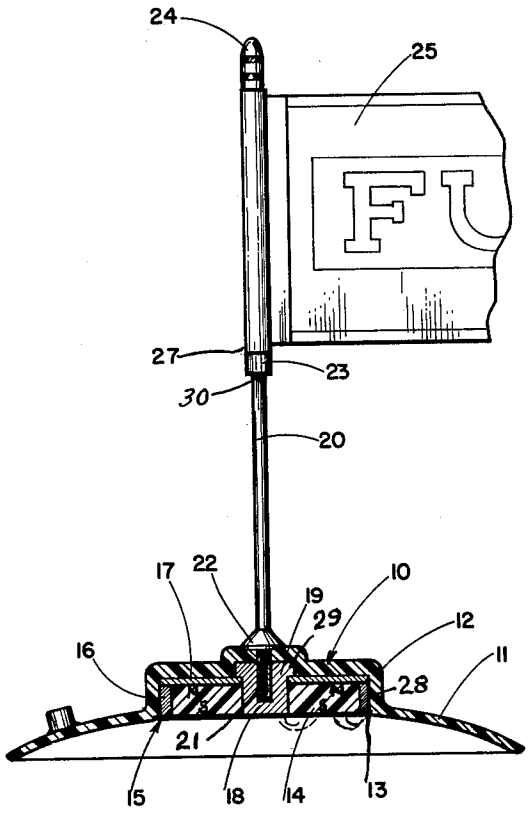
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COMBINATION MAGNET AND VACUUM CUP SUPPORT FOR SIGNALS AND THE LIKE

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COMBINATION MAGNET AND VACUUM CUP SUPPORT FOR SIGNALS AND THE LIKE

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This invention relates to supports and, more particularly, to supports for devices such as flags and the like.

This application is a continuation in part of patent application, Serial No. 58,670, filed September 27, 1960, now abandoned.

Previous supports for flags for use on vehicles have been made with vacuum cups per se or magnets per se to hold them in position. The vacuum cups tended to leak air and thereby become loose.

The present invention provides a vacuum cup having a magnet supported concentrically and arranged at the center with the vacuum cup being held down so that all air is excluded therefrom at all times. Therefore, when the flagstaff is subjected to stresses as in driving an automobile to which the flag is attached down the road at high speed, the vacuum cup will not be dislodged and if it is partly pulled loose to admit some air under the vacuum cup, the magnet will pull the concave surface of the vacuum cup back into engagement with the supporting surface of the vehicle as soon as the vehicle slows down or stops.

It is, accordingly, an object of the present invention to provide an improved support for a funeral flag.

Another object of the invention is to provide a support for a device which is simple in construction, economical to manufacture, and simple and efficient to use.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:

The drawing shows a longitudinal cross sectional view of a support according to the invention.

Now with more particular reference to the drawing, the support shown has a base **10** attached to a rod **20** which has a flag **25** on the top thereof. The base **10** is made up of a sheet **11** of material which is in the form of a circular disk relatively flexible and thin which is dished or concave on the lower side and has a boss **12** on the upper side. The boss **12** has a first counterbore **28** and a second counterbore **29** therein. The counterbores **28** and **29** make up a cavity **13** which receives an armature **15**.

The armature **15** is made up of a hollow cylinder **16** in the form of a circular sheet of magnetizable material which abuts against the periphery of a disk **17**. The disk **17** has a central opening which receives a cylindrical member **18**. The cylindrical member **18** has a flange **19** which overlies the edges of the hole in the center of the disk **17**. The flange **19** is received in the second counterbore **29**. The cylinder **16** is received in the first counterbore **28**.

The annular space defined between the cylindrical member **18** and the hollow cylinder **16** and disk **17** receives a hollow cylindrical permanent magnet **14**. The permanent magnet **14** and the cylinder **16** and cylindrical member **18** all terminate in a surface which is flush with the inside concave surface of the sheet **11** so that the permanent magnet **14** will act through the armature formed by magnetizable members **16**, **17**, and **18** and pull the vacuum cup formed by the sheet **11** down into firm engagement with the magnetic supporting surface and thereby exclude all air therefrom.

The rod **20** is threaded at its lower end and the threaded end is received in a threaded bore **21** in the cylindrical member **18**. A stop **22** is pressed onto the rod **20** and this limits the downward movement of the rod **20** in the bore **21**. It also adds a pleasing appearance thereto.

A sleeve **23** is forced onto a knurled surface **30** of the rod **20** and this forms a stop for the downward movement of the flag **25**. The flag **25** has a bore at its rear edge in a cylindrical member **27** attached to flag **25**. The bore in member **27** receives the rod **20** above the sleeve **23** and a nut **24** is threaded onto the rod above the flag to hold it in position.

The foregoing specification sets forth the invention in its preferred practical forms but the structure shown is capable of modification wihin a range of equivalents without departing from the invention which is to be understood is broadly novel as is commensurate with the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In combination, a funeral flag mounted on a support, said support comprising a base in the form of a circular sheet concave on one side to form a vacuum cup member and defining a circular cavity in said concave side, an integral boss on the other side, an annular magnet in said cavity, said magnet having an opening in the center, and an armature through said center opening and overlying said magnet at the bottom of said cavity, said magnet and said armature being flush with the concave side of said cup member whereby said magnet and said armature attract a magnetizable material and force said cup member to a flattened position excluding all air therefrom.

2. The combination recited in claim 1 wherein said armature is concentric to said vacuum cup member.

3. A support comprising a circular flexible sheet slightly concave on one side, a boss on the other side, a cavity in said sheet and said boss, a circular magnet in said cavity, an armature for said magnet, said magnet and said armature terminating in a surface flush with the surface of the inside of said concave side, and means fixed to said armature to support an article.

4. The support recited in claim 3 wherein said means to support an article comprises a rod threadably received in the armature for said magnet.

5. The support recited in claim 4 wherein said sheet has a handle adjacent one edge for pulling said sheet from a supporting member.

6. The support recited in claim 3 wherein said magnet comprises a permanent magnet in the form of a hollow cylinder, and said armature is disposed in the hollow of said magnet extending therethrough and overlying the top thereof and extending around the sides thereof.

7. A support comprising a vacuum cup having a first and a second counterbore therein, an armature comprising a disk in said second counterbore, a first cylindrical member attached to the center of said disk, a hollow second cylindrical member in said second counterbore engaging said disk and concentric to said first cylindrical member, a third hollow permanent magnet cylindrical member engaging said second cylindrical member and concentric thereto and to said disk, said third cylindrical member and said second cylindrical member defining a surface generally flush with the inside surface of said vacuum cup whereby said first, second, and third cylindrical members attract a magnetic surface and force all air from said vacuum cup.

8. The support recited in claim 7 wherein a handle is fixed to the outside of said cup.

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