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WAVE GUIDE CONNECTOR

Filed Oct. 21, 1963

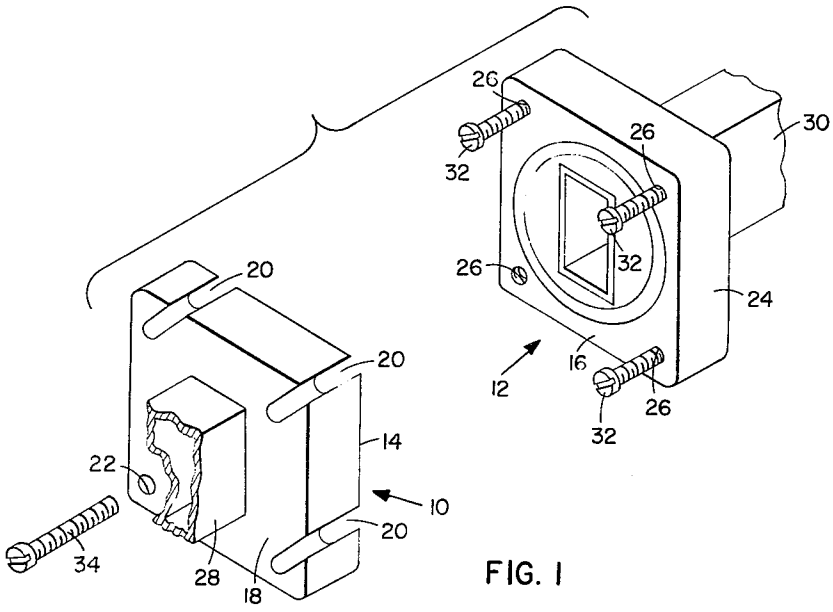


FIG. 1

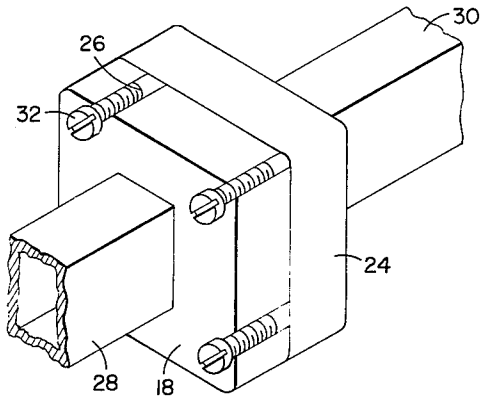


FIG. 2

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WAVE GUIDE CONNECTOR

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1 Claim. (Cl. 333—98)

This invention relates to wave guide connectors and more particularly to a quick connect-disconnect wave guide connector.

Wave guides comprising more than one section require a connector between the adjoining sections. Standard wave guide connectors comprise a flange and a choke held in mated contact by a plurality of bolts or welds. The present invention comprises a wave guide connector wherein the choke is provided with threaded apertures and the flange is provided with slots matching the apertures of the choke. In this way bolts threadably held in the choke may be left in place and connection made by sliding the flange into mating contact with the choke and threadably tightening the bolts. One or more slots may be replaced by an aperture, as described below, to insure a secure connection.

It is therefore an object of the present invention to provide a wave guide connector that may be quickly and easily connected or disconnected.

It is a further object of the present invention to provide a wave guide connector which provides for reduction in wear on the threads of the connecting bolts upon repeated connections and disconnections of the wave guide sections, thereby allowing the flange and choke to mate more accurately and lengthen the bolt life.

These and other objects of the present invention will become more apparent from a consideration of the following description and drawings wherein:

FIGURE 1 shows an exploded view of the connector with three of the bolts in place in the choke; and

FIGURE 2 shows a perspective view of the connector in the connected position with all bolts in place.

A wave guide connector comprising a flange **10** and a choke **12** is shown in FIGURE 1. Flange **10** comprises a generally rectangular plate **18** having parallel slots **20** disposed adjacent three of the four corners of the plate. A hole **22**, for receiving a securing bolt **34**, is disposed adjacent the fourth corner of plate **18**. Choke **12** comprises a generally rectangular plate **24** having four

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threaded apertures **26** adjacent each of the four corners of the plate and matched to slots **20** and hole **22** of plate **18**. Plate **18** and plate **24** each carry a portion of the wave guide **28** and **30**, respectively, to be connected as shown in FIGURE 2, wherein the broad faces **14** and **16** are disposed in mated contact. Wave guide **28** is connected to wave guide **30** by slidably mating face **14** of plate **18** to face **16** of plate **24** and simultaneously engaging slots **20** in plate **18** with bolts **32** in plate **24**. Bolts **32** are permanently engaged in plate **24** and need only be threadably tightened to hold plate **18** in contact with plate **24**. An additional bolt **34** is then inserted through hole **22** in plate **18** and threadably secured to plate **24** to insure a rigid connection between the two plates.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore understood that within the scope of the appended claim the invention may be practiced otherwise than as specifically described.

I claim:

A connector for two highly conductive waveguide sections, each section having a central longitudinal axis: said connector including a first highly conductive end flange on one of said sections and a second highly conductive end flange on the other section; a plurality of studs on said first flange, each stud being parallel to the section axis; a plurality of open ended slots in said second flange, said slots being equal in number to said studs, with all of the slots being parallel and transverse to the section axis; a threaded perforation in said first flange parallel to the section axis; a perforation in said second flange parallel to the section axis; and a threaded connector insertable through the second perforation and engaging said first perforation, upon traversing engagement of said slots and studs.

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