March 5, 1935. E. V. HOFFMANN ET AL 1,993,100

ELECTRICAL CONNECTER

Filed March 2, 1931

Fig. 1

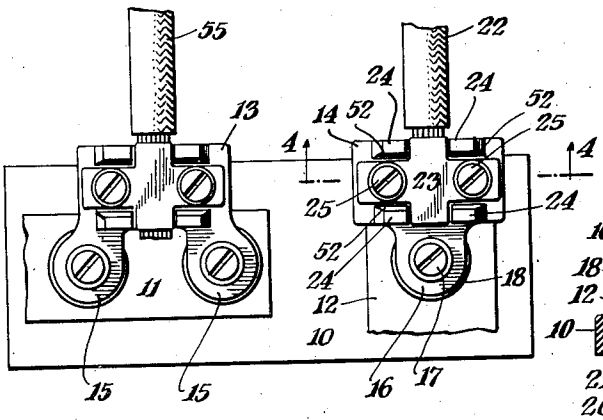


Fig. 3

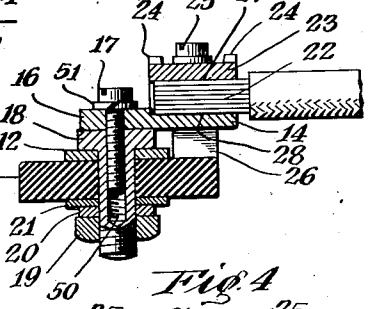


Fig. 2

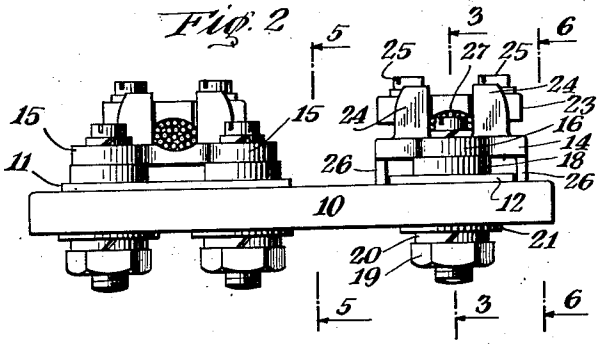


Fig. 4

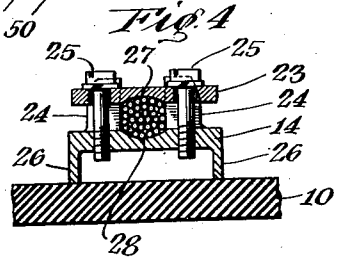


Fig. 5

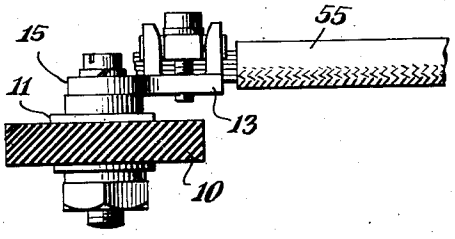
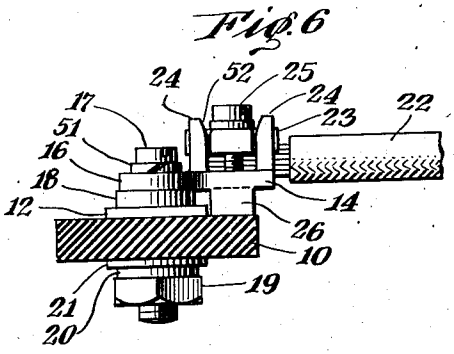


Fig. 6



Inventors
Ernest V. Hoffmann
James E. Soona
By his Attorneys
Austin & Dix

Patented Mar. 5, 1935 1,993,100

UNITED STATES PATENT OFFICE

1,993,100

ELECTRICAL CONNECTER

Ernest V. Hoffmann, St. Albans, and James E. Soons, Yonkers, N. Y., assignors to Hoffmann-Soons Electrical & Engineering Corporation, New York, N. Y., a corporation of New York

Application March 2, 1931, Serial No. 519,387

1 Claim. (Cl. 173—269)

The invention relates to connecters such as are used for connecting electrical conductors.

An object of the invention is to provide a connecter of large contacting area which is suitable for carrying heavy currents.

Another object of the invention is to provide a connecter which is easy to assemble and take down.

Another object of the invention is to provide a connecter which is inexpensive to make and yet efficient in use and of rugged construction.

Other objects will be apparent from the following description and claim when considered with the accompanying drawing, in which:

Fig. 1 represents a base having two types of connecters secured thereto;

Fig. 2 is a front elevation of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a section on the line 4—4 of Fig. 1; and

Figs. 5 and 6 are sections on the lines 5—5 and 6—6, respectively, of Fig. 2.

In the following description and in the claim, various details will be identified by specific names for convenience, but they are intended to be as generic in their application as the art will permit.

Like reference characters denote like parts in the several figures of the drawing.

In the drawing accompanying and forming part of this specification, certain specific disclosures of the invention are made for purposes of explanation, but it will be understood that the details may be modified in various respects without departure from the broad aspect of the invention.

Referring now to the drawing, an insulating base for supporting the connecters is indicated by 10. Secured to the insulating base are two types of connecter, one having a double lug and the other having a single lug, as indicated. The single lug connecter will first be described.

Secured to the insulating base is a metal plate 12 which may be in fact a bus bar running to the electrical apparatus to which it is desired to connect the conductor 22.

The bus bar 12 is secured to the insulating base 10 by a headed bolt 18 which passes through both bus bar and base. A suitable nut 19 is threaded on the shank of bolt 18 and a suitable washer 21 and lock washer 20 are interposed between the base 10 and nut 19.

The bolt 18 is provided with a threaded recess 50 in which is threaded a bolt indicated by 17. The bolt 17 passes through the single lug 16 of the connecter plate 14 and a suitable lock washer 51 may be placed between the head of bolt 17 and the lug 16.

The connecter plate 14 is provided with four rectangularly arranged guide posts 24 having the inner surfaces indicated by 52 flaring for a purpose hereinafter described more in detail. Fitting between the guide posts 24 is a cross shaped plate 23 through which bolts 25 pass, these bolts being threaded into connecter plate 14. Suitable lock washers may be provided for locking these bolts.

The cross plate 23 is provided with a grooved seat 27 and the connecter plate 14 is provided with a grooved seat 28 between which rests the conductor 22. This conductor may be either of the solid or stranded type, the latter being shown for purposes of illustration.

To prevent the connecter plate 14 from turning about the bolt 17 a pair of lugs or feet 26 may be provided which rest upon the insulating base 10 and against the bus bar 12, as indicated. It will be noted that the bus bar 12, which has a straight edge, constitutes a non-circular part against which the feet 26 may abut to prevent rotation of the connecter plate 14. In fact, any type of structure which would prevent the rotation of feet 26 would form a non-circular part of the bus bar.

It will be seen that, when all the screw threaded members shown are tightly drawn, a connecter is provided of large contacting area which will efficiently conduct currents of large value such as are used to supply the electrodes of motion picture machines. The guide posts 24 are arranged so that, when the cross plate 23 is removed, the bared end of the conductor 22 may easily be placed in position and the flaring surfaces 52 assist in easily positioning the cross plate 23 so that the conductor 22 may be securely clamped by the bolts 25. The construction of the connecter is such that any given size connecter can connect conductors greatly varying in size and yet make a good electrical and mechanical connection.

Referring now to the double lug connecter, this connecter is similar to the single lug connecter described above except that the connecter plate, indicated by 13, is provided with a pair of lugs, indicated by 15, instead of a single lug. These lugs are secured to the base 10 and form electrical contact with a bus bar or other conductor, indicated by 11, in the same manner as described above in connection with the single lug connecter. Furthermore, the conductor, indicated by 55, is secured to the connecter plate 13

in the same manner as conductor 22 above described. It will be appreciated that no lugs or feet 26 are provided in this modification since the two lugs 15 prevent turning of the connecter.

It is thought that the use of these connecters will be apparent from the description given above. They are capable of general application but they have been found to be most advantageous when used for carrying heavy currents in connection with motion picture machines where connecters of large contact area and which can be set up and taken apart very easily are most desirable.

While certain novel features of the invention have been disclosed and are pointed out in the annexed claim, it will be understood that various omissions, substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

In a connecter for carrying heavy currents, a connecter plate having four rectangularly arranged guide posts, a cross shaped clamping plate having arms fitting between adjacent guide posts, said plates having parallel opposing grooves extending between opposite pairs of guide posts, fastening screws passing through said clamping plate on opposite sides of said grooves into said base plate, a lug connected to said base plate in line with said grooves, a binding post passing through a bus bar having a non-circular part, a single screw passing through said lug into said post and feet depending from said connecter plate engaging said non-circular part to prevent turning of the connecter plate.

ERNEST V. HOFFMANN.
JAMES E. SOONS.