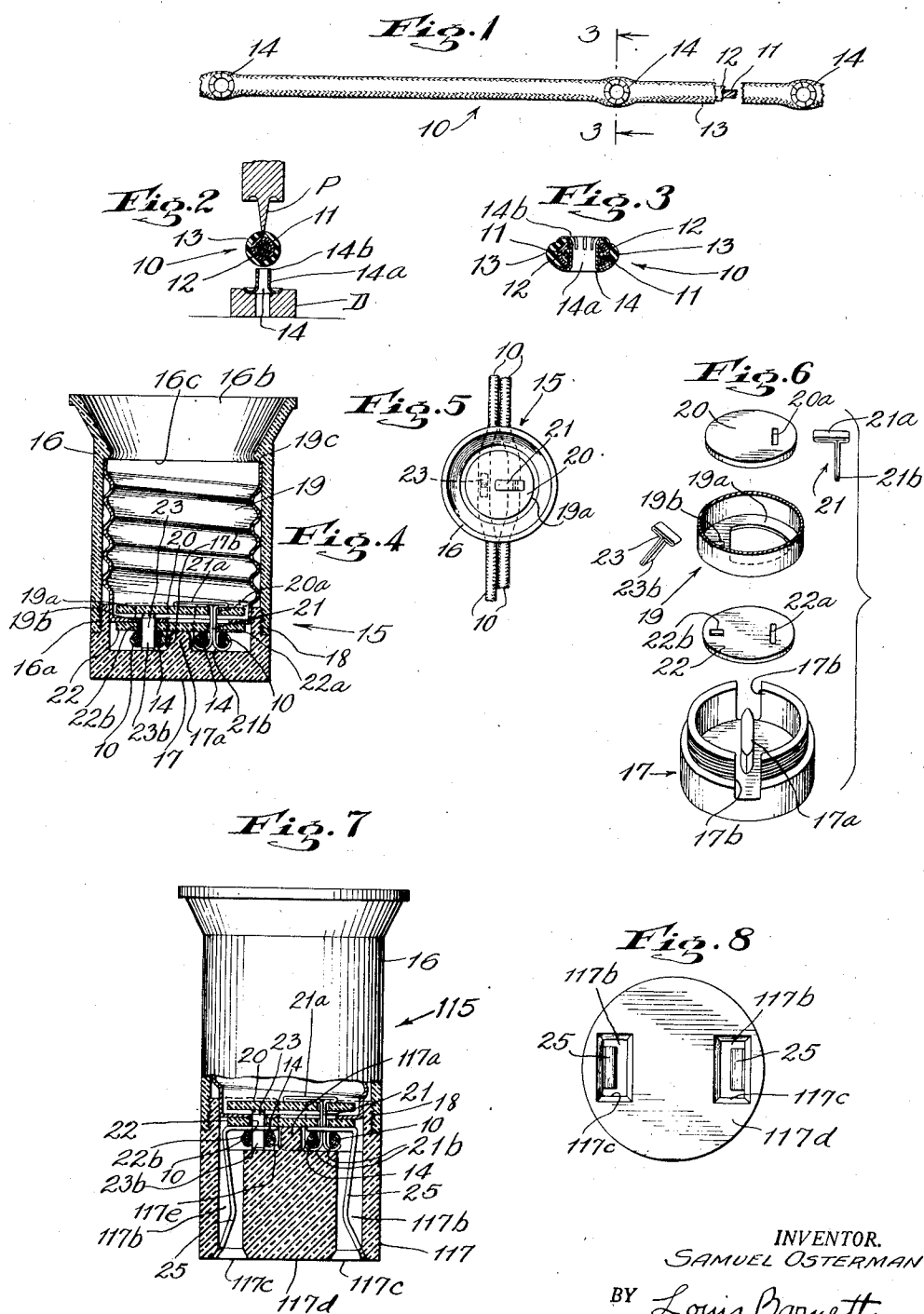
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S. OSTERMAN

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ELECTRIC CONDUCTOR WIRE

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INVENTOR.
SAMUEL OSTERMAN
BY *Louis Barnett*
ATTORNEYS.

UNITED STATES PATENT OFFICE

SAMUEL OSTERMAN, OF NEW YORK, N. Y.

ELECTRIC CONDUCTOR WIRE

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This invention relates to electric conductor wire current tapping connections and fittings co-operating therewith.

One object of the invention is to provide insulating covered conductor wires having improved means to facilitate electrically connecting thereto, fittings, such as lamp sockets, outlet receptacles and attachment plugs whereby the skill and labor required is reduced to a minimum, said conductor wires being particularly adapted for use in quantity production of manufacture of portable electric lighting outfits for decorative and display illumination, such as used in decorating Christmas trees, show windows, and temporary interior and exterior lighting and for other purposes.

Another object of the invention is to provide improved insulating covered conductor wires having means to facilitate electric connecting fittings of the character described and novel lamp socket outlets which permit quick and easy means for assembling and electrically connecting said outlets to the wires eliminating stripping of the insulation and soldering of connections.

A further object of the invention is to provide improved forms of fittings such as lamp sockets and outlet receptacles having bendable terminal prongs adapted to engage current tapping eyelet terminals of the improved insulated conductor wires.

Still another object of the invention is to provide improved conductor wires and fittings of the character described comprising few and simple parts which shall be easy and quick to assemble and connect in circuit, cheap to manufacture, and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the constructions hereinafter described and the scope of application will be indicated in the following claim.

In the accompanying drawing, in which is

shown various possible illustrative embodiments of this invention,

Fig. 1 is a top plan view of fragmentary portion of a stranded core insulating covered conductor wire provided with current tapping means embodying the invention.

Fig. 2 is a cross sectional view showing portion of a punch, a stranded core insulating conductor wire and an eyelet rivet positioned for applying the latter to the wire.

Fig. 3 is a cross sectional view of the eyelet rivet clamping the wire to form terminal for tapping the stranded core, said section corresponding to a cut taken on line 3—3 in Fig. 1.

Fig. 4 is a cross sectional view taken through a novel lamp socket fitting embodying the invention shown connected to the current tapped terminals of the improved conductor wires.

Fig. 5 is a top plan view showing the novel lamp socket fitting connected to the improved conductor wires.

Fig. 6 shows perspective views of separated current carrying and insulating parts of the lamp socket fitting.

Fig. 7 is a front elevational view, partly broken away to expose the interior construction, of an improved combination lamp socket and plug tap outlet fitting embodying the invention shown connected to the improved current tapped terminals of the improved conductor wires, and

Fig. 8 is a bottom plan view of the fitting shown in Fig. 7.

Referring in detail to the drawing, 10 denotes a conductor wire of flexible construction which, as here shown, has a core 11 comprising fine copper strands, an insulating rubber covering 12 and an outer braid 13 forming a readily bendable structure.

One of the features of this invention is the provision of improved means to facilitate electrically connecting fittings to the core 11 of said conductor wire without stripping the insulating covering 12 and braid 13, and if desired to eliminate soldered joints. To this end the braid 13 and covering 12 are perforated at the point along the wire 10 where it is desired to connect a fitting in circuit with

the core 11 and a current tap, such as an eyelet rivet 14, is inserted in the perforation and clamped to the wire 10. This operation is best performed by introducing the wire 10 between the die D and punch P of a suitable riveting machine (not shown) with the eyelet rivet 14 positioned as illustrated in Fig. 2. In operating the riveting machine, the punch P is caused to pierce the braid 13 and covering 12 and to separate the strands of the core 11 for permitting the passage of the shank 14a of the rivet 14 through said core and perforated portions of the wire and thereafter to flange the leading end 14b of rivet over for permanently clamping said rivet 14 in place. The latter is thus firmly brought in electrical contact with the strand of the core 11 and is adapted for use as a current tapping terminal to which fittings may be connected by soldering in the well understood manner or by solderless means in the manner hereinafter described.

A novel form of lamp socket fitting 15 adapted to connect with improved conductor wire 10 through solderless joints is shown in Figs. 4, 5 and 6.

Said socket fitting 15 may comprise a suitable molded two-piece insulated casing or body having a tubular portion or sleeve 16, one end 16a thereof being detachably secured to a base portion 17 through any simple form of coupling, such as screw threaded joint 18. The current carrying parts of the socket 15 are retained in the body, and are seen to include a metallic screw contact shell member 19 snugly fitted to extend within the sleeve 16 inwardly from the open end 16b thereof. The shell contact member 19 is adapted to receive the Edison type base of a lamp (not shown) and has formed in its inner end an intumed flange 19a. The latter carries an insulating disc 20 having a lateral disposed opening 20a through which cotter pin fastener 21 extends. The head 21a of said fastener is offset to serve as the center contact within the shell member of the lamp socket fitting. The prongs 21b of said fastener extends through an opening 22a of a second insulating disc 22 which is retained against the outside of the flange 19a, said opening 22a being in register with said disc opening 20a. Extending through a laterally disposed opening 19b in flange 19a under the disc 20 at a spaced distance from the fasteners 21 are prongs 23b of a second cotter pin fastener 23. The latter passes through an opening 22b provided to register with the flange opening 19b.

The base portion 17 may be provided with a diametrically projected rib 17a adapted to extend between the prongs 21b and 23b to prevent accidental contact thereof. The walls of said base portion 17 may be slotted at 17b to permit extending the conductor

wires 10 to and from the current carrying parts of the socket.

The sleeve 16 has formed inwardly from the open end 16b thereof, a shoulder or ledge 16c against which the rim 19c of the shell member 19 is seated so that when the two parts of the socket are screwed together, as shown in Fig. 4, the current carrying parts within the casing are firmly held in place.

The practical application of the invention will now be apparent. The parts of the socket fitting 15 are readily assembled as shown in Figs. 4 to 6, inclusive. To connect the socket 15 to the wires 10, the prongs 21b and 23b are simply inserted through the eyelet rivets, spread and bent to firmly anchor said prongs to electrically connect with the cores 11 of the wires 10.

In Figs. 7 and 8, a novel single fitting 115 having both a lamp socket receptacle and current plug tap outlet adapted to be connected to the improved conductor wires 10 is shown. Here the parts of the socket receptacle are identical in construction with those shown in Figs. 4, 5 and 6, and described above, with the exception that the base portion 17 of the socket 15 is replaced by a base portion 117 and a pair of spring terminal contacts 25 are added to the current carrying parts within said base portion 117.

The latter has a spaced passage 117b extending therethrough on opposite side of the projecting rib 117a and has opening 117c on the bottom side 117d thereof communicating with said passage 117b. The walls of said base portion are slotted at 117e to permit extending the conductor wires 10 to and from the current carrying parts. The spring terminal contacts are housed within the passages 117b and are firmly held by the prongs 21b and 23b against the eyelet terminals 14 of the conductors as is clearly shown in Fig. 7. Said contacts 25 are adapted to connect with terminal blades (not shown) of an attachment plug cap in the well understood manner.

It will thus be seen that there is provided devices in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

A flexible insulated electric conductor comprising a stranded current carrying core, an insulating covering for said core and a plurality of metallic eyelets extending at

spaced intervals entirely through said insulated conductor including said core and the opposite sides of the insulation thereon, said eyelet clampingly engaging said conductor on its exterior and contacting with said core, to provide current tapping terminals so that the conductor may be inserted between two clamping parts of a current tapping device having terminals insertable into and passing through said eyelets.

In testimony whereof I affix my signature.

SAMUEL OSTERMAN.

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