May 8, 1962 R. J. PROHASKA 3,033,508

MOUNTING BRACKET

Filed June 29, 1960

FIG. 1

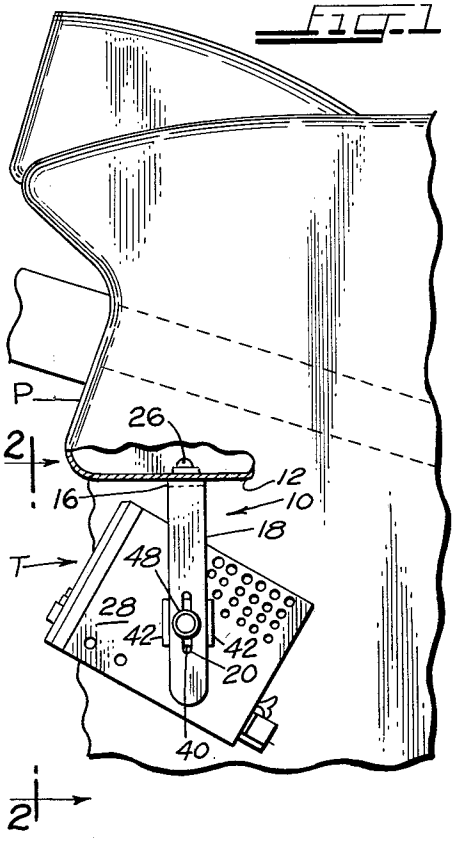


FIG. 2

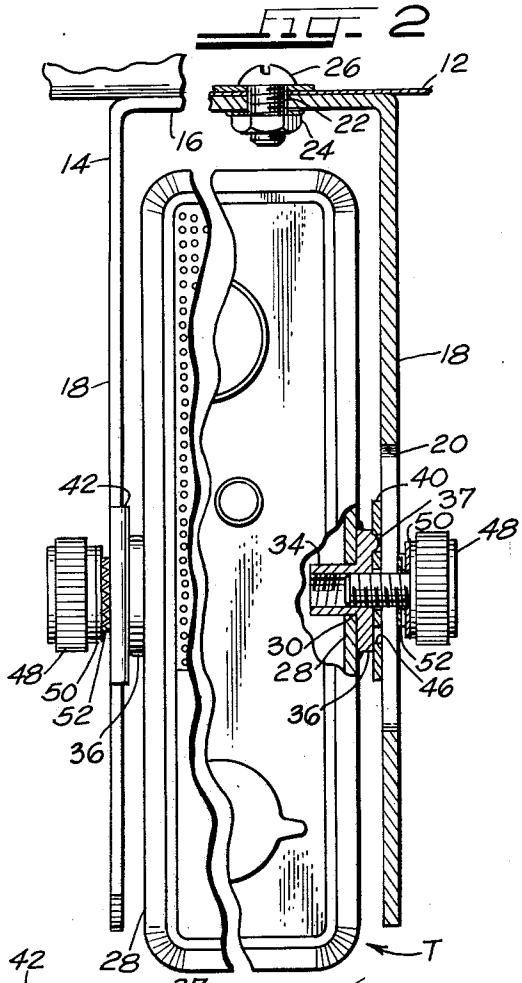
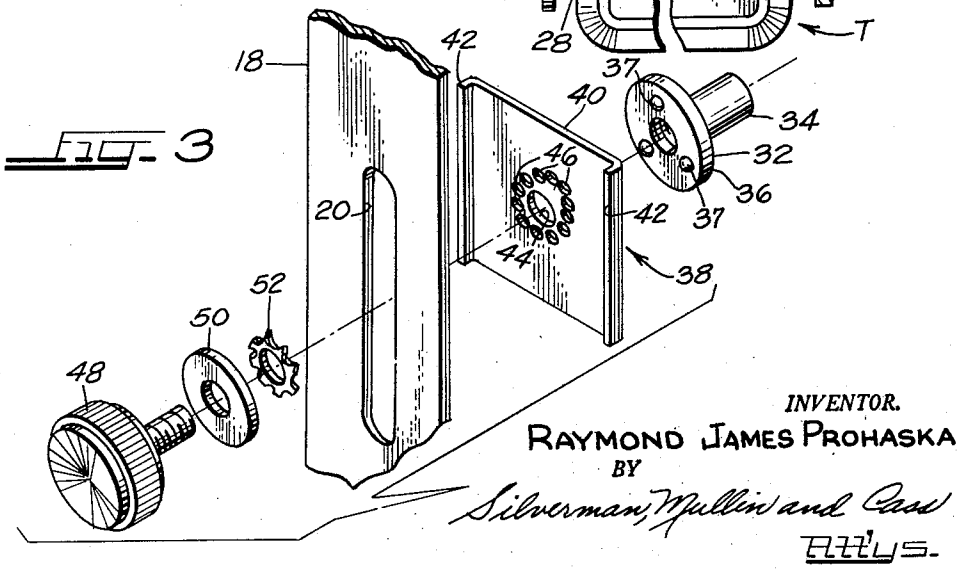


FIG. 3



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MOUNTING BRACKET

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This invention relates generally to mounting brackets and more particularly to a bracket for mounting radio receivers, transmitters, transceivers, or the like, so that the same may be adjustably but securely carried in any desired position.

It is often desirable or necessary to adjustably mount certain instruments or apparatus so that the same may be readily moved or turned to various positions. Among such instruments are radio receivers, radio transmitters, various electrical test instruments, and the like. Thus, for example, a variety of electrical instruments may be mounted in the workshop so that the same may be raised or lowered or pivoted or turned to bring portions thereof into more convenient operational position. In a similar manner, such instruments are often mounted in places where they are subjected to stresses such as vibration and the like. Thus, for example, radio transmitters, receivers or combinations thereof; viz, transceivers, are frequently mounted on, or depending from, the instrument panel of an automobile.

While mounting brackets have heretofore been provided for the purposes described, they have been characterized by a plurality of disadvantageous features. Generally, the prior mounting brackets employed merely a thumbscrew and lockwasher to adjustably lock the mounted instrument in the desired position. It was found, however, that these locking means frequently inadvertently worked loose so that the instrument either fell or twisted on its mounting. This was particularly true in situations where the mounting was subjected to vibration or other stresses as described above.

It is therefore an important object of this invention to provide a mounting bracket for adjustably mounting a radio or the like which affords a more secure and efficient locking action then heretofore possible. A related object is to provide a mounting bracket of the character described having locking means which will not become inadvertently loosened irrespective of the stresses applied thereto.

Another disadvantageous feature of the said prior mounting brackets was the fact that they had no means for indexing the mounted instrument into any selected position. Thus, for example, the prior mounting brackets were incapable of rotating a mounted instrument a specific number of degrees, or, to return the instrument to an exact position which it had previously occupied.

It is therefore another important object of the invention to afford a mounting bracket of the character described having indexing means which permit the ready positioning of the mounted instrument in a plurality of pre-set positions. To accomplish the aforesaid objects the mounting bracket employs a novel indexing plate and cooperating stud, said stud being welded or otherwise permanently connected to the outer wall of the instrument.

A further object is to provide a mounting bracket of the character described which permits the adjustable movement of the mounted instrument in more than one plane. The instrument may thereby be raised or lowered as well as rotated through a full 360° so that the face or instrument panel thereof may be positioned vertically or horizontally, as desired.

Still another object is to afford a mounting bracket of the character described which may be most readily manipulated to index and lock the mounted instrument in a desired position. Thus, the novel indexing and locking means do not require the application thereto of great or excessive pressures which might result in the permanent "freezing" of these means, as was often the case in the prior brackets which employed merely a thumbscrew and lockwasher.

Still a further object is to provide a mounting bracket of the character described which may be inexpensively fabricated and yet is most durable and efficient for the purposes intended.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawings a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

FIG. 1 is a fragmentary elevational view showing the invention in a typical operational application in combination with a radio transceiver mounted beneath an automobile instrument panel;

FIG. 2 is an enlarged fragmentary elevational view taen on the plane of line 2—2 in FIG. 1 and viewed in the direction indicated, with portions thereof being shown in section to illustrate certain details of construction and cooperation of parts and with central portions of the transceiver removed to facilitate illustration; and

FIG. 3 is an exploded partially fragmentary perspective view showing the various elements of the invention.

Referring specifically to FIG. 1 of the drawings, the reference character 10 indicates generally the subject mounting bracket. The bracket 10 is shown in a typical application wherein the same is connected to the bottom surface 12 of an automobile instrument panel P. An instrument such as a transceiver indicated generally by the reference character T is adjustably carried by the bracket 10.

Turning now to FIG. 2, it will be seen that the bracket 10 comprises a symmetrical channel-shaped member 14 having a central leg 16 and a pair of arms 18, 18 projecting perpendicularly therefrom. Each of the arms 18 is formed with an elongated longitudinally extending slot 20 whose function will become apparent as the description proceeds. The channel-shaped member 14 may be made of any suitably rigid and sturdy material, but is preferably integrally formed of a metal such as steel.

The central leg 16 may be formed with a plurality of openings such as 22 whereby said leg may be connected to the surface 12 by any suitable means such as the threaded nuts and bolts 24 and 26.

The transceiver T includes a pair of side walls 28, 28, and said side walls are provided with a pair of centrally positioned aligned openings such as 30. Positioned in each of said openings 30 is an indexing stud 32. The stud 32 comprises an annular internally threaded shank 34 and an integrally formed head disc 36. Each of the studs is permanently secured to a respective side wall 28 by any

suitable means such as the welding indicated. It is important to note that the outer face of the disc 36 is provided with a plurality of semi-spherical ball projections 37 whose function will be subsequently described. As indicated, the ball projections 37 may be three in number and the same are equidistantly spaced or 120° apart.

Cooperating with each of the studs 32 and its respective arm 18 is an indexing plate indicated generally by the reference numeral 38. The indexing plate 38 comprises a plate 40 having a short leg 42 projecting perpendicularly from each of the lateral edges thereof. It is important to note that the width of the plate 40 is only slightly larger than the width of the arm 18 so that the same affords a form of slidable saddle for said arm. The plate 40 is formed with a central opening 44 and a plurality of indexing holes 46 spaced radially about said opening. In the embodiment illustrated, the indexing holes 46 comprise twelve in number and are spaced 30° apart.

The diameter of the indexing holes 46 is slightly larger than that of the ball projections 37 so that a projection 37 may be accommodated in each of said indexing holes (see FIG. 2). It will thus be appreciated that the indexing holes 46 and cooperating ball projections 37 provide releasable detent-indexing means whereby the transceiver T may be readily indexed. It will also be appreciated that because of the equidistant radial spacing of the indexing holes and ball projections, all of said ball projections will always be received in said indexing holes to provide a most strong and rigid connection between the stud 32 and indexing plate 38. Since the stud 32 is permanently secured to the transceiver T and since the indexing plate 38 saddles the arm 18 in non-rotatable position, there is thus likewise provided a most rigid connection between the transceiver and the entire bracket 10.

To complete the bracket assembly, there is provided a threaded thumbscrew 48 for cooperating with each of the stud shanks 34. Positioned on each of the thumbscrews 48 may be a flat washer 50 and a knurled lockwasher 52. When the thumbscrews 48 are screwed tight as seen in FIG. 2, the transceiver T is securely locked into the desired position.

To change the position of the transceiver T it is merely necessary to slightly loosen the thumbscrews 48. The transceiver is then rotated as desired whereupon the ball projections 37 automatically fit into the respective indexing holes 46. Similarly, the transceiver may be lowered or raised within the slots 20. When the desired positioning is achieved, the same may be securely locked in place by merely tightening the thumbscrews 48. It is important to note that due to the novel detent-indexing cooperation between the studs 32 and indexing plates 38, the described adjustment and locking may be achieved with only the slightest amount of turning of the thumbscrews 48. The possibility of excessively tightening the thumbscrews 48 so that the same might become "frozen" is thus eliminated. Similarly, the thumbscrews may be loosened for a new adjustment with great ease.

From the above description and drawings, it should be apparent that I have provided a novel bracket for adjustably mounting instruments such as radio receivers and the like. The novel indexing and locking means provides a plurality of pre-set positions and simultaneously achieves a most efficient locking which will not become inadvertently loosened. The bracket permits the mounted instrument to be adjusted in more than one plane. In addition, the bracket may be easily and readily manipulated without the use of tools or the like.

It is believed that my invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of my invention as defined in the appended claims.

What I claim and desire to secure by Letters Patent of the United States is:

1. In combination with a radio instrument or the like having a pair of opposed sides, a mounting bracket comprising, a channel-shaped member having a central leg and a pair of elongated arms projecting perpendicularly therefrom, the distance between sail arms being slightly greater than the distance between said opposed sides, each of said arms being formed with an elongated longitudinally extending slot, an indexing stud secured to each of said opposed sides, said indexing stud comprising an internally threaded annular shank, an integral face disc and a plurality of semi-spherical ball projections integrally formed on the outer face of said face disc, an indexing plate slidably but non-rotatably mounted on the inner surface of each of said arms, said indexing plate comprising a plate having a short leg projecting perpendicularly from each lateral edge thereof, said plate being formed with a central opening and a plurality of indexing holes spaced radially around said opening, said indexing holes and ball projections cooperating to afford releasable detent-indexing means whereby said instrument may be selectively positioned in a plurality of pre-set positions, and a thumbscrew positioned through each of said slots and respective central opening, said thumbscrews cooperating with said threaded annular shanks to releasably lock said instrument in any of said pre-set positions.

2. In combination with a radio instrument or the like having a pair of opposed sides, a mounting bracket comprising: a channel-shaped member having a central leg and a pair of elongated arms projecting perpendicularly therefrom, the distance between said arms being slightly greater than the distance between said opposed sides, each of said arms being formed with an elongated longitudinally extending slot, an indexing stud secured to each of said opposed sides, said indexing stud comprising an internally threaded annular shank, an integral face disc and first means integrally formed on the outer face of said face disc, an indexing plate slidably but non-rotatably mounted on the inner surface of each of said arms, said plate being formed with a central opening and second means spaced radially around said opening, said first and second means cooperating to afford releasable detent-indexing means whereby said instrument may be selectively positioned in a plurality of pre-set positions, and a thumb-screw positioned through each of said slots and respective central openings, said thumbscrews cooperating with said threaded annular shanks to releasably lock said instrument in any of said pre-set positions.

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