Jan. 30, 1940. R. M. CRITCHFIELD ET AL 2,188,706

COVER SUPPORT

Filed Aug. 23, 1937

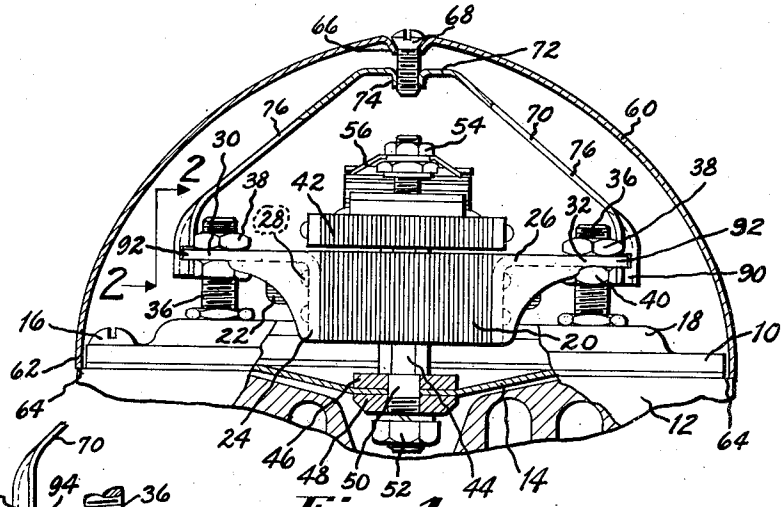


Fig. 1

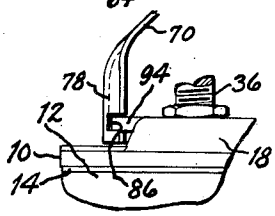


Fig. 7

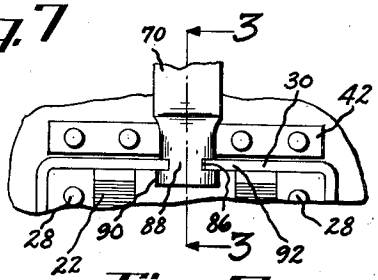


Fig. 2

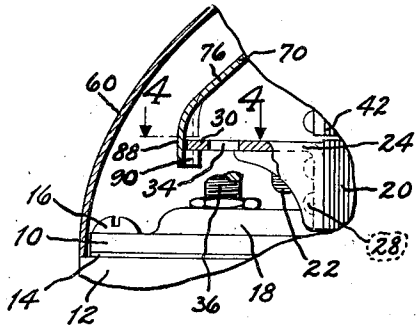


Fig. 3

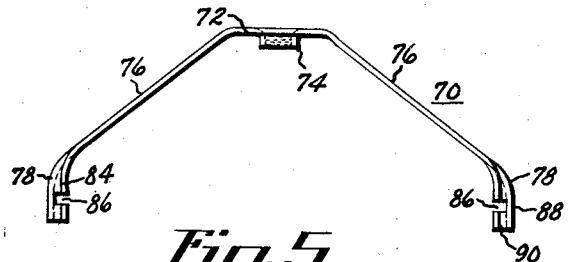


Fig. 5

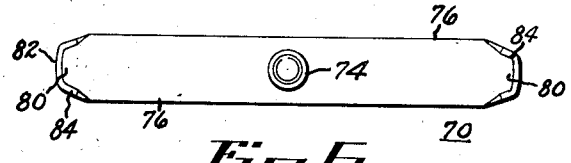


Fig. 6

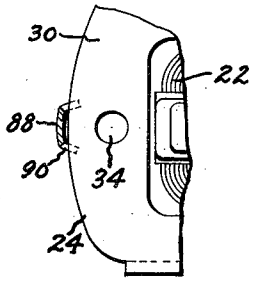


Fig. 4

INVENTOR
Robert M. Critchfield
Joe White

By Spencer, Hardman & Fehr
ATTORNEYS

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COVER SUPPORT

Robert M. Critchfield and Joe White, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

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4 Claims. (Cl. 177—7)

This invention relates to means for supporting storm covers, or caps, that enclose operative mechanisms, and has for an object to provide a readily removable cover support, that will permit easy access to the operative mechanism during assembly, and adjustment, and yet will effect a rigid and non-displaceable coverage for the operative device.

It is a further object of this invention to provide cover supporting means that may be readily attached to existing or conventional structure, without modification of any part thereof.

A further object of this invention is to provide means readily attachable to, and detachable from, some protruding or overhanging part of a power plant for a sound signal device, that will securely support a storm cover.

It is a further object of this invention to provide a storm cover support for a sound signal device that may be quickly and securely assembled therewith, such as by snapping over a part of the magnet frame or other overhanging structures.

Still a further object of this invention is to provide a cover supporting bracket that is engageable with a ledge or overhanging part available in conventional structure.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing wherein a preferred embodiment of the present invention is clearly shown.

In the drawing:

Fig. 1 is a fragmentary view, with parts in section, illustrating the preferred form of the instant invention.

Fig. 2 is a fragmentary view, in elevation, substantially as indicated by the line and arrows 2—2 of Fig. 1.

Fig. 3 is a sectional view, substantially as indicated by the line and arrows 3—3 of Fig. 2.

Fig. 4 is a plan view, with parts in section, substantially as indicated by the line and arrows 4—4 of Fig. 3.

Figs. 5 and 6 are elevational, and bottom plan views, respectively, of the cover supporting bracket, and

Fig. 7 is a fragmentary view, illustrating a modification of the means for anchoring the cover supporting bracket to the base, or protuberant structure.

Referring particularly to the drawing, 10 indicates a base plate of a sound signal device, that cooperates with a collar member 12 to clamp the peripheral edge of a diaphragm 14, when secured together by the clamp screws 16. This construction provides an oscillatable assembly, including the diaphragm 14, and may be recognized as conventional structure, known to those experienced in the art.

The central portion of the base plate 10 may be dished or extruded to provide the protuberance or elevated portion 18, upon which is usually mounted other protuberant structure, in a form of a motor or the like, for actuation of the diaphragm 14. Here, the protuberant structure includes a magnet frame 20, carrying a winding 22 that may be included in the electrical circuit of a selecting switch, for effecting magnetization of the frame 20. The magnet frame 20 comprises a pile of E-shaped laminations, clamped together between a pair of bracket members 24 and 26, through the agency of rivets 28, all of which is the usual construction. The bracket members 24 and 26 each provide a shelf portion or ledge 30 and 32 respectively, extending outwardly from the laminations, and which shelf portions are apertured, such as at 34 for reception of a supporting stud 36 secured to the protuberant base portion 18, in any desired manner. Cooperating nuts 38 and 40 on the studs 36 above and below the shelf portion, operate to firmly secure the shelf portions to the stud, and effect adjustment of the magnet frame as to parallelism and spacing, relative to the base plate.

An armature 42 is mounted upon an armature rod 44 that passes through an aperture of the magnet frame, and has one end thereof secured to the diaphragm 14 by means of the clamp washers 46 and 48, clamping the diaphragm upon a reduced portion 50 of the armature rod, by means of a lock washer and nut 52. The opposite end of the armature rod 44, after passing through the armature 42 where it is rigidly secured, carries abutment devices 54, adapted to actuate a circuit breaker member 56, all as is the usual construction, it being understood that energization of the winding 22 effects movement of the armature 42, that in turn actuates the diaphragm 14.

A storm cover 60 is provided for enclosing all of the protuberant structure, and in this specific instance comprises a semi-spherical, or cup-like member whose edge portion 62 is adapted to embrace the base plate 10, and engage a ledge portion 64 provided by the radial extension of the collar member 12 beyond the peripheral edge of the base plate 10. At some convenient and substantially central or apex portion of the cover,

an aperture is provided and the surrounding walls extruded as at 66, to provide a seat for the head of a retaining screw 68 that threads into the body of a bracket member 70 for securing the cover into position.

The bracket member here illustrated is in the form of a spring bow, a stirrup, a yoke, or a formed strap of springy material, that has provisions for latching behind a ledge or overhanging part of the existing protuberant structure. Figs. 5 and 6 illustrate the preferred form of the cover bracket. Here the bracket 70 contemplates a bridge portion 72 extruded and tapped as at 74 for threaded reception of the retaining screw 68. Extending from both ends of the bridge 72, there are inclined portions 76 diverging outwardly, and whose terminating ends 78 are again bent inwardly so as to extend substantially parallel with each other, as well as parallel with the axis of the screw receiving portion 74. The strap might be otherwise fashioned to provide the end portions 78, such as taking the form of an arc, a U-shaped member, or a V-shaped member. Both of these end portions 78 are deformed such as to form channel-like portions 80, or otherwise fabricated such as to provide the central web 82 along a central portion of the strap, with side webs 84 deflected inwardly, or at least out of the plane of the web 82, somewhat as illustrated in Figs. 5 and 6. The deflected webs or flanges 84 are notched as at 86, or the strap is provided with edge-entering notches or cutaway portions, which notches are substantially oppositely disposed, thus leaving a reduced portion or neck 88 joining the mutilated web portions 90 with the main body of the strap.

The yoke 70 is of such dimensions and angular formation, that in its free state the end portions 78 will spring inwardly to a dimension less than that of the part or parts that it is designed to span. so that when the member is assembled substantially as illustrated in Figs. 1 and 7, it will be necessary to separate the arms or flex them outward against the inherent spring tension. According to the disclosure in Fig. 1, the spring bow or yoke 70 snaps over and hooks behind a ledge or overhanging or projecting part of the protuberant structure mounted on the base plate, which here is in the form of the edge portions of the shelf members 30, 32, that provide the ledges 92 receivable within the notches 86 of the spring bow. It will be observed by reference to Figs. 1, 3 and 4 that the deflected portions 90 are thence hooked behind or underneath the shelf portions, where they are retained by the spring tension within the strap 70. When the screw 68 is threaded in the portion 74 and tightened, it will draw the cover into firm engagement with the parts, where it will be securely held.

In the form illustrated in Fig. 7, the protuberant structure forming the ledge or overhanging part comprises a struck-out portion or extension 94 from the elevated portion 18 of the base plate, and which is adaptable to receive the deformed portion of the bracket 70, as is there clearly illustrated.

In the instance of either form of the sound signal structure, the same bracket is adaptable to be anchored to some ledge or overhanging part of the protuberant parts. In all instances the deflected web portions 90, in conjunction with the adjacent notches 86 make provision for securely anchoring the supporting strap. The operative assembly of the signal device may be completely assembled, tested and adjusted before the bracket is affixed, or if service of the signal devices necessitates subsequent adjustment of the magnet spacing, or repair of adjustment of the circuit breaker mechanism, and the like, the bracket may be quickly removed for that repair or replacement, and thus not be in the way while making the same. When adjustment, replacement or repair is completed, the bracket may again be snapped into place, and the cover affixed as before.

While the embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. In a sound signal device having a base plate, and a magnet motor including shelf portions supported by the base plate in spaced relation thereto, the combination comprising, a storm cover for enclosing the magnet motor, and means for supporting the storm cover, comprising a supporting bracket, having end portions of channel form and provided with notches for receiving the said shelf portions, said bracket being spring urged to maintain the shelf portions and notches in sealing relation, said bracket being adapted to cooperate with shelf portions which are approximately straight.

2. In a sound signal device, a bracket for supporting a cover, comprising in combination, a bowed strap member adapted to receive a cover retaining screw, and having its ends notched at opposite sides, and the notched portions deflected from the body of the strap, said notched and deflected portions being adapted to engage projecting approximately straight portions of the signal device.

3. In a device having a base plate, a protuberant structure mounted on the base plate, and providing ledges, each defined by an approximately straight edge, the combination comprising, a storm cover cooperating with the plate to enclose the protuberant structure, and means engaging said edges of the protuberant structure, supporting the cover rigidly in position, said means engaging the protuberant structure comprising a yoke member of flat stock, and having its ends channeled and notched for engaging said ledges.

4. In a signal, having a base plate and protuberant structure thereon including a magnet frame, said magnet frame including bracket members secured in spaced relation with the base plate and providing approximately straight ledges, the combination comprising a storm cover for enclosing the protuberant structure, a spring bow within the cover and hooked behind the ledges of the magnet frame, and means for securing the storm cover to the spring bow whereby the storm cover is securely held in place.

ROBERT M. CRITCHFIELD.
JOE WHITE.