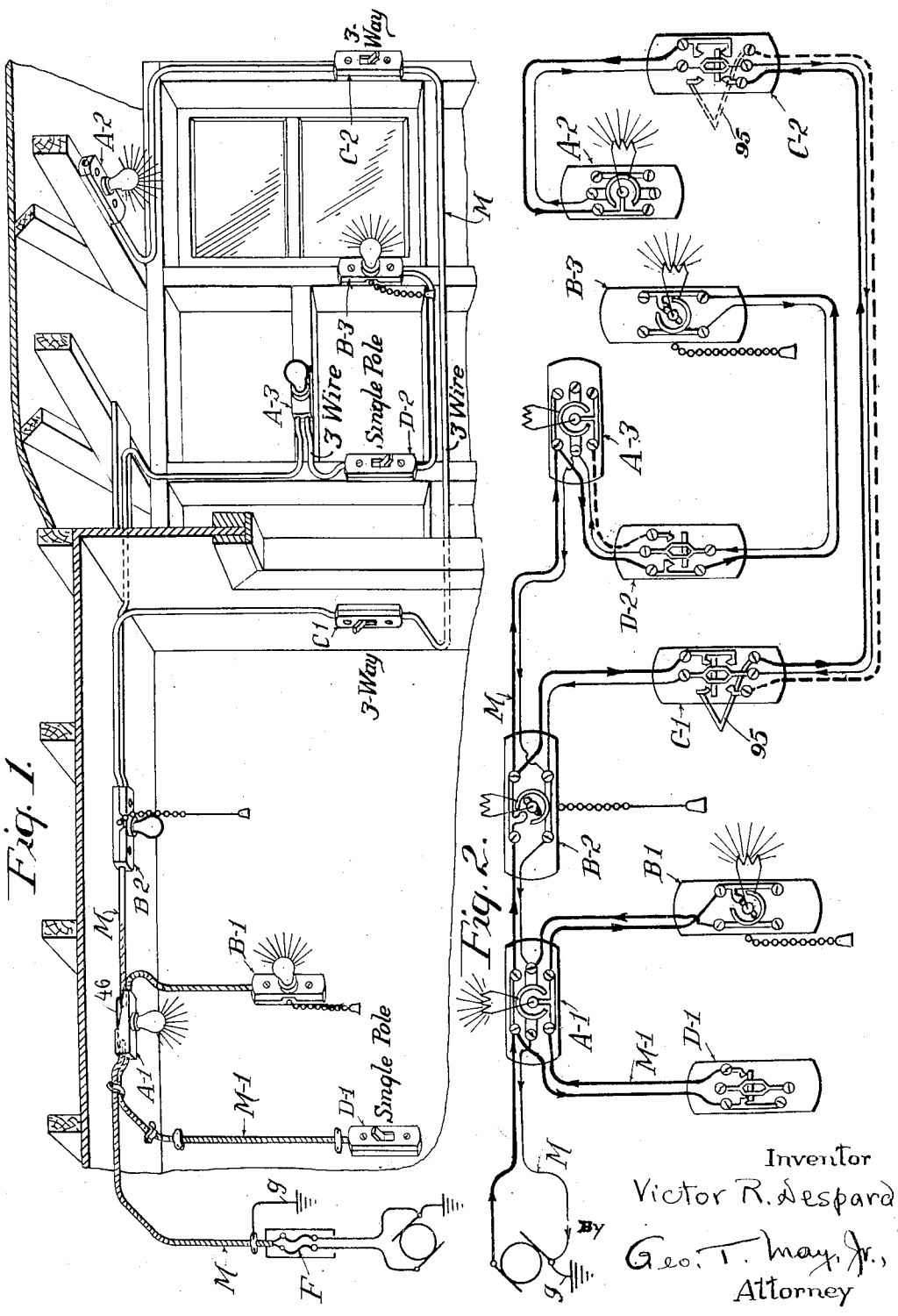
Dec. 29, 1942. V. R. DESPARD 2,306,596

CABLE-SERVED WIRING APPARATUS

Filed Oct. 4, 1939 5 Sheets-Sheet 1



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CABLE-SERVED WIRING APPARATUS

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Fig. 3.

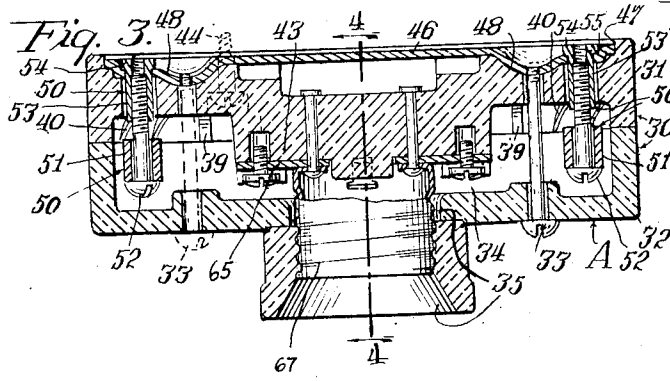


Fig. 4.

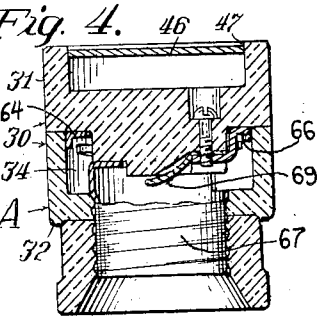


Fig. 5.

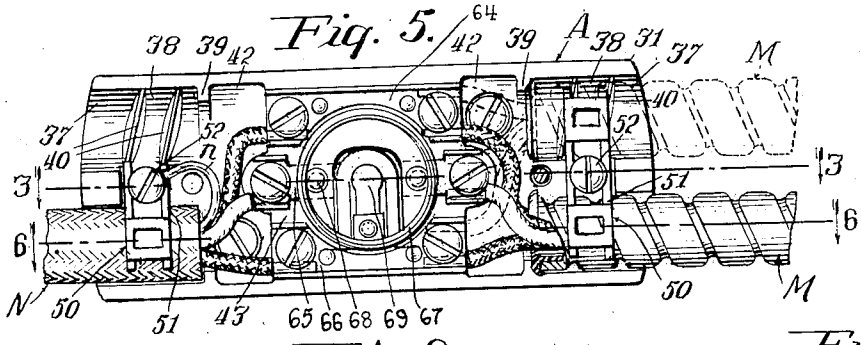


Fig. 6.

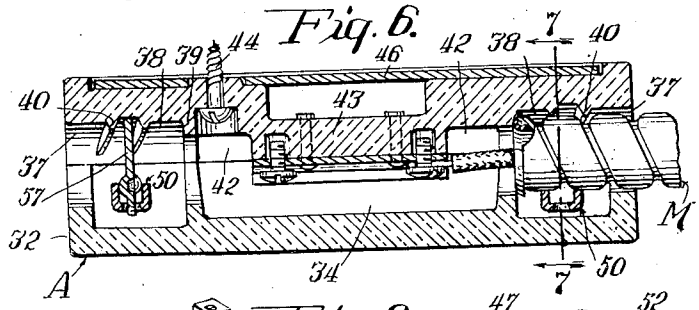


Fig. 7.

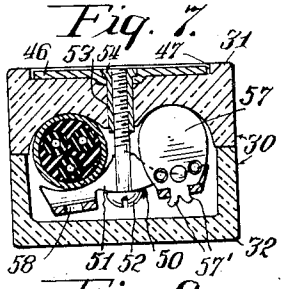


Fig. 8.

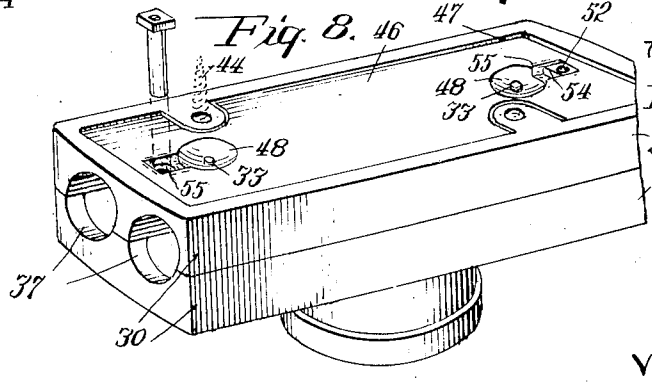
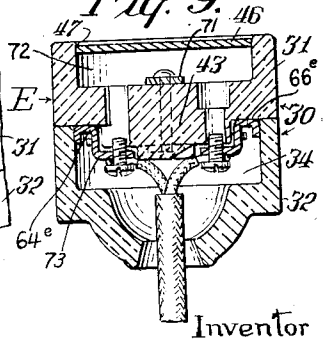


Fig. 9.



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CABLE-SERVED WIRING APPARATUS

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Fig. 10.

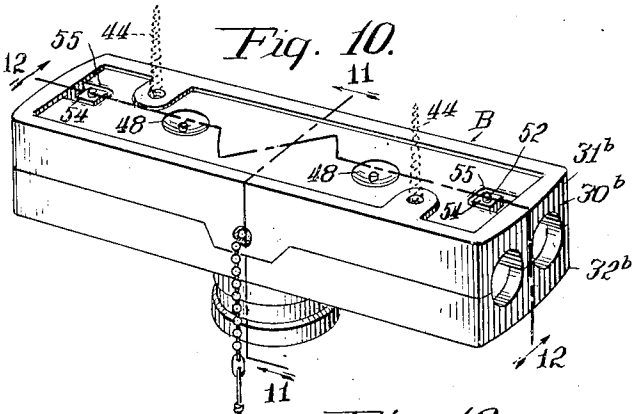


Fig. 11.

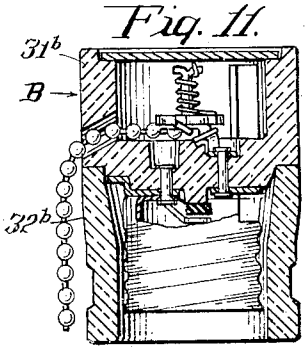


Fig. 12.

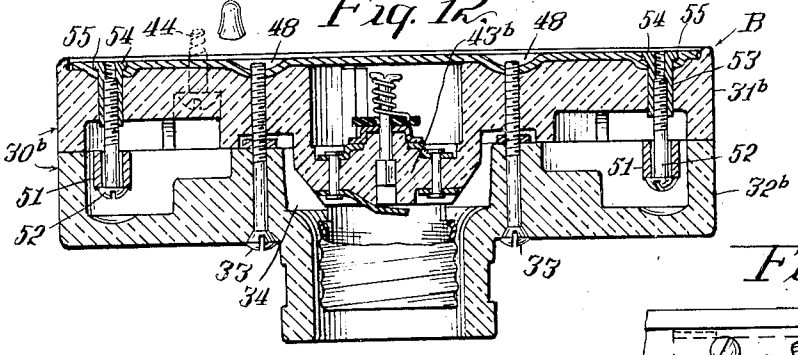


Fig. 15.

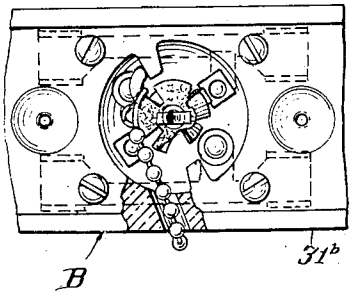


Fig. 14.

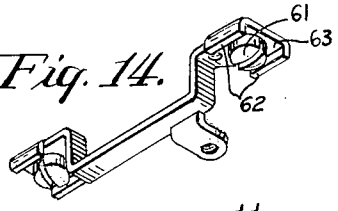
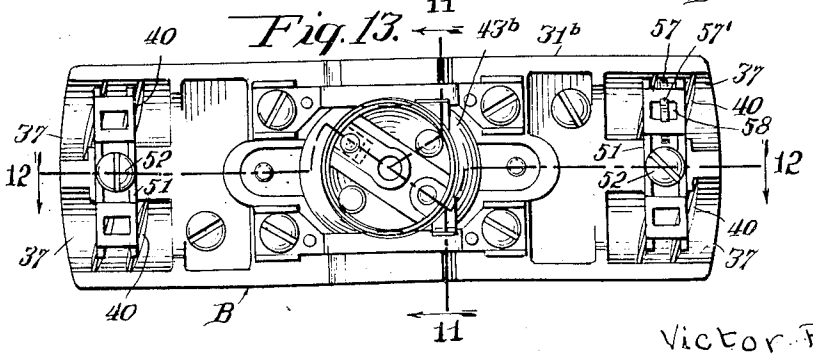


Fig. 13.



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CABLE-SERVED WIRING APPARATUS

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Fig. 16.

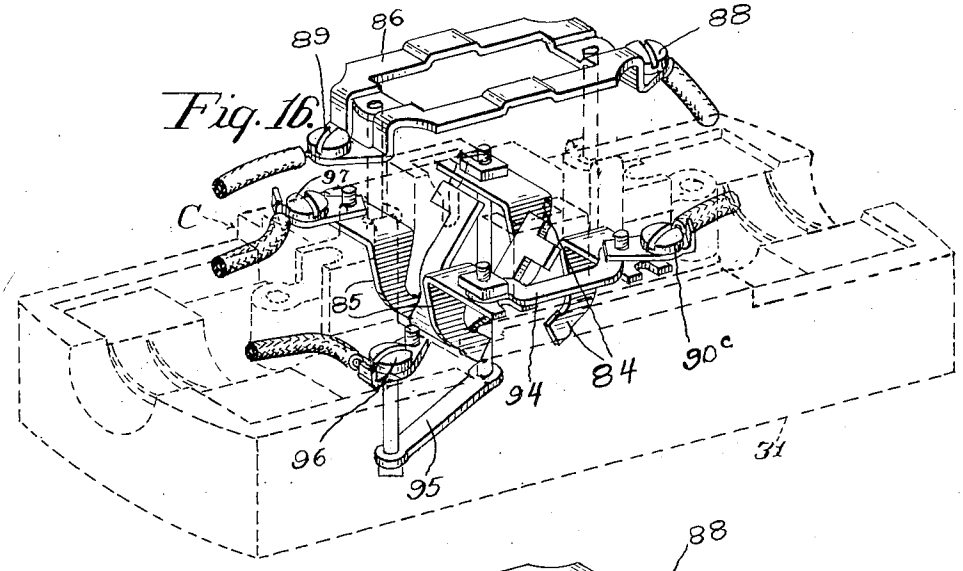
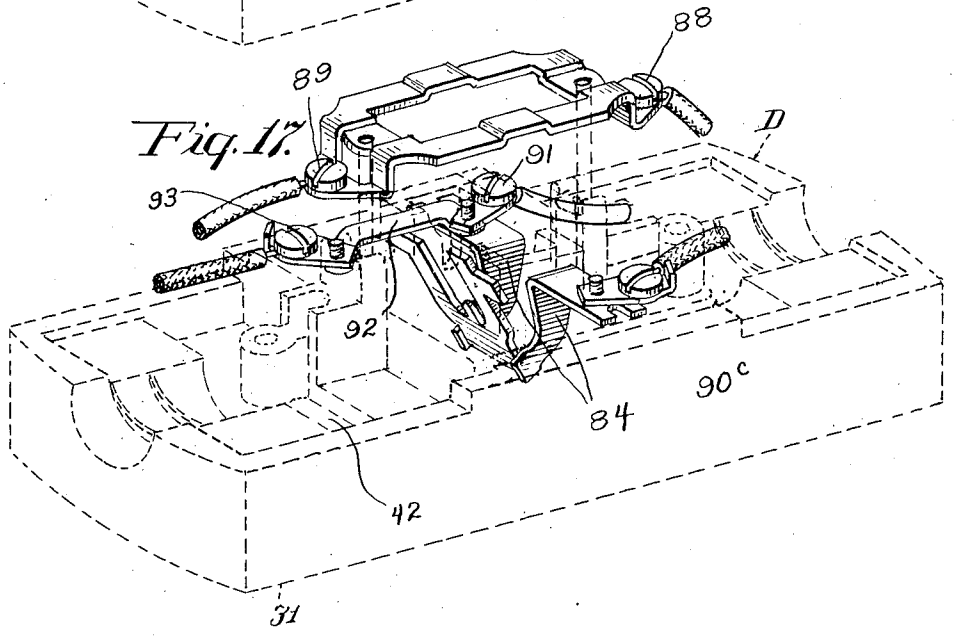


Fig. 17.



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CABLE-SERVED WIRING APPARATUS

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Fig. 18.

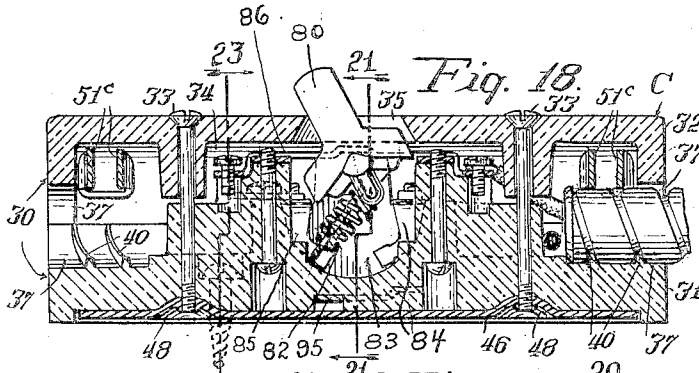


Fig. 21.

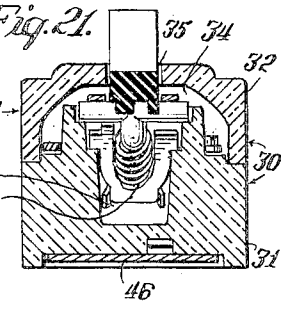


Fig. 19.

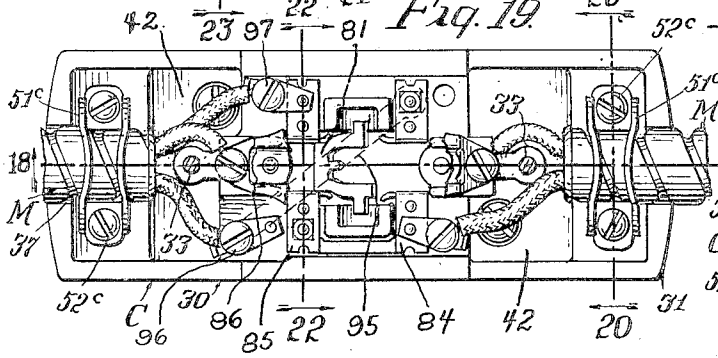


Fig. 20.

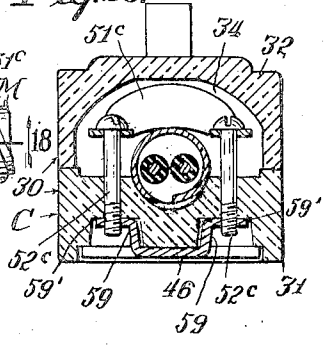


Fig. 23.

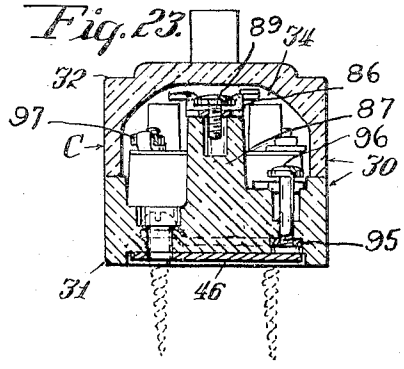


Fig. 22.

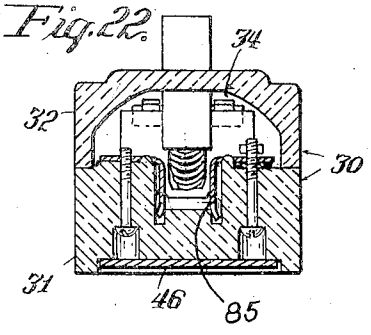
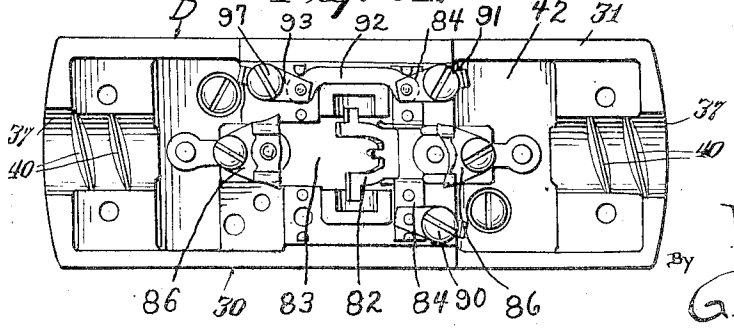


Fig. 24.



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Patented Dec. 29, 1942

2,306,596

UNITED STATES PATENT OFFICE

2,306,596

CABLE-SERVED WIRING APPARATUS

Victor R. Despard, Syracuse, N. Y., assignor to Pass & Seymour, Inc., Syracuse, N. Y., a corporation of New York

Application October 4, 1939, Serial No. 297,907

13 Claims. (Cl. 173—338)

My invention relates to cable-served wiring apparatus for exposed or "surface" installation in buildings, and has for a general object to provide a line of wiring-units, including switches, lamp-receptacles and other items, all characterized by novel structure of my invention that makes them particularly appropriate for use in cottages, farmhouses, shops and other buildings that commonly are of wood-framed construction, and to be used in conjunction with heavily-sheathed, flexible, multiple-conductor cable, commonly of metal-sheathed or "armored" type, which also is surface mounted, as the wiring-proper that serves them.

In the electrification of the general class of modest-cost buildings mentioned, in which minimizing of the installed cost of the wiring and its permanent wiring-devices connected therein is an important desideratum, the safety of a cable-wired job against various hazards is normally a prime reason for its preference by the owner (where choice is open) over the cheaper "knob-and-tube" type of surface installation, in which individual strands of insulated wire are strung on insulating knobs or cleats mounted on the woodwork and run through porcelain tubes where woodwork has to be passed through; but the neater appearance of a cable-wire job is another factor, and often a determining one, in the choice.

A further general object of my invention is, therefore, to provide, in the wiring-units in which it is embodied, an intrinsic neatness, and a neat and novel co-operation with the heavy cable, that greatly betters the appearance of the installed job as compared with prior types of installations, and

Another and important general object thereof is so to novelly construct the wiring-units that, in the installation thereof in conjunction with such appropriate cable, costs of both the materials used and the labor required may be substantially reduced, as against any prior type of cable-served surface installation of which I am aware.

Prior to my invention it has been a standard practice, in installing cable-served wiring-devices as part of the permanent electrical facilities of the building—and still is, save where equipment according to my present invention is used—to provide an outlet-box or switch box, mounted on the framing or on a wall surface, at each point where a switch, lamp-receptacle or other wiring-device is to be installed, and to mount the selected wiring-device in the face orifice of the box after said wiring-device has had its binding-posts or terminals duly connected with appropriate wires of the cable; the outlet-box being generally a metal one, and necessarily so under safety-requirements where the cable employed is of "armored" or metal-sheathed type.

Another general object of my invention is so to construct all the wiring-units making up an appropriate line as aforesaid, that need for and use of an outlet-box is done away with, without sacrifice of safety where metal-sheathed cable is employed; this elimination of the outlet-boxes being important to the reduction of materials-cost and the betterment of appearance of the installation, that I attain.

Further, in said prior practice the footage of cable required on any job is greater than the sum of the center-to-center distances between the wiring-devices to be served, each section of cable that is to connect two wiring-devices needing to be cut substantially a foot longer than the center-to-center spacing of their outlet-boxes; for although the cable's sheath need only enter a wall port of each box far enough to be clamped therein, its solid, single-strand conductors—desheathed back to the clamp and with the insulation stripped from their ends—must extend out through the face orifice of each box some six inches, to give the electrician hand-room to connect the wiring-devices to suitable ones of the bared wire-ends; the ends of any wires that are not connected with the wiring-device but serve as "feed-through" conductors having to be twisted together and then soldered and wrapped with tape, before the electrician crowds the surplus wire back into the box (at some risk of loosening some connection just made) and mounts the wiring-device in its face orifice—at some risk of loosening binding-screw connections.

A further object of my invention is to so construct my novel wiring-units that each cable section connecting two of them need not be longer than the distance between their centers, with consequent saving of cable-cost; that splicing, soldering and taping of "feed-through" connections between cable-wires are dispensed with, and that the electrician's work of installing and wiring each unit is simplified and expedited in other particulars as well, with substantial saving of labor-time.

Among other objects sought and attained by my invention are: To insure safety against fire, shock-danger, and breakdown, fully satisfying safety-code standards, and in these regards to advantageously provide each unit with combined

means for both reinforcing the unit's frangible base-structure and interconnecting the "grounding elements" of the cable-sections it handles, which elements require local ground connection in common. Also to construct and arrange the cable clamping means (used in making such interconnection) for so rigidly and fixedly positioning the cable-ends with respect to the unit's binding-screw terminals to which the cable conductors must connect, that loosening of such connections, during or after installation is fully safeguarded; and further to provide in appropriate ones of the units the capacity to handle four sections of cable, of appropriate two-wire or three-wire content; and further to afford in the different-purpose units a general congruence of slim, shallow, elongated casing-shape that will give desired appearance-value to the line, augment the utility of the units, and best accommodate mounting of the units on edge surfaces of building-frame members; and to provide in various of the units service-furniture of novel structure helpful to attainment of my objects.

For attainment of said objects and other advantages that will hereinafter appear, my invention consists in the features of construction and combinations of parts of the wiring-units as hereinafter set forth and claimed; reference being had to the accompanying drawings wherein I have shown, for purposes of full disclosure, several typical ones of my line of different-purpose units and some typical conditions of their advantageous installation and cooperation in use—all of the units so shown being ones that I have found in commercial practice to be desirable, economical and in large demand.

In the drawings—

Figure 1 is a perspective view of a surface wiring installation for lighting, served in respective parts by sections of both two-wire and three-wire cable, and involving wiring units of my invention including lamp-receptacles of both "keyless" and "pull" types and switches of both "three-way" and "single-pole" types;

Fig. 2 is a wiring diagram of the Fig. 1 installation, skeletonizing the current-carrying furniture of the several said types of wiring units;

Figs. 3 through 8 show a keyless lamp-receptacle or socket, constructed in accordance with my invention—

Fig. 3 being a central longitudinal vertical section through the complete unit, with cover in place, on line **3—3** of Fig. 5;

Fig. 4, a corresponding transverse section, on line **4—4** of Fig. 3;

Fig. 5, a face view of the base-member or contact-carrying "chassis" thereof, with cover removed, having both "armored" and "non-metallic" sheathed cable connected therewith;

Fig. 6, a section parallel to that of Fig. 3, taken on line **6—6** of Fig. 5 and with only one end-port wired;

Fig. 7, a cross-section on line **7—7** of Fig. 6 with a single wiring-port in use; and

Fig. 8, a perspective view of the back of the unit, showing the metallic reinforcing-and-grounding structure, with one of its clamp-receptive bushings withdrawn from operative position;

Fig. 9 is a section similar to Fig. 4, showing modification to provide a "rosette", or drop-cord-lamp unit identical in most of its parts with the keyless lamp-receptacle;

Figs. 10 through 15 show a pull-switch type of lamp-receptacle, constructed in accordance with my invention—

Fig. 10 being a perspective view from the back;

Fig. 11, a transverse cross-section on line **11—11** of Fig. 10;

Fig. 12, a longitudinal section on broken line **12—12** of Figs. 10 and 13;

Fig. 13, a face view of the furnished base alone;

Fig. 14, a perspective detail of a terminal-carrying bus-bar thereof; and

Fig. 15, a detail of the pull-switch mechanism housed in the back recess of the base;

Fig. 16 is an exploded view of the current-conductive furniture of a three-way switch; and

Fig. 17, a corresponding view showing single-pole switch furniture; either furnishing being accommodated by the same base as phantom indicated in dotted lines;

Figs. 18 through 23 show complete structure of the three-way switch diagrammed in Fig. 16—

Fig. 18 being a central longitudinal section on line **18—18** of Fig. 19;

Fig. 19, a plan view of the chassis with switch handle and spring removed and the longitudinal bridge member broken away;

Fig. 20, a cross-section on line **20—20** of Fig. 19;

Fig. 21, a cross-section through the switch, on line **21—21** of Fig. 18;

Fig. 22, a cross-section on line **22—22** of Fig. 19; and

Fig. 23, a cross-section of the three-way switch, on line **23—23** of Fig. 18;

Fig. 24 is a plan view, similar to Fig. 19, of the chassis of a single-pole switch, which differs from the three-way switch only in its contact-provision.

Throughout the drawings, the keyless lamp-receptacle as a whole will be designated by reference-letter A; A—1, A—2, etc., used in the wiring diagrams indicating several such units respectively. Reference-letter B will correspondingly indicate in general the pull-switch type of lamp-receptacle; C, the three-way type of switch; D, the single-pole switch, and E, a "rosette" for serving a drop-cord lamp. Like reference numerals will designate like parts where applied to more than one particular embodiment of my invention. Addition of an exponent letter, such as *a* to a number common to more than one type of unit will specifically indicate the part bearing that number employed in unit A, and so on.

Some of the structural features germane to my invention, and relationships between them for joint advantage, are employed in all the units of my novel line, of which the ones specifically illustrated herein are exemplary; although (as the units shown herein suffice to exemplify) particulars may be varied quite widely, and to considerable advantage, in applying those general features of construction to units of dissimilar purposes that, of course, dictate the nature of their respective service-furnishings.

In part, the general features common to all units include matters of proportioning and arrangement of the casings—and especially the bases thereof—to promote the desiderata of economy in manufacture, saving of electrician's time in installing, utility, and looks; also, equipping the base with a grounding member and its appurtenances that will interconnect the grounding-elements of all cable-sections serving the unit, whether the cables be armored or of non-metallic type with special grounding wire; and provision insuring that any cable-section long

enough to reach the longitudinal center of the unit (as will be true of both sections of an already-installed cable cut at the point where an additional "feed-through" unit, to be installed, will center) will be plenty long enough for wiring-up the service-furniture of that unit by virtue of the terminal-arrangements and bus-connections provided by the service-furniture and their positioning with respect to the cable-positioning parts of the casing. Other features of advantageous relationships will appear from the detailed descriptions of the different units shown.

Each unit herein shown has a casing 30 that characteristically is of relatively-elongated, narrow, shallow proportioning; such general form conducing to structural and functional advantages as well as to unobstrusive, sightly appearance and to fitness of the unit for mounting on the edge-surface of "two-by-four" and like-thickness wooden frame-members so universally used. In commercial practice, I find a casing-body cross-section of approximately 1¾ inches width by 1½ inches depth is satisfactory. In different types of units the length-dimension varies somewhat, but only in keeping with differences in longitudinal space required by the respective sorts of service-furniture employed. Other length factors are substantially uniformized in the casings of the different-purpose units. Thus, in commercial practice, the different base-lengths are within the order of from 2½ to 3 times their standard width, advantageously.

Each unit's casing 30 desirably comprises a relatively thick base-block 31 of insulating material such as porcelain, molded in a single piece, and a detachable cover 32, relatively thin-walled throughout and preferably molded of the same material. The bottom edge of the cover makes smooth, matching fit with the top edge of the base, and with the two parts suitably secured together, as by screws 33 or otherwise, the service-furniture of the unit, mounted chiefly on top of the base 31, is practically all housed in the space 34 between said casing parts; a suitably shaped aperture 35 in the cover's face giving access to those parts of said service-furniture (such as switch-handles, socket-shells, and the like) that must be reachable from the outside.

Cable access to the interior of the casing is afforded by end-porting only, as at 37. The switches C and D have only a single port in each end of the casing, on its longitudinal center-line. Other units, including the lamp-handling ones A and B, have twin ports in side-by-side, closely adjoining relation at each end. At the ends of the casing, the base and cover meet in a plane that bisects the ports horizontally.

Uniform length-components common to the different units begin at the ports, in effect. In the base 31 of each unit a bolster 38, against which a cable may be clamped, protracts each port's curvature inwardly a uniform distance to give the cable a long bearing thereon, and terminates at an abutment 39 against which the cut-back sheath of the cable may be accurately positioned; said bolster preferably having a pair of sheath-engaging fins 40 thereon adapted to fit the spiral grooving of armored cable or to grip against the woven sheath of non-metallic cable. And, inwardly beyond each bolster area, each base provides a chamber 42 of sufficient length, uniform throughout the units, to accommodate distribution of the de-sheathed conductors for connection with the terminal binding-screws at the adjacent end of the service-furniture of the unit, mounted on the centrally-disposed furniture-stand 43, the length of which may vary according to the furniture it carries.

With the equipped base or "chassis" fastened to the wall or framing by mounting-screws 44, accurate de-sheathing, stripping of conductors, and wiring-up may be done very rapidly.

For safeguarding against shock to the building's occupants and other hazards arising from stray currents and static charges, safety-codes require that the sheathing of all armored cable contained in the building's network of circuits must be earth-grounded locally to the premises; and where non-metallic cable is employed, having a bare-wire "grounding element" enclosed in its fabric sheath, such grounding wires must likewise be connected in a network, and given a local ground.

For purposes of interconnecting such grounding elements of either type of cable, I provide in the base block 31 of each unit a conductive grounding-member to be electrically connected with the grounding elements of all cable-sections serving the unit, and I advantageously utilize the cable-clamping means associated with each cable port in establishing electrical connection between said base-carried grounding-member and the grounding elements of the cable-sections serving the unit—whether the cable be of armored type or non-metallic type with a grounding wire; both such types of cable being shown as electrically connected to cable-clamps in Fig. 5.

Desirably, the grounding member for each sort of unit shown is constructed to serve also as a reinforcing member for the porcelain base, arranged to take part of any strain imposed on the unit through the cable-sections and clamping means. Particulars of preferred embodiments are different, as between the switch-units shown, having a single cable port at either end, and the lamp-receptacle units having twin ports at each end. I will describe the latter first.

In each of the units shown, the grounding member 46 is a sturdy steel plate bedded in the lower portion of the base 31, the base, when of porcelain, being recessed as at 47 to receive the plate 46 snugly and insulate it completely from the service-furniture above it with which the cable's insulated conductors are to be connected; said metal plate 46 preferably being nearly as large as the base and bearing firmly on the latter near its ends, where connection of the plate with the clamping devices will be made. Shallow domes 48 formed on the plate are threaded to receive the cover retaining screws 33, the ends of which may be within the dome-recesses.

Where the unit has twin ports at its ends, as in the lamp-receptacles, a single clamp will serve both, as shown with respect to keyless lamp-receptacle A, Figs. 3 et seq. As there shown, the clamp assembly, 50, comprises a cross-yoke 51 extending over both cable-positioning bolsters 38 on the base 31 and engaged by a centered clamping screw 52 under the head of which the yoke may rock somewhat; said screw being threaded into a bushing 53 below, the flanged and squared head 54 whereof is seated from below in a matching, squared and apertured recess 55 (Fig. 8) of the grounding-and-reinforcing plate 46, through the aperture of which the bushing passes. Such yoke is desirably provided with two removable metal shutters 57 on its opposite arms, normally to close or mask the twin ports 37. For carrying such shutters and for double bite on the cable, the clamp's cross-yoke 51 is desirably stamped and then folded to U-shaped section, so as to pro-

vide parallel sides U-connected near their ends and apertured as at 58 in said U-portions to detachably receive the prongs 57' of respective shutters 57. By squeezing with pliers the prongs of either shutter 57, it may be removed. Clamping engagement of the yoke with one cable, while the shutter 57 for the twin port remains in place as fulcrum for the yoke, is shown in Fig. 7. Pull stresses and bending stresses fall largely on the rugged metal parts, protecting the frangible porcelain. And complete interconnection of the grounding elements of all cable sections serving a unit needs only good contact of a clamp with the metal sheath *m* of armored cable M or engagement of its screw with the bare wire *n* of the non-metallic type N, as indicated in Fig. 5.

Where a single port is provided in the casing end, as in the switch illustrated in Figs. 18 et seq., a simpler construction serves the grounding and reinforcing purposes aforementioned; the clamping yoke 51c having parallel vertical side bars cross-connected at their ends, where screws 52c are passed downward through them to engage the threaded apertures in upturned ears 59 of the grounding member 46 that find accommodation in recesses 59' molded in the base 31.

Conventional local grounding of a network of armored cables M is indicated at the left of Fig. 1, where grounding member 46 of keyless socket A—1 is diagrammatically shown, and the initial cable-length M, from which all other sections of the network are fed through or branched, being earth-grounded at *g* adjacent the customary fuse-block F to which line-current is supplied from any suitable source G.

Although the current handling furniture on each sort of unit of the line has some individual details or particulars special to its intended purpose, all of the units are characterized in common by some advantageous features of construction and arrangement of their service-furniture. A material advantage, touching all units which will accommodate the feeding through them of current to serve those beyond it, is that any of them may be wired into an already-installed cable; the cable being cut to receive it at the point where the unit is to be centered. Thus, in the installation diagrammed in Figs. 1 and 2, the keyless lamp-receptacle A—1 could be wired into an already-installed main cable M, so as to feed through A—1 to the pull-switch lamp-receptacle B—2 on the ceiling and to other units beyond. And kindredly, in installing the short second cable M—1—sections of which are to connect switch D—1 and lamp-receptacle B—1 to keyless receptacle A—1—a suitable short length of cable may be partially cleated in intended place to run alongside the main one and cut at the same point as is said main cable M. Accurate de-sheathing for proper location of the sheath's end (or the little fiber end-ferrule commonly used to shield its edges) will easily be gaged by matching it against the unit's abutments 39: and any unit may be properly wired to the free ends of the conductors so de-sheathed.

To this end, the terminal binding-screws for each unit mounted on its furniture-stand are so constructed and located that any wire of a cable-section properly cut as aforesaid can easily reach from any point where it leaves its sheath to engage any one of the terminal-screws on the adjacent end of said furniture-stand; the ends of wires spanning shorter distances to terminal-screws being snipped off accordingly. Further, each terminal that may on occasion serve two wires is formed and used as best illustrated in Figs. 5 and 14, its broad-headed binding-screw 61 being closely flanked by upturned flanges 62 of the conductive terminal-member or bus 63 so that the two conductors, led to opposite sides of the screw, will run straight along the corners formed by the flanges and both be securely clamped by the screw. Wiring-up is expedited, and safety is served, by this provision for stemming two wires from the same terminal.

Further, in the mounting of the terminal-carrying busses and associated parts of their furniture on the furniture-stands, I advantageously provide for locating their terminals at different levels, on terraces, molded in the stand, so that vertical separation may augment their lateral separation—which the narrowness of the housed space available for the furniture-stand, and the employment of the broad, flanged two-wire terminals aforementioned, makes quite meager in some instances. Such variation in binding screw levels also facilitates distribution of the conductors without undue crowding, in the crossing paths they must often take through the distribution-chamber 42, in reaching appropriate terminal-screws.

Referring particularly to the keyless type of lamp-recptacle, A, shown in Figs. 3 through 8, it has three longitudinal bus members 64, 65 and 66, of the broad-ended construction heretofore mentioned, for reception of two conductors; the middle one 65 being mounted at a higher level than the side ones and being somewhat longer than they; said center member 65, as well as the side ones, being a through-connector since its longitudinal separated end-portions are riveted, as at 68, to the conventional lamp-socket shell 67. To complete the lamp-socket connections, its center-contact tongue 69 is riveted to bus member 66; the remaining bus 64 serving merely as a through connection between the terminals it carries.

This structure equips the unit for a very useful diversity of circuit-arrangements, including a capacity to handle four sections of three-conductor cable on occasion. As shown in circuit in Fig. 2, its three branching connections of two-wire cable additional to its two-wire main line connection, enable its own lamp to be controlled from single-pole switch D—1 and as well the lamp of neighboring pull-socket B—1 on the wall, which can only light when A—1 does; while a similar pull-socket B—2 on the ceiling, branched from A—1, may be pulled on and off regardless of the operation of switch D—1.

In a rosette E (Fig. 9) to serve a drop cord lamp, the same porcelain base 31 may be employed that is used in a keyless lamp-receptacle and with like range of service, its furniture being changed only by joining the end-portions of middle bus 65 by a connector 71 located on the under instead of the upper side of the furniture-stand, and by forming the two side bus members 64e and 66e to provide screw-equipped binding-posts 73 to which the lamp-cord's conductors may be attached.

Respecting the "three-way" and "single-pole" switches herein shown and respectively indicated as C and D, various novel features they have in common with the lamp-receptacle units of the line have heretofore been referred to, but novel particulars of their construction and terminal-connection facilities are of advantage in attain-

ing objects of my invention and in enhancing their utility as units of my line.

Both switches C and D are of toggle type with conventional snap mechanism including handle, blade and an interposed snap-spring 82, forming the moving-parts' assembly, the switch-cavity 83 in which they operate having a single pair of contacts 84 at one end of the cavity in the single pole switch and opposed pairs 84 and 85 in the three-way structure.

Identical bases will accommodate either the "three-way" or "single-pole" furniture, as indicated in dotted lines 31 in Figs. 16 and 17.

In both switches a dual-purpose member 86, extending longitudinally of the base over its central portion, between the posts 87 at the ends of the switch-cavity on which it is securely mounted, is aperturned to receive the switch handle 80 and serves as a mechanical bridge on which the handle fulcrums and which maintains the moving parts of the switch in assembled relation. Also it serves as a feed-through bus-member of the service-furniture, its ends being extended into the upper part of the distribution chambers 42 near the end of the casing and provided with terminal binding screws 88 and 89 with which conductors of the proximate cable-sections entering the respective end-ports will be connected to constitute a through circuit-connection unbreakable by the switch.

In the other conductive parts of the simpler, "single-pole" switch, the two switch-blades 84 have binding screw terminals 90 and 91 connected therewith at the appropriate ends of the unit, and one said terminal, 91 has a bus connection 92 alongside the switch cavity to binding-screw terminal 93; these several terminals being preferably located at the level of the switch cavity's edge, as indicated in Fig. 22, somewhat below the level of the bridge-terminals.

In the "three-way" switch, a binding screw terminal 90c is applied to one switch contact 84 and said contact is connected by a bus member 96 to the longitudinally aligning contact of the other pair 85, which has no terminal-screw of its own. The remaining contact of pair 85 likewise has no binding-screw of its own and is connected by bus-member 95 with a binding screw 96 at the other end of the furniture stand; said bus preferably running diagonally across the underside of the insulating base in a suitable protective groove, and the binding-screw 96 being preferably located on a level lower than the others. Remaining contact 85 is provided with binding-screw 97.

Thus each switch is provided with a line connection not interruptable by operation of the switch; the "single-pole" switch being capacitated for two-wire feed-through, while controlling a lamp, as indicated at D—2 in Fig. 2, where open condition of the "single-pole" switch has extinguished the lamp of keyless receptacle A—3, but current flows via the bridge and bus 92 to the further pull-switch lamp B—3.

In the "three-way" switch construction, the bridge connection forms part of both circuits controlled by the respective contact pairs, and itself is uninterruptable.

It will be understood that while I have herein shown with particularity certain specific, novel embodiments of my invention for purposes of full disclosure of preferred forms thereof that I have found in practice to be desirable and effective, it is not intended to limit my invention thereto save as they may be included in the scope of the appended claims.

I claim:

1. A surface wiring unit in the form of a lamp-receptacle, switch, or the like, combining functions of an outlet box and a separate wiring device mounted thereon, such unit comprising, in combination, an elongated, relatively narrow and shallow casing of insulating material having cable-receptive ports in its end-walls only; service furniture in the longitudinal mid-portion of said casing suitable for the unit's specific purpose and including two longitudinally spaced-apart sets of terminal-screws respectively positioned suitably for engagement by current-conductors of cable-sections that may enter the ports at opposite ends of said casing and are of length to reach only to mid-length thereof; a plurality of cable clamping means within said casing respectively adjacent said ports at opposite ends thereof, adapted to rigidly secure in fixed relation to the proximate sets of said terminals respective sections of flexible, sheathed cable having a grounding element and to be electrically connected with such element; and a grounding member carried by said casing, insulated from said service furniture and electrically interconnecting all said clamping means of said unit.

2. A surface wiring unit in the form of a lamp-receptacle, adapted for surface installation in conjunction with unit-connecting sections of flexible, sheathed, multiple-conductor cable of lengths to reach only from center to center of the units they serve, said unit comprising an elongated, relatively narrow and shallow casing of insulating material including a base and a detachable cover jointly providing cable-receiving ports through the casing's ends; said base providing wire-distribution chambers positioned inwardly from said ports; and service furniture suitable for the unit's specific purpose arranged in the mid-length portion of the casing, said furniture including lamp engaging contacts and longitudinal straight-through bus-members extending along said mid-portion of the casing, and each provided near its ends with terminal-screws located adjacent said respective distribution chambers, for connection with conductors of said cables entering the proximate end-ports, and means connecting said contacts to certain of said bus-members.

3. A surface wiring unit in the form of a lamp-receptacle, a switch or the like, adapted for surface installation in conjunction with unit-connecting sections of flexible, sheathed, multiple-conductor cable of lengths to reach only from center to center of the units they serve, said unit comprising an elongated, relatively narrow and shallow casing of insulating material including a base and a detachable cover of equal length jointly providing cable-receiving ports through the casing's ends and providing wire-distribution chambers positioned inwardly from the respective ported ends; service furniture suitable for the unit's specific purpose arranged in the mid-length portion of the casing, said furniture including bus-members longitudinally spanning said mid-portion and having terminal-screws adjacent said respective distribution chambers for connection with conductors of cables entering the proximate end-ports; a plurality of metallic cable-clamping means between, respectively, the opposite end-ports and the distribution chambers proximate thereto, arranged to rigidly clamp within the casing the respective cable in fixed

relation to the appropriate said binding screw and to receive in conductive contact therewith the grounding member of such respective cable; and electrically conductive means on the casing base connecting the cable-clamping means at opposite ends of the casing and insulated by said base structure from conductive connection with said service furniture.

4. A wiring-unit, suitable for cooperation, in the surface wiring of buildings, with flexible, sheathed cable of a type including a plurality of service conductors and a grounding element, comprising a chambered casing of insulating material, ported for cable-reception and having separable base and cover portions; current-handling furniture within and insulated and supported by said casing and having terminal-screws for connection with the cable conductors; a grounding member carried by and entirely beneath said base and insulated from said furniture; and cable-engaging means arranged for conductive connection within said chamber with the grounding element of the entering cable and conductively connected with said grounding member through said base, said cable-engaging means being constructed to clamp the cable against said insulating base.

5. A wiring unit suitable for cooperation, in the surface wiring of buildings, with sections of flexible, sheathed cable of length to reach only from center to center of the units they serve and of a type including a plurality of service-conductors and a grounding element, comprising a casing having at its ends longitudinal ports for a plurality of cable sections and having a base of frangible insulating material and a detachable cover; current-carrying furniture within said casing, including terminal screws arranged between the longitudinal center of the casing and the end-ports for connection with conductors of said cables; a metallic reinforcing and grounding member carried by said base and insulated from said furniture and extending to adjacent all said ports; and metal cable-clamping means within the casing adjacent to said ports and arranged for conductive connection within the casing with the grounding elements of said cable sections, said clamping means having a tension-screw in conductive and strain-relieving connection with said reinforcing and grounding member.

6. A surface wiring unit combining the functions of an outlet-box, wiring-device and wire-splices, and serving to electrically connect together, and to interpose specific-function furniture in circuit with, separate sections of multiple conductor sheathed cable of lengths to reach only the centers of the units they connect, comprising base and cover members of insulating material forming a chambered casing provided with twin ports in opposite walls thereof; three straight-through bus members in said casing in spaced insulated relation to each other and extending to conductor-receptive proximity to the ports of the opposite walls, each end of each said bus member having conductor-engaging means accommodating two conductors; service furniture in said casing electrically connected with two of said bus members; and respective cable-clamping means adjacent said ports in the opposite walls of said casing.

7. Structure for electrical wiring-units of different specific functions comprising a wiring unit in the form of a lamp receptacle, a switch or the like, adapted for surface installation in buildings in conjunction with unit-connecting sections of multiple-conductor, flexible, sheathed cable of lengths to reach only mid-length of the units they connect, said unit comprising an elongated, relatively-narrow and shallow casing of insulating material including a base and a detachable cover jointly providing suitable cable-receptive ports through opposite ends of said casing; electrical furniture suitable for the unit's specific function mounted in the casing and having terminal members, equipped with binding screws at their ends, extending longitudinally from the mid-zone of the base to within reach of the respectively proximate cables' conductors; cable-supporting bolsters on the base extending inwardly from the cable ports; cable sheath abutments substantially at the inner ends of said bolsters; the base providing wire distribution chambers intervening between said abutments and the proximate terminals of said electrical furniture; and cable clamping means associated with each bolster for rigidly positioning the cable in fixed position relative to its respective sheath abutment and to said binding screws.

8. A surface wiring unit for installation in conjunction with sections of flexible, multiple-conductor, sheathed cable of lengths to extend only mid-length of the units they connect, said unit comprising an insulating casing including base and cover members jointly providing in a wall thereof twin ports in slightly-separated, side-by-side relation; service-furniture for the unit's specific function arranged in the casing and having screw-equipped terminals, each receptive of and arranged to bind the bared ends of two conductors of cables entering said ports; cable supporting means in said base in register with the bottoms of said twin ports, and clamping means common to both ports to clamp the cable of either or both cable-occupied ports; said clamping means comprising a clamping-screw arranged between the ports, a yoke rockably engaging said screw and extending over both cable supporting means on the base, and two readily-demountable shutters normally carried by opposite ends of said yoke and each normally extending downward substantially to the respective support on said base.

9. A surface wiring unit, of a line of different purpose units of similar size and body-shape, combining functions of a switch box and a separate switch mounted therein and suitable for cooperation with unit-connecting sections of multiple-conductor, flexible, sheathed cable only long enough to reach mid-length of the units it connects, said unit comprising a relatively long, narrow casing of insulating material having a cable-receptive port at each end; a switching mechanism in said casing including at least a pair of contacts and a switch-blade; terminal binding-screws at the ends of said mechanism associated with suitable ones of said contacts and positioned for respective engagement by conductors of the cable-sections entering said proximate end-ports and serving such terminals; and a complemental, dual-purpose bridge and feed-through-bus member extending lengthwise over the switching mechanism to adjacent the aforementioned terminals at the respective ends, and having binding screws at both its ends for connection with respective conductors of both said cable-sections to provide a feed-through connection unbreakable by the switch; said member serving also to maintain the switch-mechanism's parts in assembled relation.

10. A surface wiring unit combining the functions of a wall box and wiring device and including a relatively long and narrow base of insulating material adapted to be secured to a supporting surface, a cover of insulation of substantially the same outline as the base and adapted to form a closed chamber therewith, an end wall of the cover and base each having a notch registering with the notch of the cooperating part to form a close fitting entrance opening for the sheath of a multiconductor cable, current handling furniture permanently mounted on and insulated by one of said insulating parts, binding screw terminals spaced laterally across the base nearer an end wall of the chamber than the said furniture, means connecting said terminals to said furniture, a metal plate extending beneath said base, and a cable clamp electrically connected to said plate and in register with said opening.

11. A surface wiring unit combining the functions of a wall box and wiring device and including a relatively long and narrow base of insulating material adapted to be secured to a supporting surface, a cover of insulation of substantially the same outline as the base and adapted to form a closed chamber therewith, the end walls of the cover and base each having a notch for register with the notch of a cooperating part to form an entrance opening in each end of the chamber for the sheath of a multiconductor cable, wiring device conducting parts permanently mounted on and insulated from each other by one of said insulating parts, binding screw terminals spaced laterally across the base in duplicate sets nearer the ends of the chamber than the said wiring device parts, means connecting said wiring device parts to at least one terminal of each set, means connecting one terminal of one set to one terminal of the other set, a metal plate extending beneath said base and a cable clamp near each cable entrance electrically connected to said plate for ensuring continuity of ground across said unit when metal sheathed cables are used.

12. A surface wiring unit having a relatively long and narrow base of insulating material adapted to be secured to a supporting surface, a cover of insulating material of substantially the same outline adapted to rest on and be attached to the base and form therewith a substantially closed compartment, lamp supporting contacts mounted substantially at the center of and insulated by one of said insulating parts, binding screw terminals in duplicate sets mounted on said base and spaced nearer the ends of the chamber than the said contacts, means connecting the contacts and some of said terminals, registering notches in the end walls of the cover and base to provide entrance openings for multiconductor cable sheaths, a shoulder inwardly of each opening to limit the entrance of the sheath, a chamber between the shoulder and terminals at its end of the compartment to permit distribution of conductors to appropriate terminals, and means to secure the cover in position.

13. A surface wiring unit combining the functions of a wall box and wiring device and including a hollow casing of insulating material and comprising a relatively long, narrow base and a cover of substantially the same outline as the base, the end walls only of the cover and base each having a pair of spaced notches for register with corresponding notches of the cooperating part to form substantially circular entrance openings in each end of the casing for the sheaths of multiconductor cables, current conducting parts including spaced sets of binding terminals intermediate the ends of the base, a chamber between each pair of entrance openings and the corresponding set of terminals for conductor distribution, a hole in the floor of each chamber for a mounting screw for the device, and a cover fastening screw extending through the cover and into the base adjacent each end wall and on a line intermediate the axes of said entrance openings.

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