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3,354,517

COMPRESSIBLE CONNECTOR

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FIG. 1

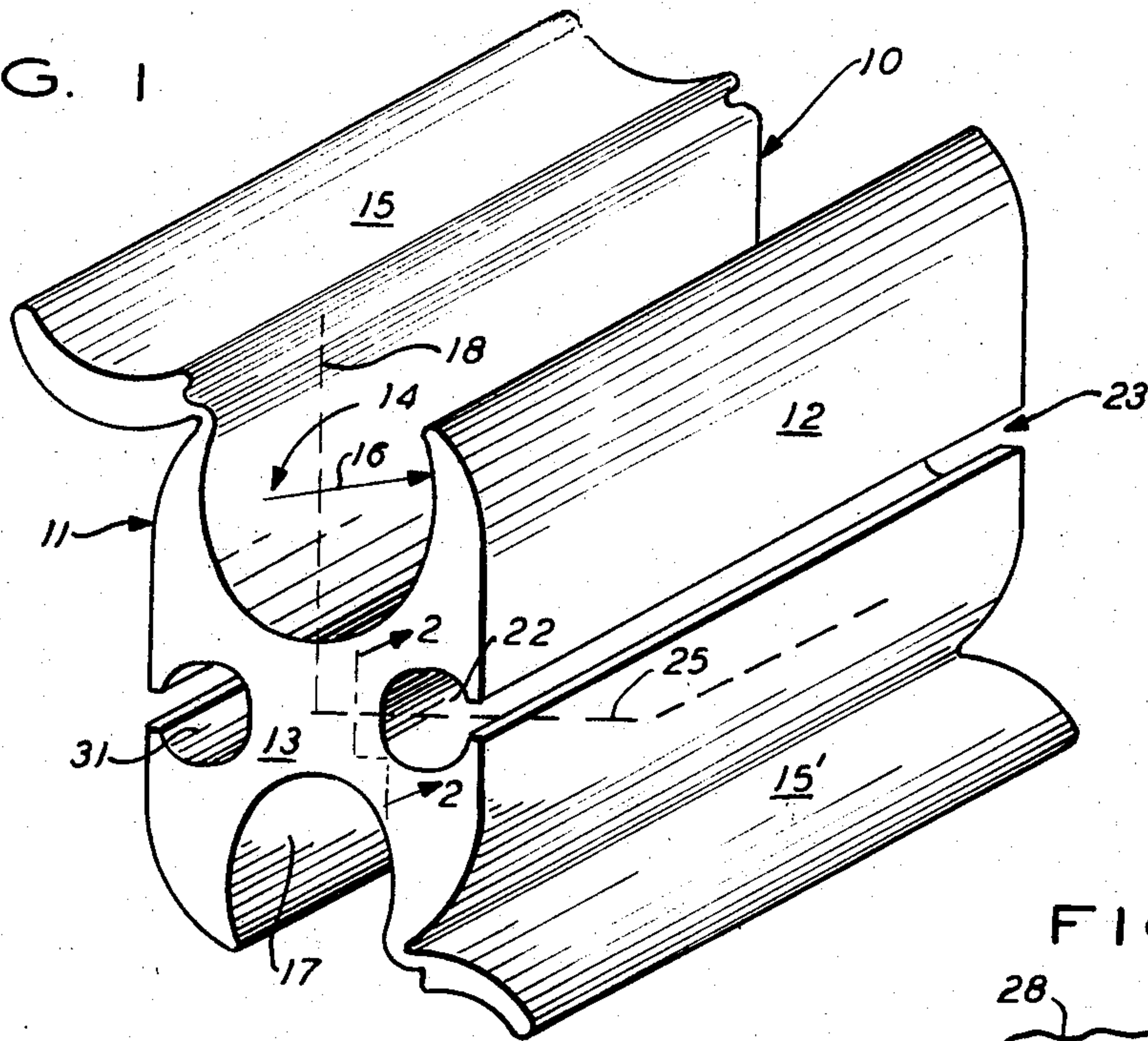


FIG. 2

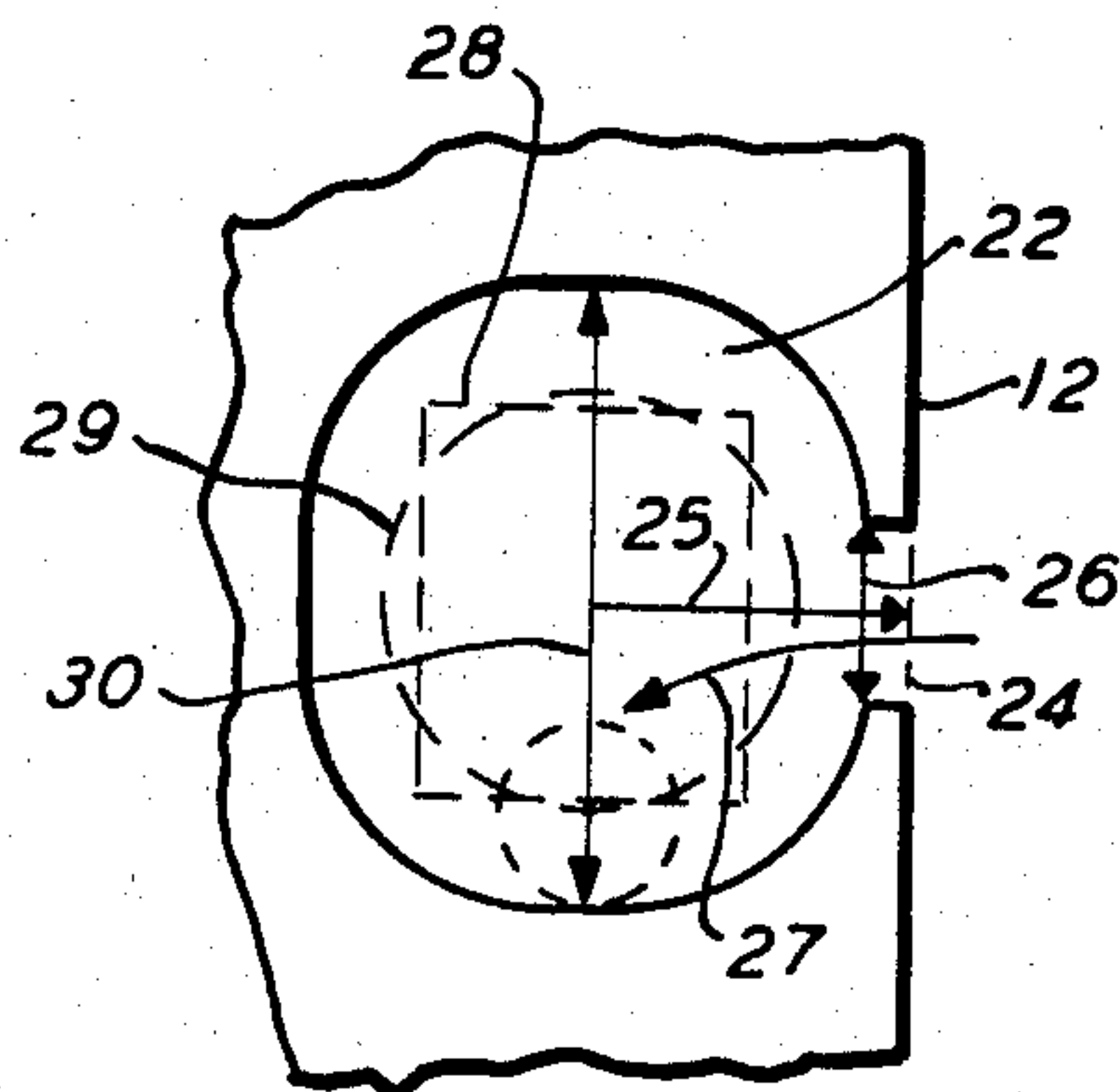


FIG. 3

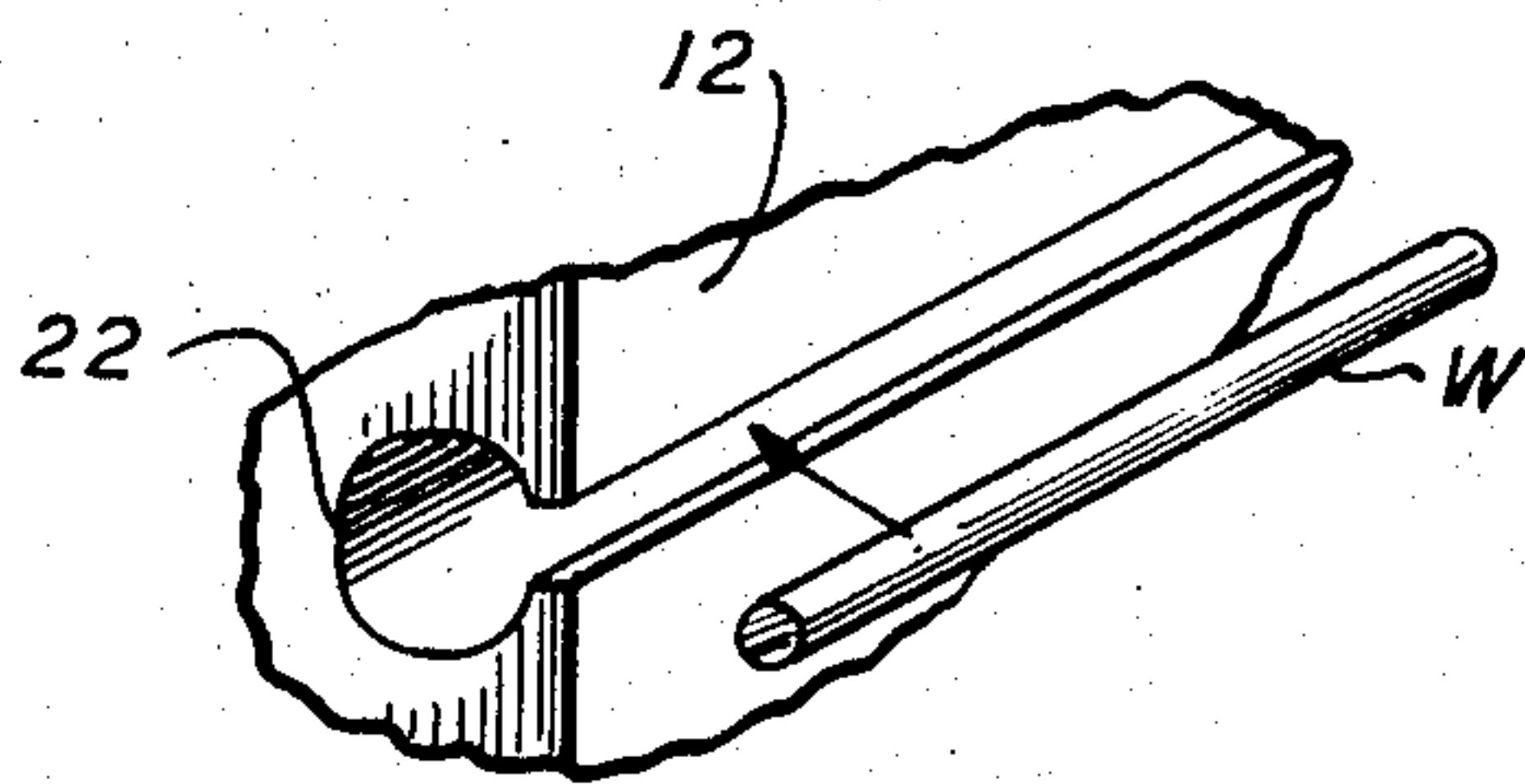
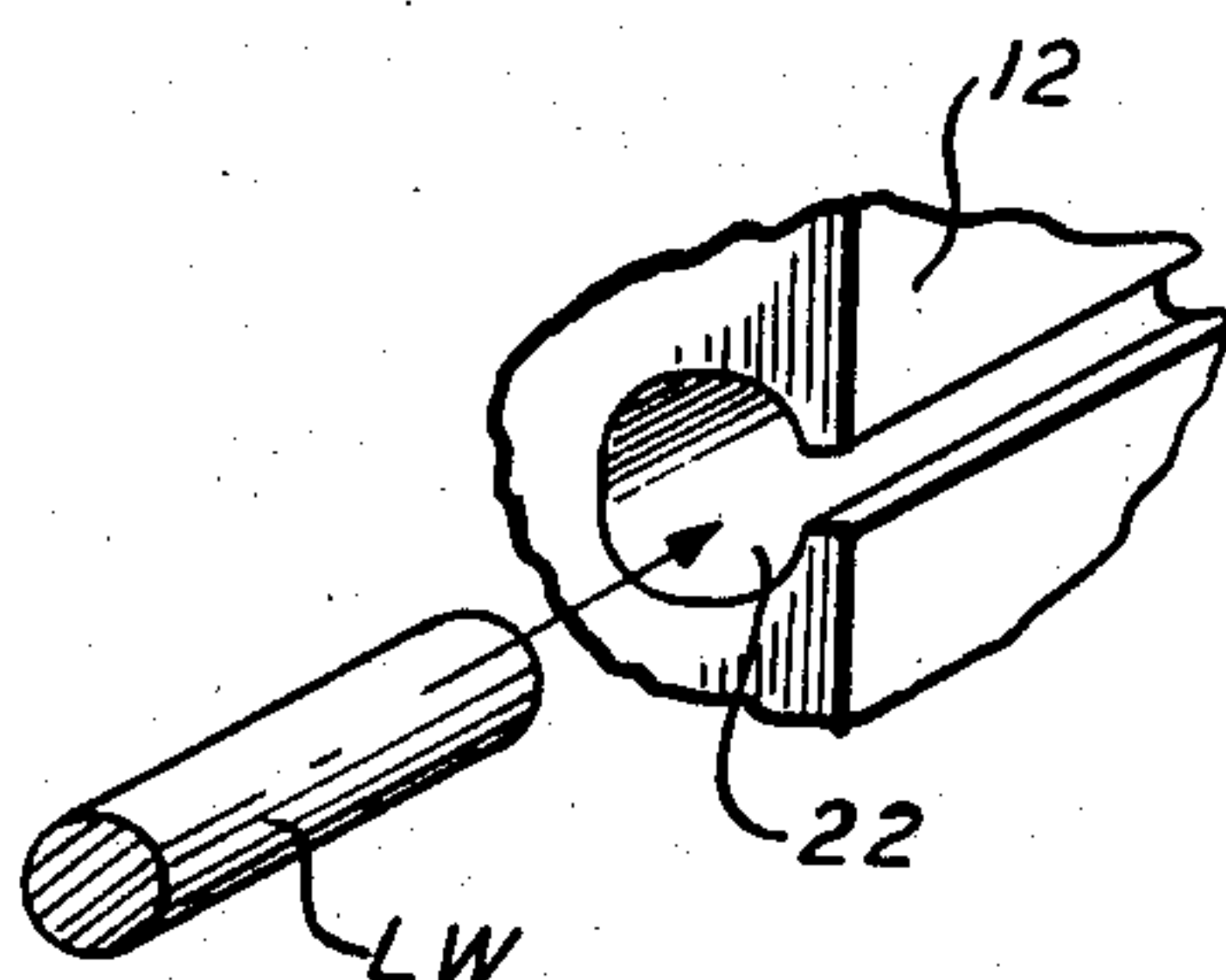


FIG. 4



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## COMPRESSIBLE CONNECTOR

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4 Claims. (Cl. 24-123)

### ABSTRACT OF THE DISCLOSURE

A line connector of readily compressible material for use with cables and service lines of various contours and dimensions is provided with a pair of opposed U-shaped in cross section major recesses in faces of the connector, each recess being provided with a cover and a second pair of opposed C-shaped in cross section recesses opening in side walls at right angles to the faces, the C-shape formation enabling small lines to be inserted laterally into the C-shaped recess and larger lines to be inserted endwise into the same recesses through an end of the connector.

This invention relates to connectors, made of compressible material, for use by service men to connect power and service lines.

It has been customary and necessary in the industry, to stock a large range of such connectors to accommodate service lines and cables of various contours and dimensions. This is objectionable for several reasons, such as: Complexity of cataloging, cost of inventory maintenance and delays on exhaustion of particular connector sizes, increased cost of manufacture, and use.

Pursuant to the present invention, such disadvantages of prior devices are obviated by providing the connector body with structural features such as adapt it to receive a wide variety of contours and diameters of wires and cables. Pursuant to the invention a single connector body may be made as a standard adapted to be used with equal efficacy in connection with wires and cables of various contours and diameters, such as would have heretofore required use of several different sizes of connectors. The connector of the invention further incorporates novel means for safely receiving and holding wires of relatively larger diameter and also wires of a range of sizes of smaller diameter and contour, which may be inserted laterally into recesses and then moved to a lower position, preventing accidental displacement.

The drawings, illustrating procedures and devices useful in carrying out the invention, and the description below, are exemplary only of the invention, which shall be deemed to cover all other devices and procedures coming within the scope and purview of the appended claims.

In the drawings, wherein similar reference characters indicate like parts:

FIG. 1 is a perspective view of a connector embodying the invention,

FIG. 2 is an enlarged, fragmentary, elevational end view thereof, taken at line 2-2 of FIG. 1,

FIG. 3 is a schematic perspective view, showing the manner in which a wire or cable may be laterally inserted through the slot opening of the re-entrant recess of the body member, and

FIG. 4 is a similar view, showing the manner in which a wire of larger cross section than the slot opening may be inserted endwise through the end of said recess.

As shown in the drawings (FIG. 1) the connector comprises a body member 10 made of readily compressible material, such that, on assembly of the wires and cables therein, it may be inserted into a compression tool and compressed to thereby provide essentially a homogeneous,

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unitary connection, the material of the body flowing under compression onto the wires and cables, which are thus embedded therein.

The body member is formed with a pair of side walls 11 and 12 and an intermediate connecting web portion 13 defining, with the side walls, an outwardly opening major recess 14 in a side face for reception of a cable or line to be secured to the connector. By way of example only, and without limitation thereto, the connector body may be positioned onto a power cable, to be thus received in the major recess 14, and secured thereto by supplementary means, if desired, generally indicated at 15, foldable to enclose the cable therein. The recess 14 may be of a radius 16 such as is adapted for readily receiving a range of cables or power lines therein. A similar, second, major outwardly opening recess 17 in a side face opposite the first side face is provided opposite the recess 14, said recesses 14, 17 opening in a plane 18 generally parallel with the plane of side walls 11 and 12, recess 17 being provided with closure means 15'.

Pursuant to the invention, an elongated re-entrant recess 22 is formed in a side wall 12 of the connector, spaced from the major recess 14, and in the web area 13 and intermediate the recesses 14, 17 and aligned inwardly marginally therewith, said re-entrant recess having the general cross section of a C extending inwardly of the side wall 12, defining a constricted opening 23 (FIG. 1) in the extended plane 24 (FIG. 2) of the side wall, said re-entrant recess opening 23 being in a plane at right angles (as 25 FIG. 1) to the plane 18 of the opening of the major recess 14; the re-entrant recess 22 has an internal area substantially less than that of the major recess 14. The constricted opening 23 is provided for reception of a wire of a size conformable to height of slot 23, indicated at 26 (FIG. 2). A wire W of such size may (FIG. 3) be laterally inserted into the re-entrant recess 22 by positioning it parallel to the constricted slot opening 23 thereof, then dropping downwardly therein as indicated by the arrow 27, preventing accidental displacement. Larger wires (LW FIG. 4) would be inserted endwise into the constricted opening 22.

It will be noted from the foregoing that the opening 22 may be used to endwise receive wires or components to be inserted therein of contours such as shown at 28, 29 (FIG. 2) larger than the slot opening 23 but within the cross sectional dimensions and contour of recess 22. The re-entrant recess 22 has a major internal axis 30 parallel with the vertical axis 18 of the major outwardly opening recess 14 and substantially larger—for example, twice as large as that of the slot opening 23 and extends inwardly of the outer wall in line with the major recess vertical axis. Thus the wire W (FIG. 3) inserted sideways into the re-entrant recess through said slot opening, will drop downwardly therein in offset relation to the slot opening, providing a safety factor pending compression of the assembly.

A second re-entrant recess 31 parallel and aligned with the first re-entrant recess 22, likewise of C outline and conforming therewith dimensionwise as above outlined but obverse thereto may be provided, opening inwardly of the plane of wall 11 of the body member 10, to accommodate further wires or other articles in the manner described in connection with recess 22. The re-entrant recesses 22, 31 are disposed intermediate the inner ends of the major recesses 14, 17.

While the foregoing disclosure of exemplary embodiments, is made in accordance with the patent statutes, it is to be understood that the invention is not limited thereto or thereby, the inventive scope being defined in the appended claims.

I claim:

1. A connector comprising a body of compressible ma-



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material having side faces, a pair of parallel side walls and an intermediate connecting web portion defining, with the side walls, an outwardly opening major recess in each of the side faces of the connector for the reception of the lines to be secured to the connector, an elongated re-entrant recess formed in one of the side walls of the connector at the web portion thereof, spaced from the axial plane longitudinally of the major recesses, said plane being parallel with the side walls, said re-entrant recess having the general cross section of a C extending inwardly of the side wall and provided with a constricted slot opening at the plane of said side wall at right angles to the plane of the opening of the major recess, said re-entrant recess having an internal area substantially less than that of the major recess, said constricted opening providing for the reception of a wire positioned at the side of said body member parallel to the constricted slot opening of said re-entrant recess, and laterally into said re-entrant recess, to then be positioned below the slot in offset relation thereto.

2. In a connector as set forth in claim 1, a second re-entrant recess formed on the other side wall on the connector parallel to the first mentioned re-entrant recess and of obverse C outline.

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3. A connector comprising an elongated body of compressible material having top and bottom faces and two side walls parallel to one another and perpendicular to said faces, a U-shaped in cross section major recess in each face, a smaller C-shaped in cross section recess opening into each of said side walls, all of said recesses being disposed parallel to each other, said C-shaped in cross section recesses being displaced laterally from a plane parallel with the side walls and positioned medially of the U-shaped in cross section major recesses.

4. A connector as set forth in claim 3 in which a cover is provided for each of the major recesses.

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