

C. W. FINLEY.
ELECTRICAL WIRING CONNECTOR.
APPLICATION FILED APR. 13, 1918.

1,291,460.

Patented Jan. 14, 1919.

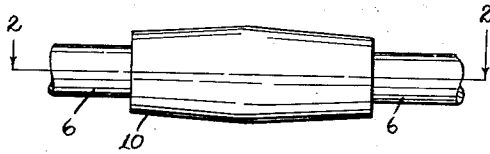


Fig. I

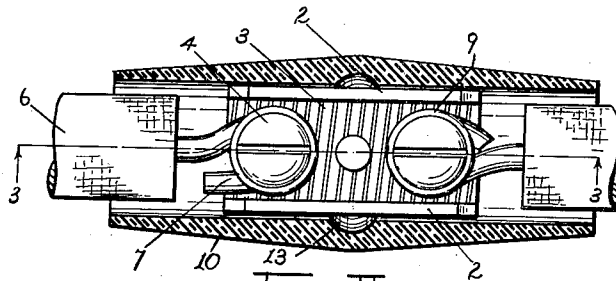


Fig. II

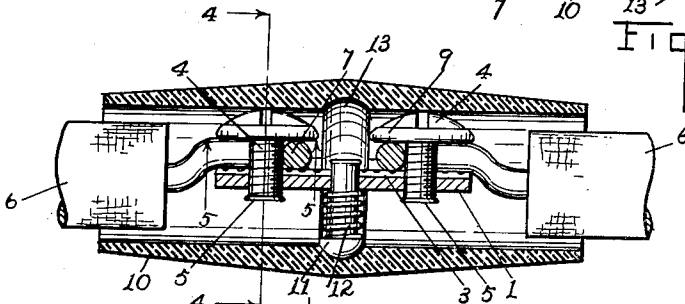


Fig. III

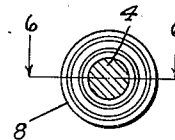


Fig. V

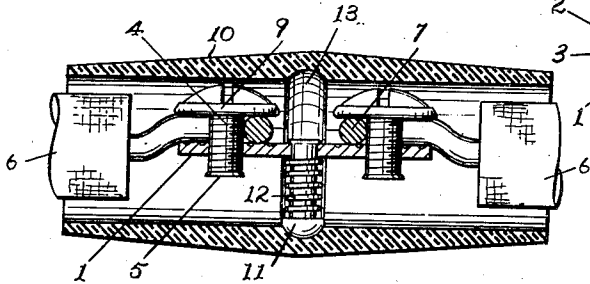


Fig. VII

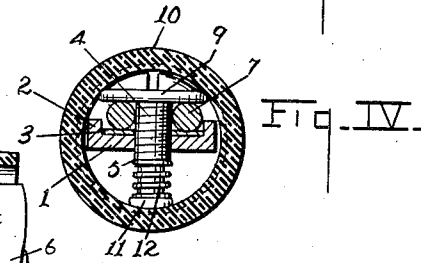


Fig. IV

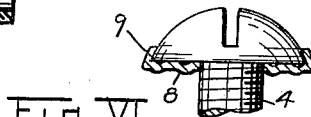


Fig. VI

Witnesses

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ELECTRICAL-WIRING CONNECTOR.

1,291,460.

Specification of Letters Patent. Patented Jan. 14, 1919.

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To all whom it may concern:

Be it known that I, CHARLES W. FINLEY, a citizen of the United States, residing at Battle Creek, county of Calhoun, State of Michigan, have invented certain new and useful Improvements in Electrical-Wiring Connectors, of which the following is a specification.

This invention relates to improvements in electrical wiring connectors.

The main objects of this invention are:

First, to provide an improved connector which is easily and quickly applied and is very secure.

Second, to provide an improved connector which is effectively housed or covered without the aid of insulating tape or the like.

Third, to provide an improved connector which is simple in structure and at the same time strong and durable.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is an elevation of a connector embodying the features of my invention, the circuit wires being shown conventionally.

Fig. II is a plan view of my improved connector, the housing being shown in longitudinal section.

Fig. III is a detail view partially in longitudinal section on a line corresponding to line 3—3 of Fig. II.

Fig. IV is a transverse section on a line corresponding to line 4—4 of Fig. III.

Fig. V is a detail section through one of the binding screws on a line corresponding to line 5—5 of Fig. III.

Fig. VI is an enlarged detail section on a line corresponding to line 6—6 of Fig. V.

Fig. VII is a detail longitudinal section corresponding to that of Fig. III of a slightly modified structure, the conductor plate being omitted, the base of the connec-

tor being formed of suitable material to serve the purpose of the conductor plate.

In the drawing, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, the base plate 1 is preferably a stamping and provided with upturned flanges 2 on its longitudinal edges. The conductor plate 3 is formed of brass or other suitable conducting material and is preferably transversely corrugated as shown in Fig. II.

The binding posts 4 are arranged through the conductor plate and threaded into the base plate, the ends of the screws being upturned at 5 so that they are not likely to be accidentally lost after having been assembled.

The circuit wires 6 are shown conventionally and are provided with loops 7 as is usual practice in making connections, the loops being engaged with the binding posts. The binding posts are provided with clamping washers 8. The edges of the washers are spun over the heads of the screws at 9, providing swivel connections for the washers to the screws. This has the advantage of supporting the washers so that the wires to be connected may be readily engaged between the flanges of the base plate and the washers on the screws, and, further, this swivel connection allows the screws to turn without turning the washers which would tend to distort or disengage the loops 7. The washers are preferably concentrically corrugated as shown in Fig. V. By this arrangement of parts the connections may be very quickly made and, further, the connector is simple and economical to produce.

I preferably provide a tubular housing or covering 10 of insulating material of such dimensions as to receive and inclose the connector and the ends of the connected wires, as shown in Fig. III.

To removably retain this covering I provide a spring pressed pin 11 disposed centrally through the base plate and oppositely to the binding screws and urged yieldingly outward by means of the coiled spring 12

thereon. The covering has an internal annular central groove 13 adapted to coact with this spring-pressed pin so that when the covering is shoved longitudinally over the connector the spring pin snaps into the groove, thus retaining the covering in position. At the same time it may be easily slipped off as occasion requires.

I have not attempted to illustrate or describe certain other modifications in structural details which I contemplate, as I believe the disclosure made will enable those skilled in the art to which my invention relates to embody or adapt my improvements as may be desired.

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

1. In a structure of the class described, the combination of a connector base, binding screws threaded into said base, a spring-pressed pin slidably arranged through said base between and oppositely to said binding screws, a coiled spring arranged on said pin, and a cover adapted to receive said base and its binding screws and having an internal recess adapted to receive said pin, whereby said cover is removably retained.

2. In a structure of the class described, the combination of a connector base having coupling means thereon, a centrally disposed spring-pressed pin on said base, and a tubular insulating cover adapted to receive said base and the coupling means thereon and having means therein for removably engaging said pin.

3. In a structure of the class described, the combination of a connector base, binding screws carried thereby, a yielding cover retaining member disposed oppositely to said binding screws, and a cover adapted to receive said base and its binding screws and having an engaging portion coacting with said retaining member whereby said cover is removably retained.

4. In a structure of the class described, the combination of a connector base having coupling means thereon and a yielding cover engaging member, and a tubular insulating cover adapted to receive said base and the coupling means thereon and having means therein coacting with said engaging member.

5. In a device of the class described, the combination of a connector base having a spring actuated cover retaining means thereon, and a tubular insulating cover having an internal annular groove therein coacting with said retaining means.

6. In a device of the class described, the combination of a connector base having a yielding cover retaining means thereon, and a tubular insulating cover having internal means coacting with said retaining means.

7. In a device of the class described, the combination with the connector base having a yielding covering engaging member thereon, and a tubular insulating covering having means therein removably engaging said retaining means.

8. In a structure of the class described, the combination of a connector base having upturned flanges on its longitudinal edges, a transversely corrugated conductor plate disposed between the flanges of said base, binding screws disposed through said plate and threaded into said base from the upper side thereon, the ends of said screws being upset preventing their removal, and clamping washers having their edges spun over the screw heads providing swivel connections for the washers to the screws so that the washers are normally supported in an elevated position above the conductor plate facilitating the engagement of the conductor wires under the washers.

9. In a structure of the class described, the combination of a connector base, binding screws threaded into said base, and clamping washers having their edges spun over the screw heads providing swivel connections for the washers to the screws so that the washers are normally supported in an elevated position above the conductor plate facilitating the engagement of the conductor wires under the washers.

10. In a structure of the class described, the combination of a connector base having upturned flanges on its longitudinal edges, a transversely corrugated conductor plate disposed between the flanges of said base, binding screws disposed through said plate and threaded into said base from the upper side thereof, and clamping washers swiveled upon said screws so that they are normally supported in an elevated position above the conductor plate facilitating the engagement of the conductor wires between the base plate flanges and below said washers.

11. In a structure of the class described, the combination of a connector base having upturned flanges on its longitudinal edges, binding screws threaded into said base, and clamping washers swiveled upon said screws so that they are normally supported in an elevated position facilitating the engagement of the conductor wires between the base plate flanges and below said washers.

12. In a structure of the class described, the combination of a connector base, binding screws threaded into said base, and clamping washers swiveled upon said screws so that they are normally supported in an elevated position facilitating the engagement of the conductor wires below said washers.

13. In a structure of the class described,

the combination of a connector base having
upturned flanges on its longitudinal edges,
a transversely corrugated conductor plate
disposed between the flanges of said base,
5 and binding screws disposed through said
plate and threaded into said base from the
upper side thereof.

In witness whereof I have hereunto set
my hand and seal in the presence of two wit-
nesses.

CHARLES W. FINLEY. [L. S.]

Witnesses:

LORELL N. CURTIS,
AMBER BARNHART.