

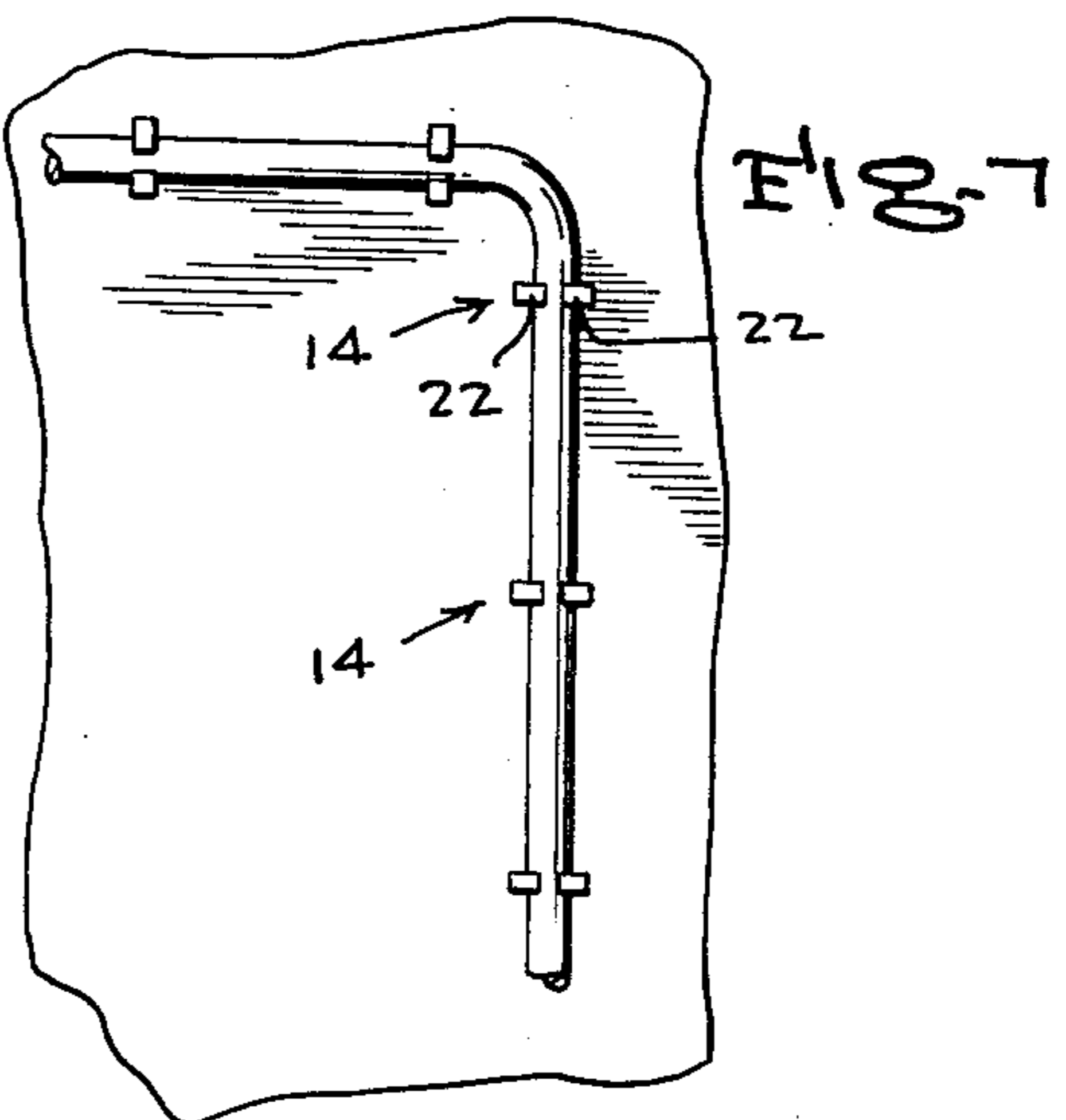
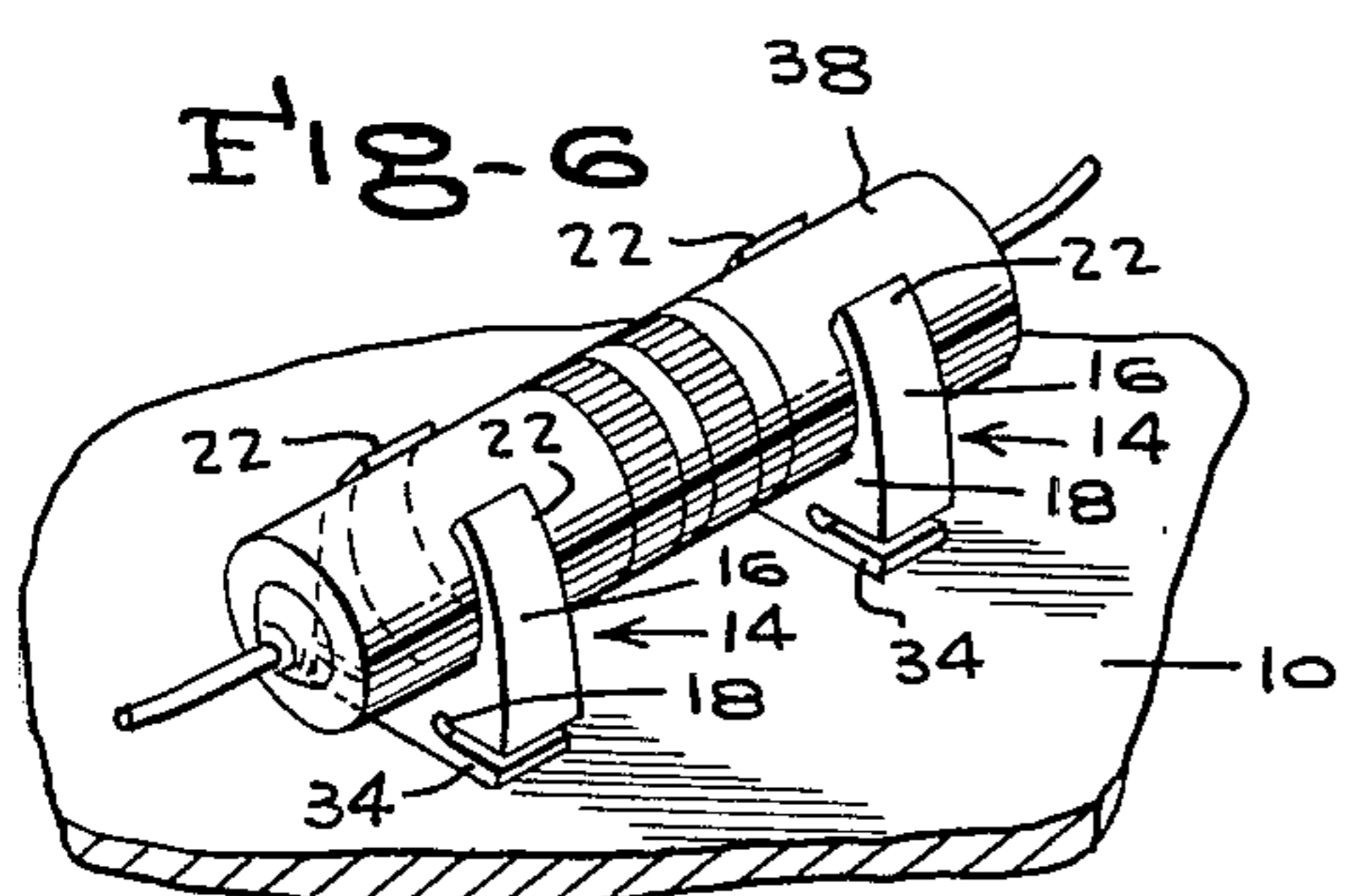
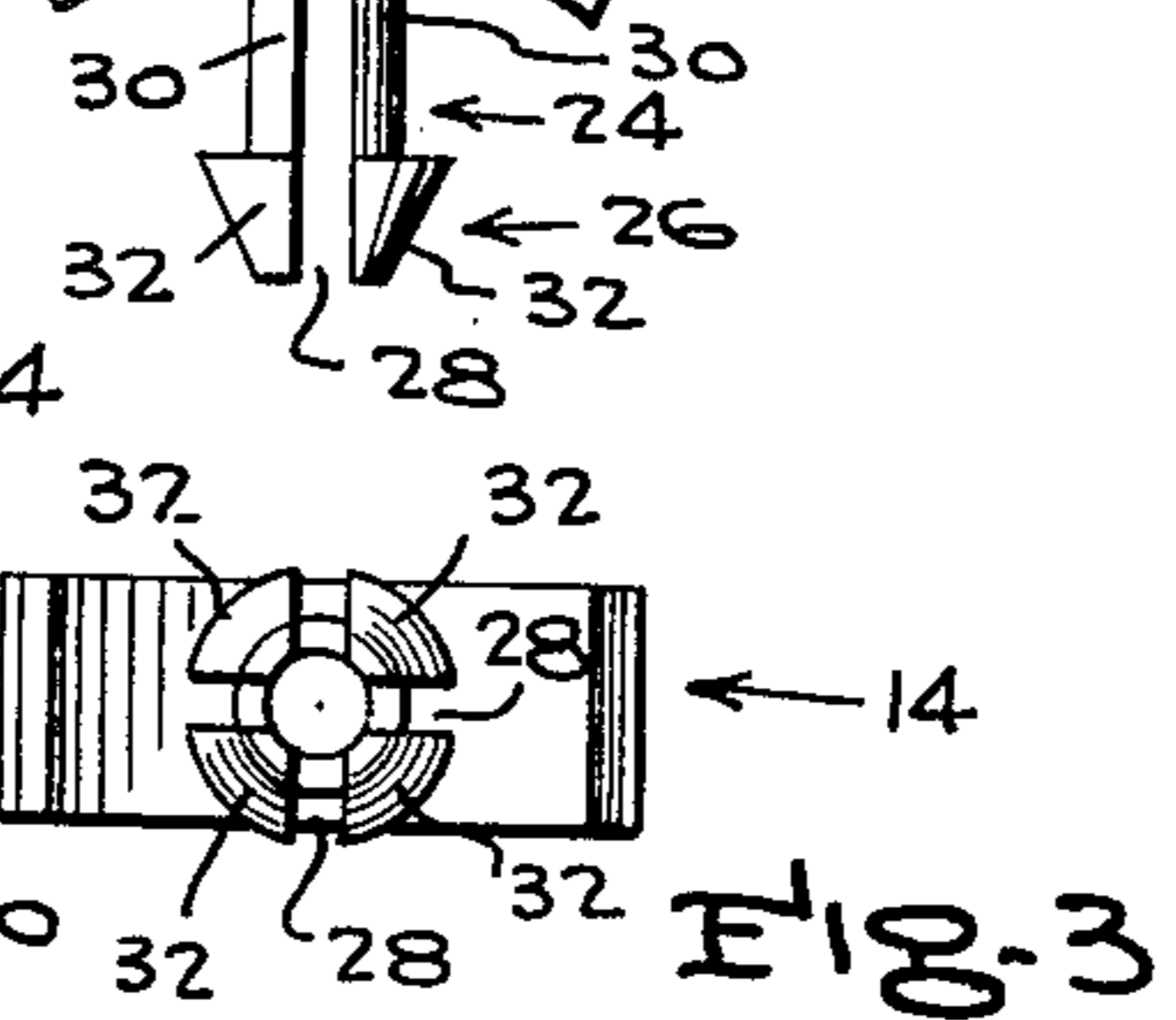
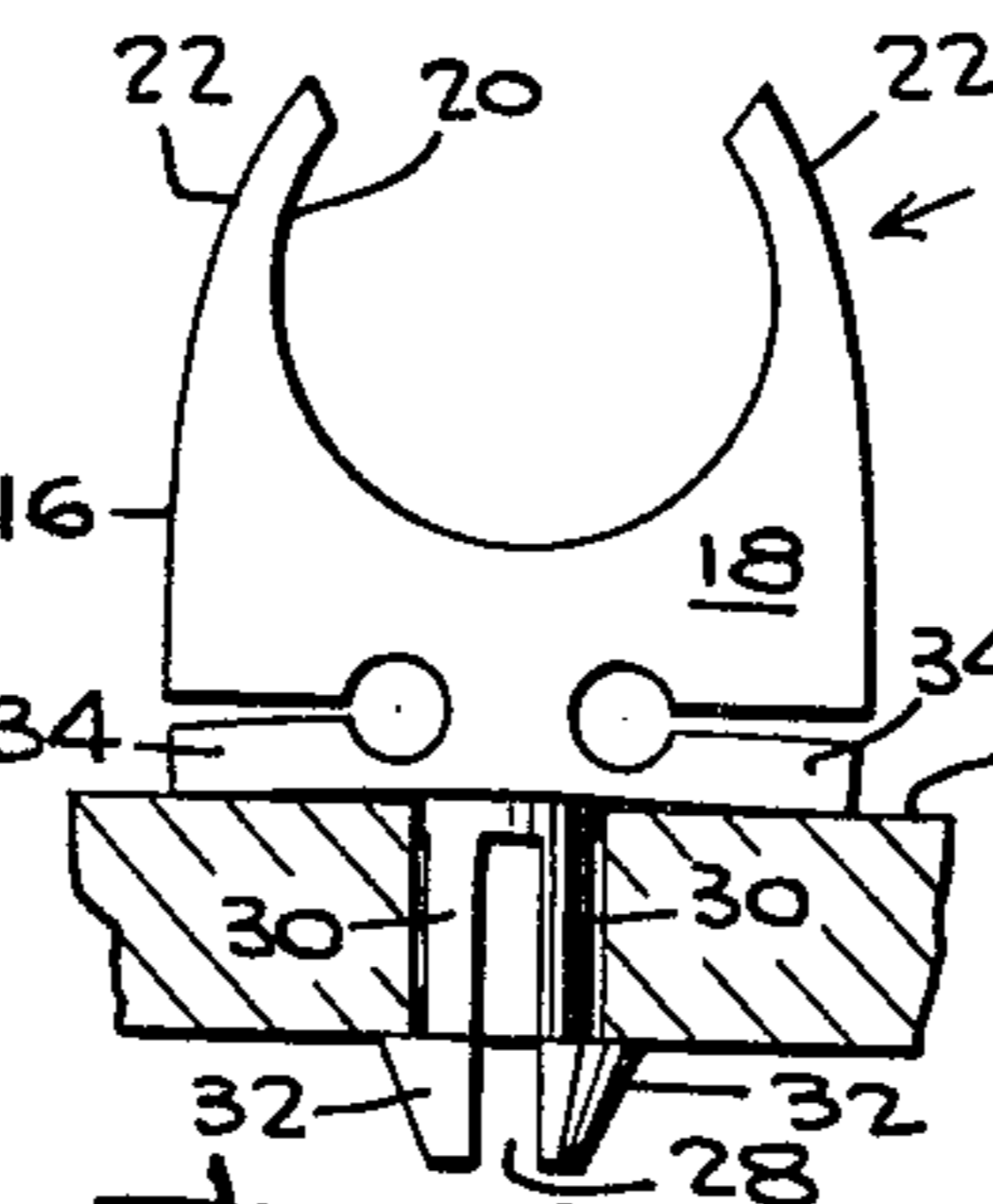
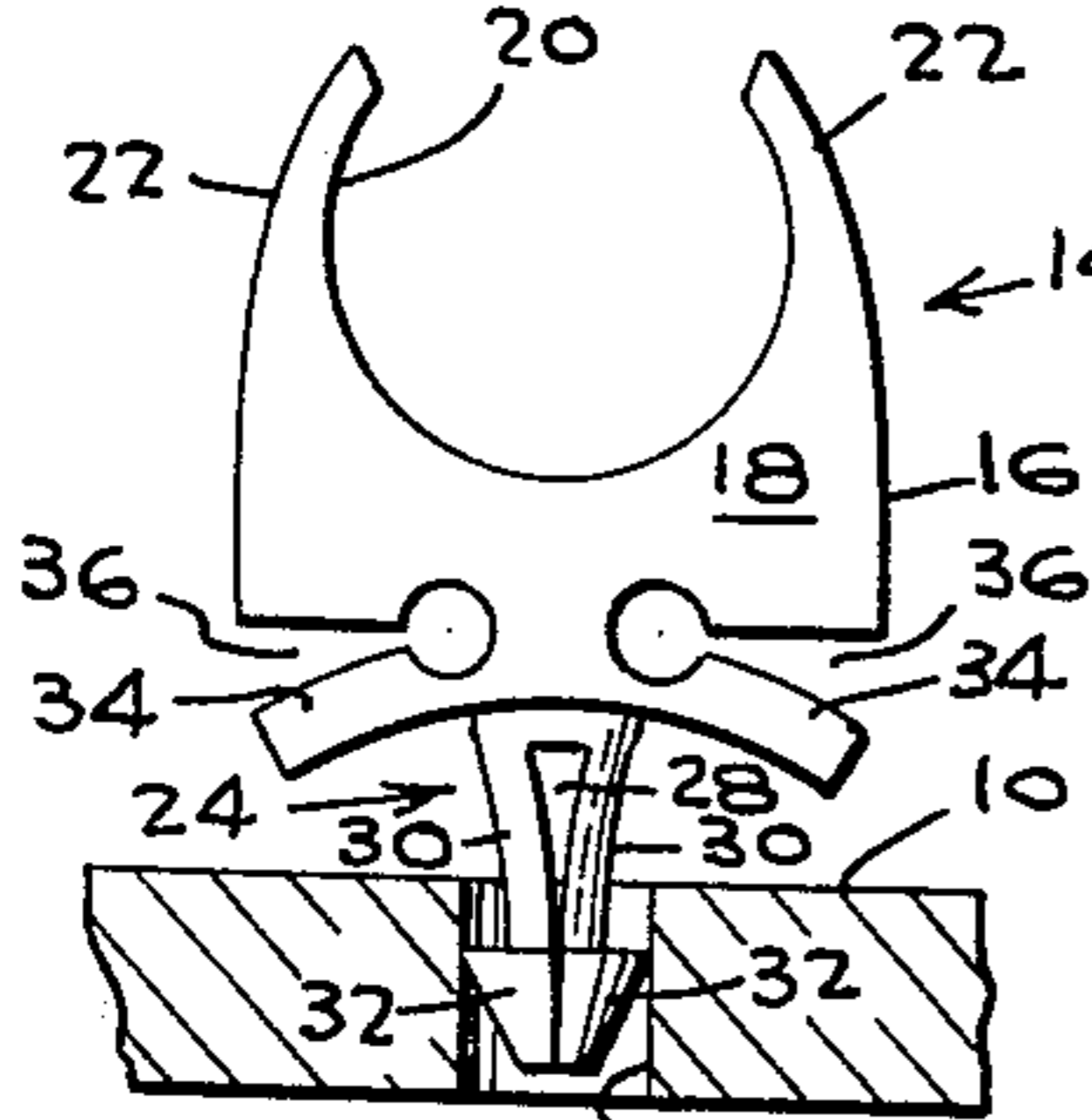
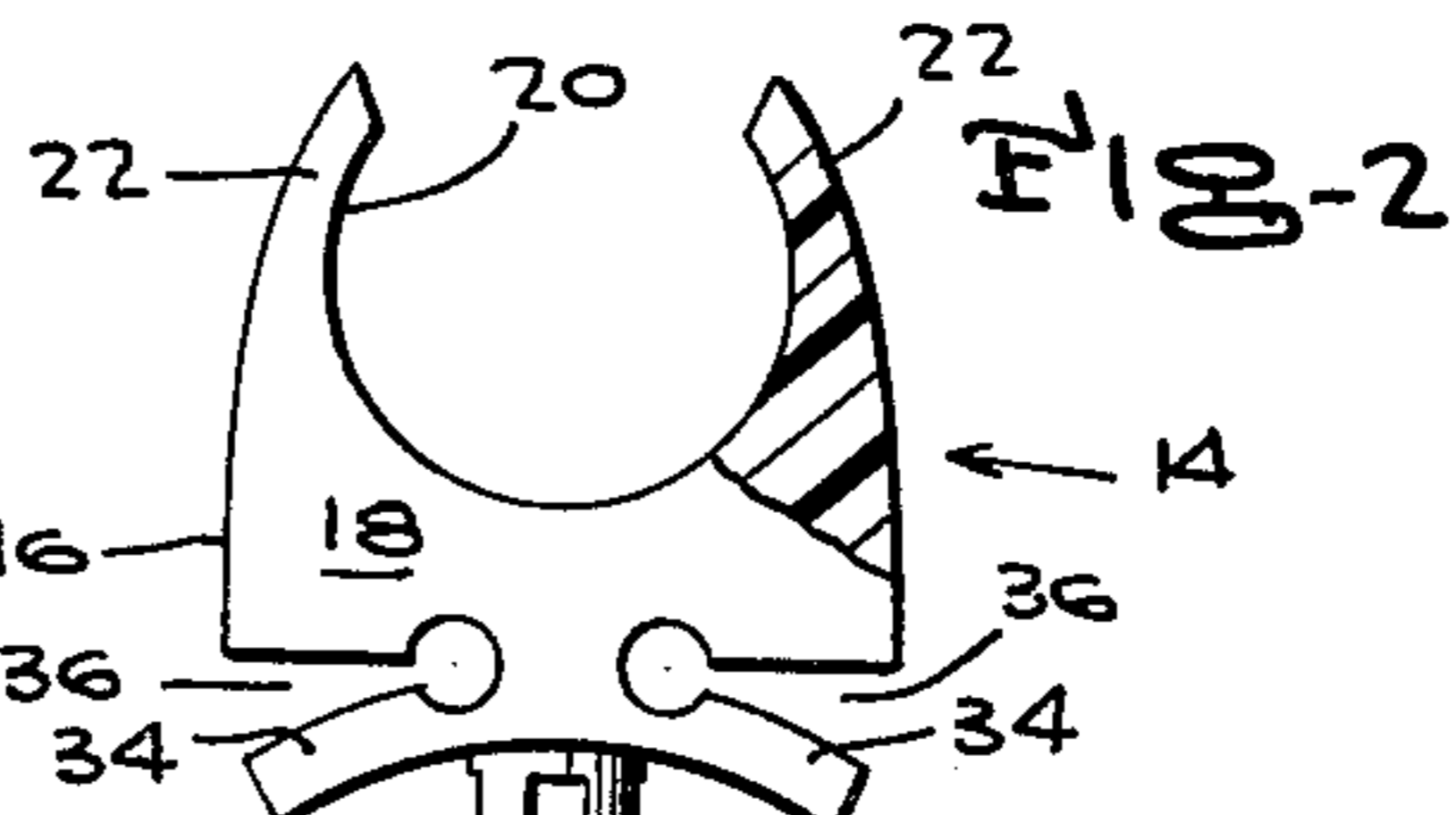
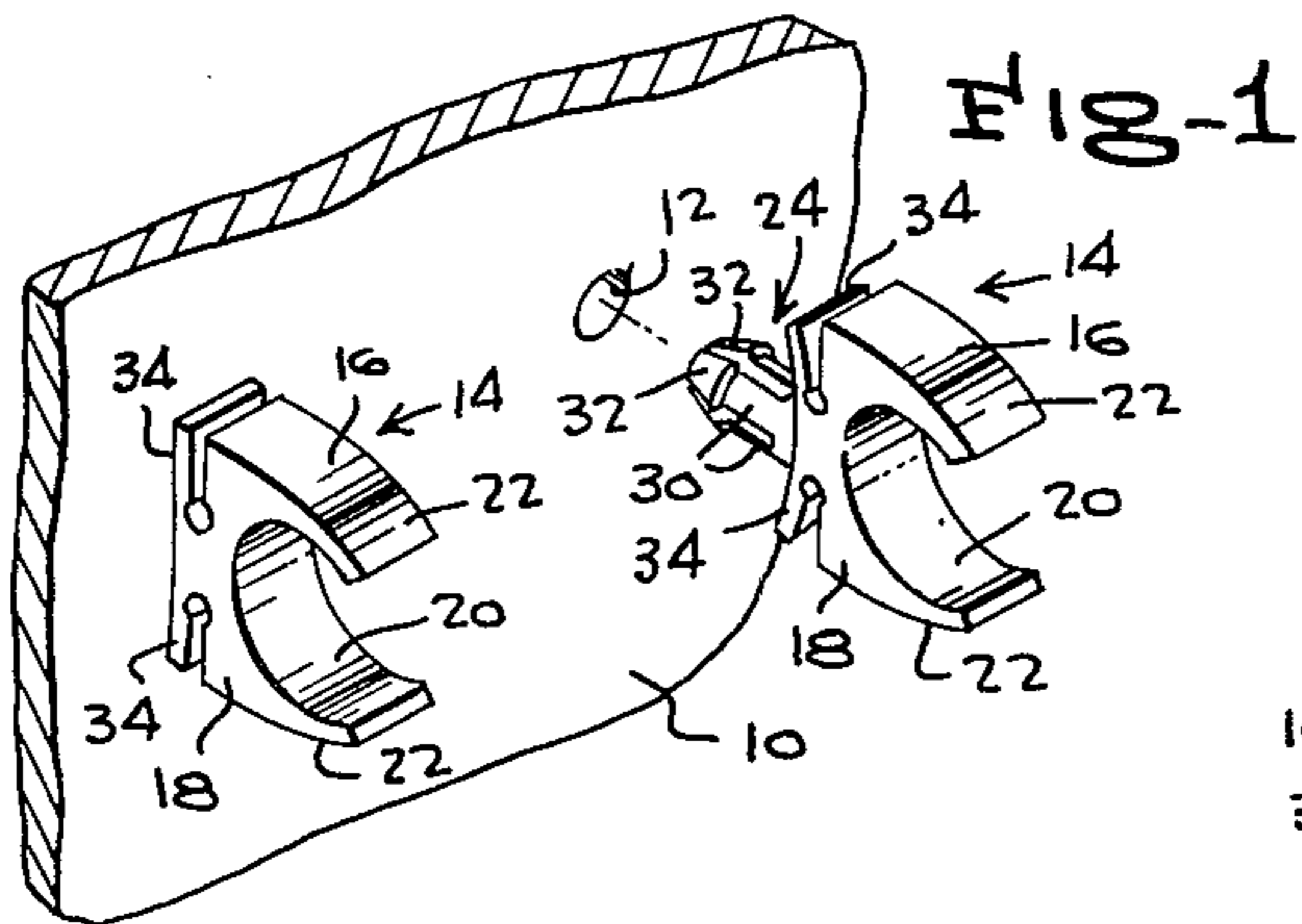
Oct. 27, 1964

C. FRANK

3,154,281

HOLDER FOR ELECTRONIC COMPONENTS

Filed Feb. 20, 1962



INVENTOR.

CHARLES FRANK

BY

McMorrow, Peirman & Davidson
ATTORNEYS

1

3,154,281

HOLDER FOR ELECTRONIC COMPONENTS
Charles Frank, 436 New Lots Ave., Brooklyn 7, N.Y.
Filed Feb. 20, 1962, Ser. No. 174,541
2 Claims. (Cl. 248—201)

This invention relates to a mount for articles, such as electronic components, and in particular to an integral, plastic device which is attachable to a panel in a snap action, and also has a snap action feature for receiving and holding articles.

It is an object of the invention to provide a simple and inexpensive, yet efficient, device, which is easy of manipulation, both in application and removal, and positive in action and holding power. A further object is to provide a holder as aforesaid, which utilizes inherent properties of resilience, deformation and recovery, in a tough plastic, to provide the snap action and holding power. Also included among the objects is the provision of a holder which is light in weight, and does not require supplementary fastening devices of hardware, and which is therefore not subject to corrosion, and will not conduct electricity or heat.

These and other objects, which will be readily apparent, are attained by the present invention, a preferred form of which is described in the following specification, as illustrated in the drawing, in which:

FIGURE 1 is a perspective view, showing a fragment of a mounting panel having suitable bores, with one holder attached, and another holder shown apart from the panel,

FIGURE 2 is a front elevational view of one of the plastic holders, with a portion broken away,

FIGURE 3 is a bottom plan view of the holder shown in FIGURE 2,

FIGURE 4 is a sectional view through the axis of one of the bores in the panel, showing a holder in an intermediate stage of mounting in the bore,

FIGURE 5 is a view similar to FIGURE 4, showing the final, mounted position of the holder,

FIGURE 6 is a perspective view of a pair of holders, mounted on a panel, and clasping a resistor, and

FIGURE 7 is a top plan view of a fragment of a panel having a series of holders clasping a device of substantial length, and having angularly disposed segments.

Referring to the drawings by characters of reference, there is shown, in FIGURE 1, a fragment of panel 10, such as the chassis of a radio set, provided with bores 12, to receive holders 14. The holder shown in FIGURES 2 and 3 in its normal, unstressed state, prior to mounting, comprises a head or main body portion 16 of truncated, ogival profile, a pair of opposite, parallel, plane faces 18, and a channel recess 20, of circular outline, opening through the top side of the head and defining a pair of arcuate arms or side walls 22, which spread, under pressure, to permit entry of a cylindrical object into the recess, and which close over the object after its lodgment in the channel.

For attachment to a panel, the holder carries an integral shank 24 of generally circular cross section, and having a generally frusto-conical head 26 on its lower end. To provide for deformation, permitting passage of the head 26 through holes 12, shank 24 and head 26 have a pair of diametrical slots 28, in planes through the shank axis arranged in mutually perpendicular relationship, which results in a shank having four prongs 30, with barbed, low-

2

er ends 32. As seen in FIGURE 4, the prongs are forced radially inward by the camming action of the barbed ends upon application of pressure on the holder in a direction axially of the bore 12. As shown in FIGURE 5, the prongs are restored to their normal form after the barbs 32 have completely passed through the hole, and this action places the flat tops of the barbs behind the panel, thus locking the holder securely in place.

In order to enhance the holding action, and provide a tight fit, while compensating for variations in panel thickness, the holder 14 carries, at the top of shank 24, a pair of arcuately depending arms 34, separated from the flat, under side of main head 16 of the holder by keyhole slots 36. Prior to complete passage of barbs 32 through the panel bore, the lower corners of arcuate arms 34 contact the panel, and are gradually bent toward the head, so that after passage and locking of the barbs the keyhole slot is very nearly closed, as shown in FIGURE 5. What remains then of the slots is available for contributing additional deformation potential to the arms 22 during insertion of the article to be held. The inner, circular portion of the keyhole slot serves to distribute stresses at a point of stress concentration, so as to minimize the chance of cracking.

In FIGURE 6 is shown an arrangement wherein a cylindrical resistor 38 has been snapped into secure engagement in the horseshoe form heads of a pair of the holders, which had been previously snapped in place in a pair of bores in a panel 10.

In FIGURE 7, a series of the holders 14 are shown as securing, in angular layout, an elongate member 40, which may be, for instance, a cable, or a fluid line, or any of a variety of items requiring securement.

While a certain preferred embodiment has been shown and described, modifications will be apparent, in the light of this disclosure, and the invention should not, therefore, be deemed as limited, except insofar as shall appear from the spirit and scope of the appended claims.

Where the term "resilient" is used in the claims, it should be understood as characterizing a material which has properties of ready deformability under relatively low, manually applied loads, as well as ready and complete recovery upon release from stress.

I claim:

1. A mountable holding device, integrally constructed of resilient, plastic material, comprising an article-holding body of truncated, ogival profile, and a pair of opposite, parallel, plane, end faces, said body having a circularly cylindrical recess, with axis perpendicular to said end faces, open at the top of the body and dividing the body into a pair of inwardly converging side walls, said body having a flexible, lower portion comprising a pair of oppositely disposed arms, underlying the said walls, respectively, and generally coextensive therewith in length and width, said arms being connected to the upper portion of said body along a central zone thereof, and being separated from said body by keyhole slots, of outwardly diverging width, and defining a downwardly concave, lower surface on said body, a shank of generally cylindrical form depending from said lower surface, centrally thereof, and a frusto-conical head on the outer end of said shank, said shank and head having a pair of mutually perpendicular slots in diametral planes, dividing them into four prongs with barbed, outer ends.

2. A mountable holding device, integrally constructed

3

of resilient, plastic material, comprising an article-holding body with a pair of opposite, parallel, plane, end faces, said body having a circularly cylindrical recess, with axis perpendicular to said end faces, open at the top of the body and dividing the body into a pair of inwardly converging side walls, said body having a flexible, lower portion comprising a pair of oppositely disposed arms, underlying the said walls, respectively, and generally coextensive therewith in length and width, said arms being connected to the upper portion of said body along a central zone thereof, and being separated from said body by keyhole slots, of outwardly diverging width, and defining a downwardly concave, lower surface on said body, a shank of generally cylindrical form depending from said

5

10

4

lower surface, centrally thereof, and a frusto-conical head on the outer end of said shank, said shank and head having a pair of mutually perpendicular slots in diametral planes, dividing them into four prongs of barbed, outer ends.

References Cited in the file of this patent

UNITED STATES PATENTS

1,086,200	Michie -----	Feb. 3, 1914
2,121,524	Kimbell -----	June 21, 1938
2,171,925	Fitts -----	Sept. 5, 1939
2,610,879	Pope -----	Sept. 16, 1952
2,979,554	Maitland -----	Apr. 11, 1961
2,983,008	Rath -----	May 9, 1961