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RIGID STUD COMPRESSION CONNECTER

Filed Dec. 13, 1928

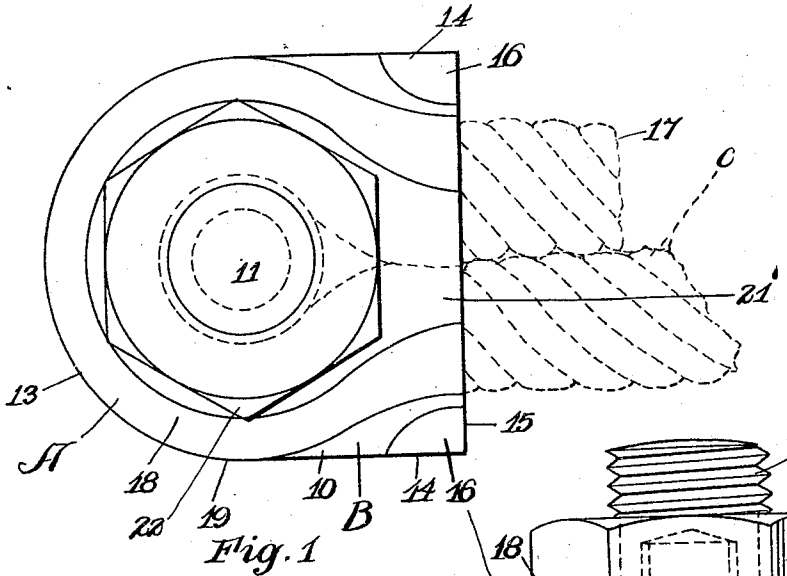


Fig. 1

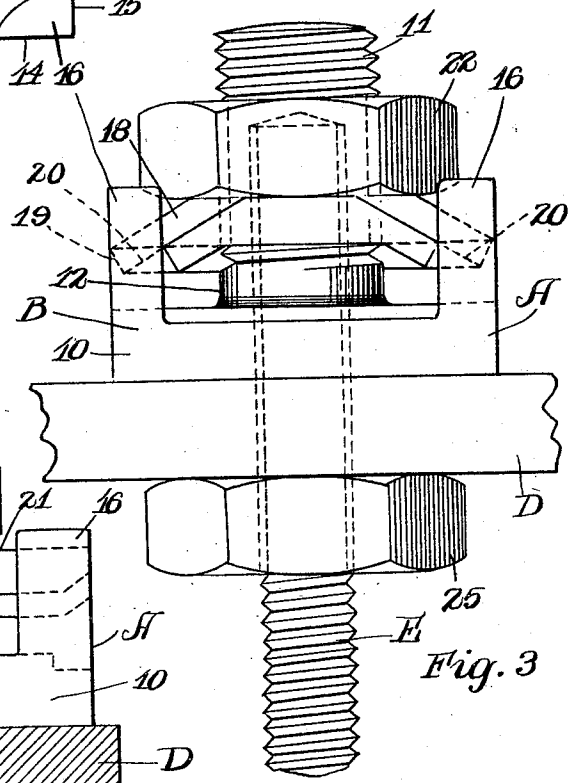


Fig. 3

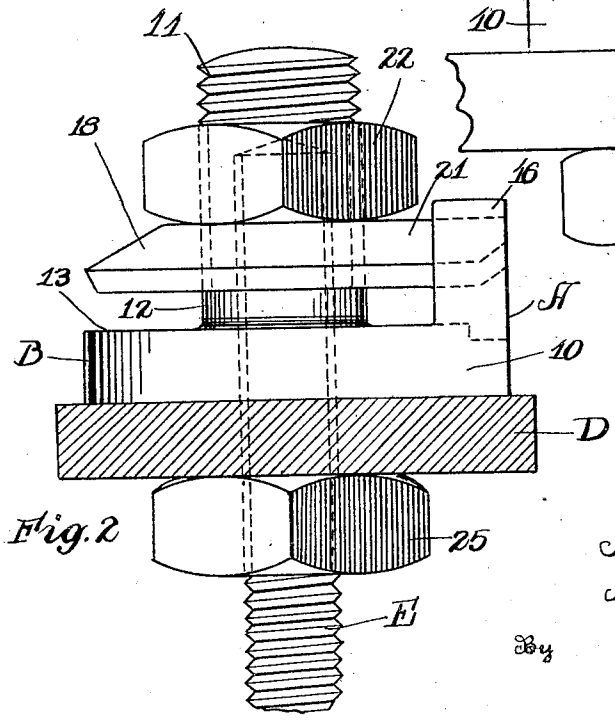


Fig. 2

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UNITED STATES PATENT OFFICE

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RIGID STUD COMPRESSION CONNECTER

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Our invention relates to a rigid stud compression connecter designed to provide a sturdy, strong and full contacting connecter which provides means so that a connection may be made at the end of a wire cable or conductor cable to insure a full and substantial contact by the connecter.

It is a feature of our invention to provide a light, easily installed connecter for connecting copper cables or wires to equipment studs. The connecter is designed with a base member in which a recess is formed and threaded to receive the equipment stud.

It is also a feature of our connecter to provide a simple designed member which forms the base having a substantial formation with two guide lugs projecting from one side of the same upwardly toward the top of the connecter. The base plate of the compressor connecter is formed with a heavy substantially constructed upwardly projecting screw member or threaded bolt, which is adapted to receive the compressor plate over the same. The compressor plate is formed in a manner to provide an inwardly converging surface so that when the compressor plate is placed over the threaded bolt and a nut is drawn down on the threaded bolt against the compressor plate, the inwardly slanting surface of the compressor plate causes the copper cable being connected to the bolt and connecter to be compressed toward the bolt. Thus the loop of the cable instead of being spread away from the bolt is drawn toward the bolt to make a substantial connection.

Projecting from the base, the guide lugs which we have set forth, guide the end of the cable as it is laid around the attaching bolt with the cable extending between the guide lugs.

It is a feature to provide the compression plate with a projecting lip on one side of the same which extends between the guide lugs and thus forms a means of passing over the end of the cable which projects outside of the guide lugs and also over the extending portion of the cable to hold the same firmly between the lugs. This guiding lip also holds the compressor plate against rotation when the operating nut is screwed down against the same. The compression plate is formed with a concaved inner surface so as to fit over the sides of the cable and compress it closely around the attaching bolt. By compressing the cable closely around the attaching bolt a good and substantial electrical contact is made.

The connection of the compressor connecter to the rigid stud is so designed that the recess for receiving the stud extends up into the attaching bolt around which the compressor plate presses the copper cable, making the electrical connection with our connecter. This provides a compact connecter wherein the parts come closely together, a feature which is desirable in electrical connecters of this nature.

These features together with other details and objects will be more fully and clearly set forth in the specification and claims.

In the drawing:

Figure 1 is a plan view of our rigid stud compressor connecter, showing the connection with a copper electrical cable in dotted outline.

Figure 2 is a side view of the compressor connecter.

Figure 3 is a front view looking toward the guide lugs.

In the drawing our compression connecter A is provided with a base portion B of a substantial, strong nature. The base is provided with a horizontally disposed base plate 10 from which projects the threaded attaching bolt 11. This threaded bolt 11 is formed integral at the base plate 10 and has a lower non-threaded smooth portion 12 about which the connecting cable is wound.

The base plate 10 is semi-circular on one side at 13 and the other side of the same extends with parallel sides 14 to form the squared end 15 which projects at substantially right angles to the side 14. In this manner a square projection is formed on the plate 10. Projecting upwardly from the corners of this projecting portion of the plate 10, we provide guide lugs 16 which are formed integral with the base B or plate portion 10.

When the cable, such as is illustrated in

Figure 1 in dotted outline to show a cable C, is wound about the smooth surface 12 of the attaching bolt 11, the cable C extends so as to be positioned between the guide lugs 16, and the end 17 of the cable is extended out in front of the edge 15. In this manner the guide lugs 16 serve to hold the cable wound tightly about the attaching bolt 11.

We provide a compressor plate for our rigid stud compressor connecter A such as the plate 18, which is formed with a central opening so that it will slide freely over the bolt 11. This compressor plate 18 has a concaved inner surface which extends inwardly from the outer periphery 19 of the plate 18, as illustrated by the dotted lines 20 so that the concave of the inner surface of the plate 18 is similar to the outer slanting surface of the top of the plate, as illustrated in Figures 2 and 3. This plate may be formed by first stamping it out of a flat sheet and pressing it so that the sides will slant or bevel from the center toward the outside and thus form a concaved inner surface which is adapted to engage over the cable, such as C, when the same is wrapped about the bolt 11.

The compressor plate 18 is formed with a projecting lip 21 which extends between the guide lugs 16. This lip holds the plate 18 from turning when the nut 22 which is threaded on the bolt 11 is brought down against the plate 18. The nut 22 clamps the compressor plate 18 down rigidly and tightly against the cable C, causing the cable to be forced toward the bolt 11 to provide a means of compressing the cable tightly against the bolt and thereby forming a very substantial electrical connection.

The base plate B is formed comparatively flat on its under side so as to be connected to a plate or bar, such as D, and by means of a threaded recess which extends up through the plate 10 and into the bolt 11, the equipment stud E can be attached to the connecter A. By suitable nuts 25 the equipment stud E can be locked rigidly connected to the connecter A and clamping the connecter A to the bar D.

The compact simple construction of our rigid stud compression connecter is of primary importance. The internal design of the parts and the compression plate which causes the cable to be squeezed tightly around the connecter or rigid stud 11 provides a means of electrical connection wherein a good and substantial contact is maintained by the connecter.

In accordance with the patent statutes we have described the principles of our connecter and while we have illustrated a particular design we desire to have it understood that the same may be varied within the scope of the following claims without departing from the spirit of our invention.

We claim:

1. A rigid stud compressor connecter including, a base plate, a threaded rigid stud integrally projecting from said plate, one side of said plate being squared, a pair of guide lugs projecting from the corners of said squared side, a concaved compressor plate adapted to freely slide over said rigid stud, a nut for tightening said compressor plate, and a recess extending into said base plate and rigid stud for an equipment stud connection.

2. An electrical connecter including, a base, a semi-cylindrical side on said plate, a squared projecting oppositely disposed side on said plate, guide lugs projecting upwardly from said squared portion, a compressor plate, a rigid stud integrally projecting from said base plate over which said compressor plate is adapted to fit, a guide lip formed on said compressor plate adapted to extend between said guide lugs, and a nut threaded to said rigid stud to operate said compressor plate to cause a cable to be compressed closely about said rigid stud and against said base plate.

3. A rigid stud compression connecter including, a base plate, a semi-circular side on said plate, a squared right-angularly projecting side oppositely disposed from said first side, side lugs projecting upwardly from said right-angular projecting portion, a rigid threaded stud projecting centrally from said base portion, a compression plate having a guide lip adapted to slide between said guide lugs, and a nut threaded to said rigid stud to cause said compressor plate to compress a connecter electrical cable against said stud when extended in the loop around the same and extending between said guide lugs.

4. A rigid stud compression connecter comprising, a horizontally disposed base plate, guide lugs projecting upwardly from one side of said base plate, a rigid stud integrally formed projecting centrally from said base plate having a threaded formation, a threaded recess extending through said base plate into said rigid stud, a compressor plate having a curved concaved inner surface and an opening for said rigid stud and adapted to slideably fit over the same, and a nut for engaging said rigid stud to cause said compressor plate to squeeze an electrical cable tightly about said stud when said compressor plate is forced down toward said base by said nut.

5. A connecter for electrical cables comprising, a heavy, broad base plate, a rigid integral stud projecting upwardly from said base plate having an outer threaded formation, a compression plate adapted to slideably fit over said stud, a nut for operating said compression plate into operative position toward said base plate to clamp an electrical cable between said base plate and compressor plate, as said compression plate is forced toward said base plate, means on said compression plate for wedging the cable in-

wardly, and means in said base plate co-operating with said compression plate to guide said compression plate and to form a guide and shoulder for an electric cable wound about said rigid stud to hold the end of the cable closely around said stud and between said guiding means.

6. A rigid stud compression connecter including, a broad, flat base plate, an integrally formed upwardly projecting threaded connecter stud, a compression plate adapted to freely slide over said connecter stud, a nut for locking said compression plate over a cable to connect and compress the same about said rigid stud, means on said compression plate for wedging said cable against said stud as the same is urged downwardly by said nut, means formed on said base plate and compressor plate co-operating with the side to prevent rotation of said compressor plate, and means for connecting said connecter and said base plate to an equipment stud and bar.

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