Feb. 21, 1933. G. J. MEUER 1,898,589

ELECTRICAL CONNECTER

Original Filed April 28, 1932

Fig. 1

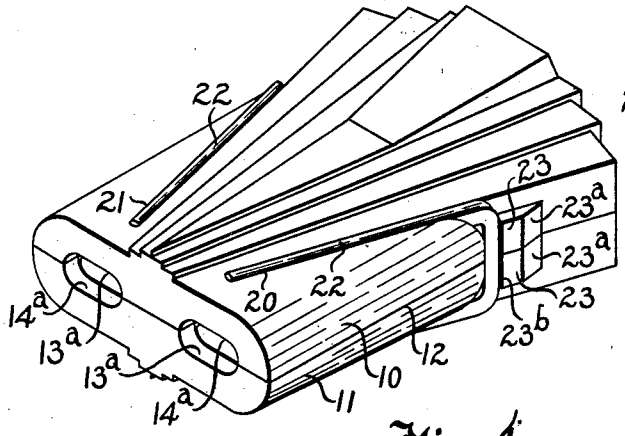


Fig. 2

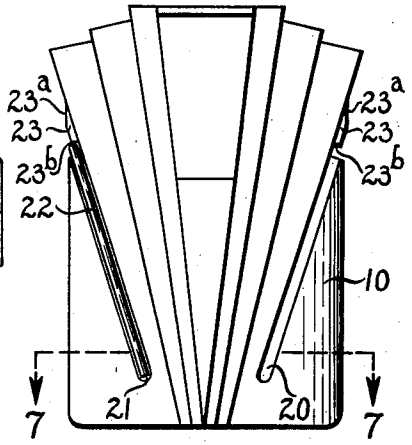


Fig. 3

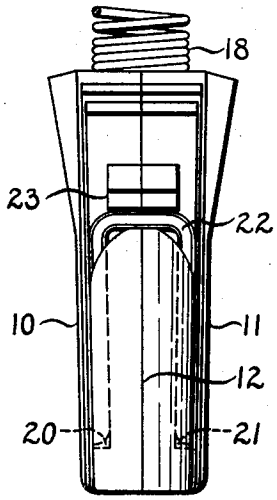


Fig. 4

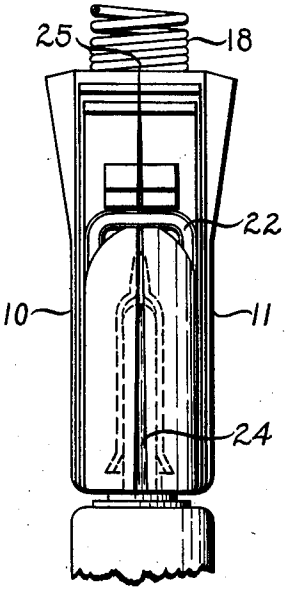


Fig. 5

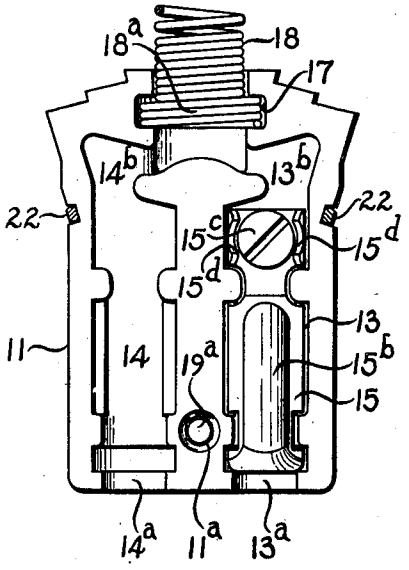


Fig. 6

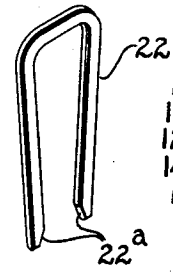
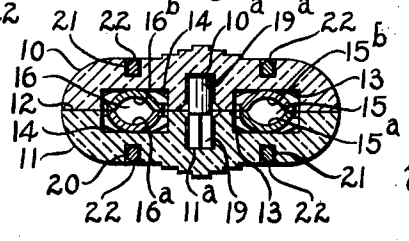


Fig. 7



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1,898,589

UNITED STATES PATENT OFFICE

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ELECTRICAL CONNECTER

Continuation of application Serial No. 607,977, filed April 28, 1932. This application filed December 2, 1932. Serial No. 645,423.

This invention relates to improvements in electrical connecters and is particularly applicable to connecters of the appliance plug type which commonly must be inserted into a closely fitting guard surrounding the plug jacks with which the connecter is to be engaged.

This application is a continuation of and a substitute for my copending application, Serial No. 607,977, filed April 28, 1932.

An object of the invention is to provide a connecter of improved construction which may be readily and economically manufactured and assembled and which furthermore may be conveniently and quickly attached to its feed wires which commonly are of the flexible cord type.

More specifically an object is to provide a rugged and durable connecter having split contacts and means affording the desired gripping action by its contact parts without reliance upon resiliency of parts enclosed by the connecter casing and further having its contacts so formed that their gripping parts share substantially equally the current flow.

A further object is to provide a connecter having a split casing with external resilient parts which both afford the resiliency desired for contact pressure and securement of the casing parts in proper relation without need of the usual screws or bolts, the coordination of elements being such that the external resilient parts may be of simple and inconspicuous form capable of convenient and expeditious mounting and removal.

A further object is to provide a connecter wherein the ventilating advantages of spread of the casing sections during use of the connecter are in nowise impaired by the external resilient parts.

A further object is to provide a connecter construction which may be made neat and attractive in appearance, without sacrifice of ruggedness, durability, efficiency, facility of use or facility of wiring preparatory to use.

Other objects and advantages of the invention will hereinafter appear.

The accompanying drawing illustrates an embodiment of the invention which will now be described, it being understood that the embodiment illustrated is susceptible of modification in the structural details thereof without departing from the scope of the appended claims.

In the drawing, Figure 1 is an enlarged perspective view of an electrical appliance plug connecter constructed in accordance with my invention—the usual coiled wire cord guard being omitted.

Fig. 2 is an elevational view of the device shown in Fig. 1, and with one of the assembling clips removed to better illustrate the external grooving in the insulating casing.

Fig. 3 is a side elevation of the device shown in Figs. 1 and 2,—with the cord guard shown in position, but broken away for purposes of illustration.

Fig. 4 is a view similar to Fig. 3, but showing the relative positions of the parts when in cooperative engagement with the plug jacks of an electrical appliance such as a smoothing iron.

Fig. 5 is a plan view of one of the duplicate casing sections, showing one of the combined contact and wiring terminal units in position—the other unit being removed to illustrate the manner in which the inner faces of the casing sections are complementally recessed, and the assembling clips of the device being shown in cross section.

Fig. 6 is a perspective view of one of the assembling clips, and

Fig. 7 is a sectional view on the line 7—7 of Fig. 2, with both assembling clips shown in position.

Referring to the drawing, the numerals 10 and 11 designate a pair of molded insulating casing sections of identical form and dimensions. Members 10 and 11 are provided with flat inner faces which are normally adapted to lie against each other throughout the length thereof, as indicated at 12. Said inner faces are complementally recessed, as indicated at 13 and 14 in Fig. 5, to accommodate a pair of combined socket contact and wiring terminal units 15 and 16. While any desired form of contacts may be employed, I have illustrated and prefer

to employ contact and terminal units of the form disclosed in Figs. 4 and 5 of my co-pending application Serial No. 549,631, filed July 9, 1931,—but with the biasing springs omitted. Thus each unit comprises a pair of flexible stamped sheet metal elements 15^a, 15^b (Fig. 7), which are complementally shaped to provide an expansible socket for reception of the contact pin or jack of an electrical appliance such as a smoothing iron, toaster, or the like. One of said elements 15^a, 15^b is provided at the wiring terminal end thereof with a clearance opening and the other is provided with a threaded opening for cooperation with the shank of a binding screw. The terminal end of element 15^a is provided with upstanding lugs 15^d between which the terminal end of element 15^b is received, and said lugs 15^d are pressed inwardly or upset at opposite edges thereof to rigidly and permanently secure the elements of the unit in assembled relation. Recesses 13 and 14 and units 15 and 16 are respectively formed to provide longitudinally spaced shoulders or abutments whereby substantial longitudinal movement of said units within the recesses is prevented.

The recesses 13, 14 include semi-elliptical notches or grooves 13^a, 14^a at the lower ends of the casing sections to provide access for the appliance plug jacks to the flared forward ends of the contact sockets. Recesses 13, 14 are likewise formed at the upper ends thereof in the manner indicated at 13^b, 14^b to provide meandering paths for the insulated circuit wires or conductors (not shown), to snub the latter for relieving tension upon the electrical connections provided at the binding screws, (see 15^c, Fig. 5). Members 10 and 11 are also complementally recessed, as indicated at 17 in Fig. 5, to accommodate the enlarged end 18^a of the usual coiled wire cord guard 18.

Each of the members 10 and 11 is provided with an intermediate cylindrical recess adjacent to the lower end thereof,—said recesses being designated by the reference characters 10^a and 11^a (see Figs. 7 and 5). A dowel pin formed of screw stock of hexagonal cross section is adapted to have the hexagonal end portion 19 thereof forced or driven into one of said recesses (as, for instance, recess 11^a), the other end 19^a of said pin being of reduced circular cross section to fit somewhat loosely within the other recess 10^a. Said dowel pin thus acts to prevent substantial lateral and longitudinal movement of the lower ends of members 10 and 11 relatively to each other, while permitting the required degree of separation of said ends for the purpose hereinafter set forth.

Extending inwardly and downwardly from opposite side edges of the sections 10 and 11 are pairs of external grooves 20 and 21,—each pair of alined grooves on the respective sections being adapted to receive the arms of a substantially U-shaped spring wire assembling clip 22, one of said clips being shown in detail in Fig. 6. The sides of said clips 22 are preferably flattened in planes parallel to the plane of the body portions thereof, and the arms of said clips are initially bent to converge toward each other. The adjacent inner edges of the free ends of said arms are also preferably ground or otherwise cut away to provide the bevels indicated at 22^a (Fig. 6) to facilitate insertion of the clips into the aforementioned grooves. When the clips 22 are in full clamping engagement with the casing sections the arms thereof will be located in substantially parallel relationship (as best illustrated in Fig. 3), and said clips are of such strength as to normally maintain the inner faces of the casing sections in engagement with each other, thus pressing together the parts of each socket contact.

In order to prevent accidental displacement of the clips 22 with respect to the casing sections I preferably form integrally with the side edges of the latter the abutments 23, the same having upper cam surfaces 23^a which cause a slight distortion of the closed end portions of the clips as the same are manually pressed into assembled position, whereupon said closed end portions will snap into engagement with the more sharply angled shoulders 23^b. While the clips 22 are thus positively restrained against displacement, it is to be understood that each of the same may be readily removed manually by inserting the nail of a finger beneath the connecting portion and exerting a slight pull,—or a screw driver or similar prying tool may be employed if desired.

When the assembled connecter plug is brought into cooperative engagement with the pins or jacks 24 of an electrical appliance, as illustrated in Fig. 4, the clips 22 will yield to permit the required degree of separation of the flexible contact arms and of the casing sections 10 and 11,—it being noted that the extreme upper ends of the casing sections 10 and 11 will act as a fulcrum for each other (as indicated at 25). In like manner the clips 22 act to insure the desired degree of pressure of the contact arms upon the jacks 24, and inasmuch as the clips 22 are so positioned as to be substantially unaffected by the heat conducted through jacks 24, it is obvious that the required degree of contact pressure will be maintained constant throughout the life of the connecter as a whole.

Moreover it will be appreciated that the separation of the casing sections in the manner aforedescribed will insure a multiplicity of paths for convection currents of cooling air to minimize the heating effect of the

jacks upon the socket contacts and the other parts of the connecter.

The electrical connecter herein illustrated has been so designed that the overall thickness thereof when the casing sections have been separated as shown in Fig. 4 is no greater than the thickness of other standard plug connecters now on the market. It follows that the present device wherein the socket contacts have some lateral play is universally applicable to all appliances adapted to receive standard plug connecters, whether or not the appliance is provided with the usual connecter guard or guide.

As shown in the several figures the external grooves 20, 21 are preferably of a depth to receive the assembly clips 22 in a relation substantially flush with the main exterior surface of the insulating casing. The arrangement of the clips 22 in the manner illustrated has several obvious advantages, among which may be mentioned the fact that the connecter plug may be removed from an appliance without liability of manual contact with these metal parts. Similarly the arrangement lends itself well to the embellishment or decoration of the exterior surface of the connecter with a suitable design, as shown, which tends to minimize the presence of the clips as securing elements for the casing parts. As will be noted the upper portions of the casing sections are enlarged to provide outwardly angled opposite sides and ends to facilitate removal of the connecter from an appliance when grasped in any manner common to the art.

Each of the clips 22 consists of a length of steel spring wire of the required dimensions (S. A. E. #1360 spring wire being employed in the device herein illustrated). The clips after forming thereof are preferably provided with a white nickel or other desired finish. The cord guard 18 which is also formed of steel spring wire of the required dimensions is preferably provided with a bright tinned finish. The various parts when assembled in the manner aforedescribed provide an article of neat and attractive appearance.

It is highly desirable in connecters to have the elements of each contact share substantially equally the current carried by such tact and as will be apparent the connecter illustrated affords pressure of the elements of each contact against the plug jack received by it wherefore the contact elements having integral extensions to a common wiring terminal will so share the current flow.

What I claim as new and desire to secure by Letters Patent is:

1. An electrical connecter comprising a pair of molded insulating members of like shape and dimensions, said members having pairs of complementary recesses to accommodate contacts, contacts in said recesses, each contact comprising relatively movable parts to receive a plug jack therebetween and to be caused by pressure on said molded members to grip such plug jack, a pair of U-shaped spring metal clips embracing said insulating members, the arms of said spring metal clips extending downwardly to points adjacent to the lower ends of the respective insulating members, and said last-mentioned arms being biased toward each other to yieldably retain said insulating members in engagement with each other while permitting the required degree of separation thereof to accommodate a pair of plug jacks.

2. An electrical connecter comprising a longitudinally divided molded insulating casing, said casing having complementary recesses on opposite sides of the line of division thereof, a combined contact and wiring terminal unit loosely positioned within said complementary recesses and comprising a pair of flexible metal arms arranged in socket forming relation, and a pair of U-shaped spring metal clips embracing said casing sections to hold the same in assembled position and to bias said flexible arms toward one another.

3. An electrical connecter comprising a pair of molded insulating members of like shape and dimensions, said members having pairs of complementary recesses to accommodate contacts of split socket form, the arms of each of said contacts being flexible and the same being adapted to be pressed together upon assembly of the insulating members with the contacts positioned therebetween, a pair of U-shaped spring metal clips embracing said insulating members, the arms of said spring metal clips extending downwardly to points adjacent to the lower ends of the respective members, and the free ends of the arms of each clip being biased toward each other to yieldably retain said insulating members and the arms of the respective contacts in engagement with each other while permitting the required degree of separation thereof to accommodate a pair of plug jacks.

4. An electrical connecter comprising a pair of molded insulating members of like shape and dimensions, said members having pairs of complementary recesses to accommodate sheet metal contacts of split socket form, the substantially parallel arms of each of said contacts being pressed toward one another upon assembly of the insulating members with the contacts positioned therebetween, each of said members having an intermediate recess formed in the inner surface thereof adjacent to the lower end thereof, a dowel pin having one end adapted to provide for a drive fit thereof within one of said recesses, the other end of said pin having a loose fit within the other of said recesses, whereby the lower ends of said mem-

bers may be separated endwise of said dowel pin while being restrained against lateral displacement thereof relatively to each other, each of said members having upon the outer surface thereof grooves extending downwardly in spaced relationship to each other, and a pair of U-shaped spring wire clips insertable into the grooves in said members respectively, the arms of each of said spring wire clips being biased toward each other to yieldably retain said insulating members in engagement with one another and insuring a predetermined degree of resistance to separation of the contact arms incident to insertion therebetween of a pair of plug jacks.

5. An electrical appliance plug connecter comprising a pair of combined contact and wiring terminal units, the contact portions of said units each comprising a pair of flexible sheet metal arms arranged in socket forming relation, a pair of molded insulating members of like form and dimensions, said members having complementary internal recesses to accommodate said units therebetween in spaced relation to each other and the walls of said recesses being formed to engage the forward portions of the respective flexible arms of each pair upon assembly of said insulating members, each of said insulating members having a pair of external grooves extending from points intermediate the length of the side edges thereof and converging toward each other at points adjacent to the lower ends of said members, and a pair of U-shaped spring wire clips forcibly insertable downwardly into said grooves and adapted to retain said insulating members in assembled relation, said wire clips being adapted to permit partial separation of the lower ends of said flexible contact arms and said insulating members upon cooperative engagement of said contact arms with a pair of plug jacks.

6. An electrical appliance plug connecter comprising a pair of combined contact and wiring terminal units, the contact portions of said units each comprising a pair of flexible sheet metal arms arranged in socket forming relation, a pair of molded insulating members of like form and dimensions, said members having complementary internal recesses to accommodate said units therebetween in spaced relation to each other and the walls of said recesses being formed to engage the forward portions of the respective flexible arms of each pair upon assembly of said insulating members, each of said insulating members having a pair of external grooves extending from points intermediate the length of the side edges thereof and converging toward each other at points adjacent to the lower ends of said members, and a pair of U-shaped spring wire clips forcibly insertable downwardly into said grooves and adapted to retain said insulating members in assembled relation to each other, said wire clips being adapted to permit partial separation of the lower ends of said flexible contact arms and said insulating members upon cooperative engagement of said contact arms with a pair of plug jacks, said insulating members having integral abutments formed at the side edges thereof for engagement by the connecting portions of said spring wire clips whereby the latter are releasably restrained against displacement from said insulating members.

7. An electrical appliance plug connecter comprising a pair of combined contact and wiring terminal units, the contact portions of said units each comprising a pair of flexible arms arranged in socket forming relation, a pair of molded insulating members of like form and dimensions, said members having complementary internal recesses to accommodate said units therebetween in spaced relation to each other and the walls of said recesses being formed to engage the forward portions of the respective flexible arms of each pair upon assembly of said insulating members, each of said insulating members having a pair of external grooves extending from points intermediate the length of the side edges thereof and converging toward each other at points adjacent to the lower ends of said members, a pair of U-shaped spring wire clips forcibly insertable downwardly into said grooves and adapted to retain said insulating members in assembled relation to each other, said wire clips being adapted to permit partial separation of the lower ends of said flexible contact arms and said insulating members upon cooperative engagement of said contact arms with a pair of plug jacks, and a metal dowel pin fixed to one of said insulating members and projecting from the inner surface thereof, said pin being engageable with the other insulating member to restrain the same against lateral movement while permitting movement thereof endwise of said dowel pin.

8. In an electrical appliance plug connecter, in combination, a pair of molded insulating members of like shape and dimensions, a pair of combined contact and wiring terminal units formed of stamped sheet metal parts to be interposed between said insulating members, said units each having a pair of flexible contact arms arranged in socket forming relation, said insulating members having complementary recesses the walls of which are formed to bias said contact arms toward each other upon assembly of said insulating members, each of said members having a pair of external grooves extending downwardly in converging relationship to each other to points adjacent to the lower ends of said members, and means for insuring a predetermined degree of frictional engagement between said pairs of contact

arms and plug jacks inserted therebetween, said means comprising a pair of substantially U-shaped one-piece spring metal clips each having its arms simultaneously insertable into the grooves in the respective insulating members.

9. In an electrical appliance plug connecter, in combination, a pair of molded insulating members of like shape and dimensions, a pair of combined contact and wiring terminal units to be interposed between said insulating members, said units each having a pair of flexible contact arms arranged in socket forming relation, said insulating members having complementary recesses the walls of which are formed to bias said contact arms toward each other upon assembly of said insulating members, and means for insuring a predetermined degree of frictional engagement between said pairs of contact arms and plug jacks inserted therebetween, said means comprising a pair of substantially U-shaped one-piece spring metal clips adapted to straddle said insulating members and extending inwardly and downwardly from opposite side edges thereof.

10. In an electrical appliance plug connecter, in combination, a pair of molded insulating members of like shape and dimensions, a pair of combined contact and wiring terminal units to be interposed between said insulating members, said units each having a pair of flexible contact arms arranged in socket forming relation, said insulating members having complementary recesses the walls of which are formed to press said contact arms together upon assembly of said insulating members, and common means for retaining said insulating members in assembled relationship to each other and for insuring a predetermined degree of frictional engagement between said pairs of contact arms and plug jacks inserted therebetween, said means comprising a pair of substantially U-shaped one-piece spring metal clips adapted to straddle said insulating members and extending inwardly and downwardly from opposite side edges thereof.

11. In an electrical appliance plug connecter, in combination, a pair of molded insulating members of like shape and dimensions, a pair of combined contact and wiring terminal units to be interposed between said insulating members, said units each having a pair of flexible contact arms arranged in socket forming relation, said insulating members having complementary recesses the walls of which are formed to press said contact arms toward each other upon assembly of said insulating members, and means for insuring a predetermined degree of frictional engagement between said pairs of contact arms and plug jacks inserted therebetween, said means comprising a pair of substantially U-shaped spring metal clips adapted to straddle said insulating members, the arms of the respective metal clips being formed integrally with each other and said arms extending downwardly in spaced relationship to each other upon the outer surfaces of the respective insulating members throughout the major portion of the length of the latter.

12. In an electrical appliance plug connecter, in combination, a pair of molded insulating members of like shape and dimensions, said members having inner flat faces normally adapted to engage each other throughout the length thereof, said faces being complementally recessed to accommodate therebetween a pair of combined contact and wiring terminal units, said units each comprising a pair of stamped sheet metal members secured to each other at the terminal ends thereof respectively, the forward ends of the contact portions of said members being pressed toward each other by assembly of said insulating members, said insulating members each having a pair of grooves extending inwardly and downwardly from points intermediate the length of the side edges thereof, and a pair of substantially U-shaped spring wire clips the arms of which are forcibly insertable jointly into the grooves of the respective members to retain the latter in assembled relation to each other, said wire clips yieldably resisting separation of the contact portions of said stamped sheet metal members and the lower ends of the respective insulating members as an incident to insertion of a plug jack or jacks.

13. As an article of manufacture, an internally recessed longitudinally divided insulating casing for electrical appliance connecters, the opposed sections of said casing having alined grooves formed therein and extending downwardly in spaced relationship to each other upon the outer surfaces thereof, and a pair of one-piece U-shaped spring wire clips forcibly insertable into said grooves to straddle the respective casing sections whereby the latter are retained in assembled relationship to each other.

14. As an article of manufacture, an internally recessed longitudinally divided insulating casing for electrical appliance connecters, the opposed sections of said casing having alined grooves formed therein and extending inwardly and downwardly from opposite side edges thereof, and a pair of substantially U-shaped spring wire clips forcibly insertable into said grooves to straddle the respective casing sections whereby the latter are retained in assembled relationship to each other.

15. As an article of manufacture, an internally recessed longitudinally divided insulating casing for electrical appliance connecters, the opposed sections of said casing having alined grooves formed therein and

extending inwardly and downwardly from opposite side edges thereof, a pair of substantially U-shaped spring wire clips forcibly insertable into said grooves to straddle the respective casing sections whereby the latter are retained in assembled relation to each other, and a contact of split socket form positioned between said casing sections, said spring wire clips also acting to provide a predetermined degree of pressure of said casing sections upon opposite sides of said contact.

16. An electrical appliance plug connecter comprising a longitudinally divided insulating casing, the sections of said casing having complementary recesses to accommodate therebetween a pair of socket contact and wiring terminal units formed of stamped sheet metal, said units and the walls of said recesses having loosely interlocking shoulders formed thereon to prevent substantial displacement of said units longitudinally of said casing, and a pair of one-piece U-shape spring wire assembling clips embracing said casing sections, the arms of said clips being adapted to yieldably resist separation of the lower ends of the casing sections and the free ends of the arms of the socket contacts upon engagement of the latter with a pair of contact jacks.

17. An electrical appliance plug connecter comprising, in combination, an internally recessed longitudinally divided insulating casing, the opposed sections of said casing having alined grooves formed therein and extending downwardly in spaced relationship to each other upon the outer surfaces thereof, a pair of substantially U-shaped spring metal clips forcibly insertable into said grooves to straddle the respective casing sections whereby the latter are retained in assembled relation to each other, and a pair of combined socket-form contact and wiring terminal units positioned between said casing sections, said spring metal clips also acting to provide pressure of said casing sections upon opposite sides of each of said contacts.

18. As an article of manufacture, a longitudinally divided insulating casing having a plurality of sets of complementary internal recesses, a plurality of split socket contacts accommodated by said recesses, the opposed sections of said casing having alined grooves formed therein and extending inwardly and downwardly from opposite side edges thereof, a pair of substantially U-shaped spring wire clips forcibly insertable into said grooves to straddle the respective casing sections whereby the latter are retained in assembled relation to each other and in yielding engagement with said socket contacts, said casing sections having additional alined recesses formed in the adjacent faces thereof, and a dowel pin fixed at one end within one of said last-mentioned recesses, the other end of said dowel pin having a loose fit within the other of said last-mentioned recesses.

19. As an article of manufacture, an assembly clip for longitudinally divided molded insulating casings for electrical appliance connecters, said clip consisting of a spring wire having parallel flat sides and the same being bent in planes at right angles to said flat sides to substantially U-shape, the arms of said clip each being of substantially twice the length of the connecting portion and the same being angled toward each other from said connecting portion, and the adjacent straight edges of the free ends of said arms being beveled to facilitate cooperative engagement thereof with the casing sections.

20. An electrical appliance plug connecter comprising a longitudinally divided insulating casing, the sections of said casing having complementary recesses, a pair of sheet metal socket contact and wiring terminal units located between said sections and accommodated by said recesses, said units and the walls of said recesses having loosely interlocking shoulders formed thereon to prevent substantial displacement of said units longitudinally of said casing, a pair of one-piece spring wire assembling clips embracing said casing sections and extending inwardly and downwardly from opposite side edges thereof, the arms of said clips being adapted to yield to permit separation of the lower ends of said casing sections and the free ends of the arms of the socket contacts upon engagement of the latter with a pair of contact jacks, and said casing sections when so separated providing a multiplicity of paths for convection currents of cooling air whereby the transmission of heat from said contact jacks to the connecter parts is minimized.

21. An electrical appliance plug connecter comprising a longitudinally divided insulating casing, the sections of said casing having complementary recesses, a pair of sheet metal socket contact and wiring terminal units located between said sections and accommodated by said recesses, said units and the walls of said recesses having loosely interlocking shoulders formed thereon to prevent substantial displacement of said units longitudinally of said casing, a pair of one-piece spring wire assembling clips embracing said casing sections and extending inwardly and downwardly from opposite side edges thereof, the arms of said clips being adapted to yield to permit separation of the lower ends of said casing sections and the free ends of the arms of the socket contacts upon engagement of the latter with a pair of contact jacks, said casing sections when so separated providing a multiplicity of paths for convection currents of cooling air whereby

the transmission of heat from said contact jacks to the connecter parts is minimized, and means comprising a member fixed to one of said casing sections and loosely interengaging the other of the same to prevent substantial relative lateral movement of said casing sections while permitting separation thereof for the purpose set forth.

22. An electrical connecter comprising a divided block of insulation, the complementary parts whereof are molded and have complementary recesses to receive feed wires and contact clips and to afford entrance openings to said clips, spring clamping members exteriorly engaging said block parts to press the same together and contacts confined within the recesses provided therefor in said block, each of said contacts comprising contact parts respectively fitting within complementary recesses in said block parts and further comprising a wiring terminal common to said contact parts and comprising integral extensions of said contact parts, said contacts being formed of material permitting spreading of the contact parts thereof with consequent spreading of said block parts by engagement of said contacts with plug jacks and contraction of said contacts by the pressure of said block parts upon disengagement of said contacts from the plug jacks, whereby said contacts while in engagement with the plug jacks grip the latter under pressure provided by said block clamping members.

23. An electrical connecter comprising a split block of insulation, the complementary members of which are molded and have their adjacent faces provided with complementary recesses to receive contacts and feed wires and to provide plug jack openings, contacts confined within said recesses in said block, each of said contacts having relatively movable conducting parts respectively fitting within complementary recesses of said block members and having a wiring terminal common to said conducting parts, the latter being integral extensions of the wiring terminal, and spring clips exteriorly engaging said block members to press the same together and to subject the conducting parts of said contacts to pressure upon spreading thereof and consequent spreading of said block members by insertion of plug jacks.

In witness whereof, I have hereunto subscribed my name,

GEORGE J. MEUER.