April 10, 1934. H. J. L. FRANK 1,954,587

CONNECTER

Filed Aug. 19, 1933

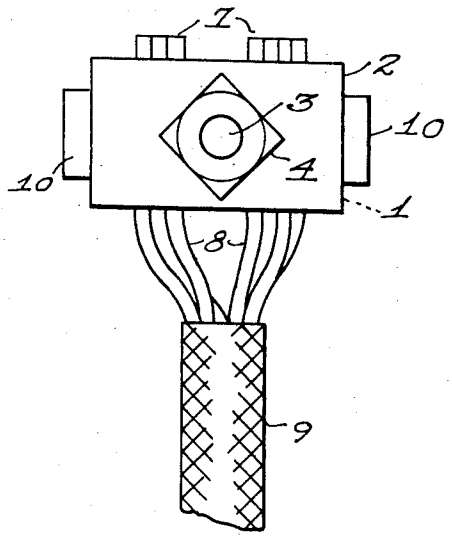


Fig. 1.

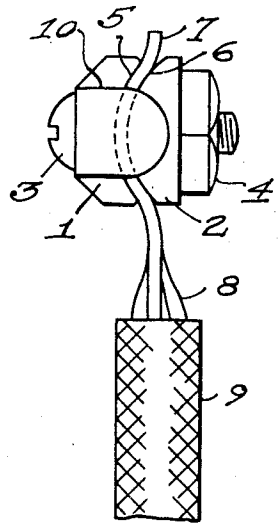


Fig. 2.

INVENTOR.
Harrison J. L. Frank
BY
Daniel G. Gullen
ATTORNEY.

Patented Apr. 10, 1934 1,954,587

UNITED STATES PATENT OFFICE

1,954,587

CONNECTER

Harrison J. L. Frank, Detroit, Mich., assignor to Bulldog Electric Products Company, Detroit, Mich., a corporation of West Virginia

Application August 19, 1933, Serial No. 685,818

6 Claims. (Cl. 173—263)

This invention relates to connecter means, particularly for multistrand cables.

The principal object is to provide a connecter means which is so formed that it will interlock cable strands thereto and simultaneously will insure direct and intimate electrical connection between each and every strand of the cable and one or the other of the clamping surfaces of the connecter means, all without the use of solder or other solidified fluid bonding means.

In one embodiment of the invention, the strands are fanned out in a single row and are distorted for interlocking purposes and clamped between the contact blocks of a contact block type connecter. It is proposed to so construct the connecter means that the bared ends of the conductors will automatically be distorted after they have been inserted straight.

An embodiment of the invention of this application has been disclosed in the appended drawing. In this drawing,

Fig. 1 is a top plan view of a contact block type connecter wherein the strand ends are fanned out in a single row;

Fig. 2 is an end view thereof.

Figs. 1 and 2 show a contact block connecter including copper contact blocks or parts 1 and 2, traversed by a clamping screw bolt 3 provided with a nut 4. The clamping surfaces 5 and 6 of the blocks are grooved and ribbed, concave and convex, respectively, to distort the fanned-out ends 7 of the strands 8 of the cable 9, these ends being fanned out in a single row before they are disposed between the surfaces 5 and 6 and distorted by the movement of the blocks towards each other, so that they are interlocked to the surfaces.

Wings 10 are provided at the ends of the block 1 to restrain relative sidewise movement of the connecter parts and the strand ends. It will be seen that the connecter means shown insures copper-to-copper clamped contact between every one of the strand ends and the clamping surfaces, all without the use of solder.

Now having described a preferred embodiment of the invention, reference will be had to the following claims which determine the scope of the invention.

What I claim is:

1. In an electrical cable connection, the combination of a circular electrical cable having a plurality of conductor strands arranged in a circle and in a plurality of rows and covered with insulation, a portion of the cable being bare of insulation, conductor strands at that portion being fanned out in a single row, with no strands crossing one another, a pair of contact parts of electrically conducting material between which is disposed the single row of strands, a bolt passing through the parts and adjustable to force them towards each other, the parts engaging the strands individually and with a uniformly distributed clamping and contacting pressure, with the strands between the parts straddling the bolt, the single row of bared strands projecting from the space between the parts in a plane substantially transverse to the direction of relative movement of the parts, the parts having mating concavo-convex surfaces for distorting every one of the single row of bared strands in the direction of relative movement of the parts, the strands projecting from the space between the parts in a direction transverse to the axes of curvature of the concavo-convex surfaces.

2. In an electrical cable connection, the combination of a circular electrical cable having a plurality of conductor strands of substantial rigidity and cross section greater than the rigidity and cross section of filaments or hairs, the strands being arranged in a circle in a cable and in a plurality of rows and being covered with insulation, a portion of the cable being bare of insulation, the conductor strands at that portion being fanned out in a single row, with no strands crossing one another, a pair of rigid contact blocks incapable of deflection, and formed of electrically conducting material, the single row of strands being disposed between the blocks, a bolt passing through the blocks and adjustable to force them towards each other without deflecting the blocks, the blocks engaging the strands individually and with a uniformly distributed contacting pressure thereon, with the strands between the blocks straddling the bolt, a single row of bared strands projecting from the space between the blocks in a plane substantially transverse to the direction of relative movement of the blocks, the blocks having a single pair of mating concavo-convex surfaces for providing a single kink or distortion in every one of the single row of bared strands, the distortion being in the direction of relative movements of the blocks, the strands projecting from the space between the blocks in a direction transverse to the axes of curvature of the concavo-convex surfaces.

3. In an electrical cable connection, the combination of a circular electrical cable having a plurality of conductor strands of substantial rigidity and cross section greater than the rigidity

and cross section of filaments or hairs, the strands being arranged in a circle in a cable and in a plurality of rows and being covered with insulation, a portion of the cable being bare of insulation, the conductor strands at that portion being fanned out in a single row, with no strands crossing one another, a pair of rigid contact blocks incapable of deflection, and formed of electrically conducting material, the single row of strands being disposed between the blocks, a bolt passing through the blocks and adjustable to force them towards each other without deflecting the blocks, the blocks engaging the strands individually and with a uniformly distributed contacting pressure thereon, with the strands between the blocks straddling the bolt, a single row of bared strands projecting from the space between the blocks in a plane substantially transverse to the direction of relative movement of the blocks, the blocks having a single pair of mating concavo-convex surfaces for providing a single kink or distortion in every one of the single row of bared strands, the distortion being in the direction of relative movements of the blocks, the strands projecting from the space between the blocks in a direction transverse to the axes of curvature of the concavo-convex surfaces and means for preventing movement of the strands from the space between the blocks in a direction perpendicular to the axis of the cable.

4. In an electrical cable connection, the combination of a pair of clamping parts, at least one of which is of electrically conducting material, and a circular electrical cable having a plurality of conductor strands arranged in a circle and in a plurality of rows and covered with insulation, a portion of the cable being bare of insulation, conductor strands at that portion being fanned out in a single row and disposed between the clamping parts with no strands between the parts crossing one another, a bolt passing through the parts and adjustable to force them towards each other, the parts engaging the strands individually and with a uniformly distributed clamping and contacting pressure, with the strands between the parts straddling the bolt, the single row of bared strands projecting from the space between the parts in a plane substantially transverse to the direction of relative movement of the parts, the parts having mating concavo-convex surfaces for distorting everyone of the single row of strands in the direction of relative movement of the parts, the strands projecting from the space between the parts in a direction transverse to the axes of curvature of the concavo-convex surfaces.

5. A construction of the character specified in claim 4 provided with means for preventing movement of the strands from the space between the clamping parts in a direction perpendicular to the axis of the cable.

6. A construction of the character specified in claim 1 provided with means for preventing movement of the strands from the space between the clamping parts in a direction perpendicular to the axis of the cable.

HARRISON J. L. FRANK.