

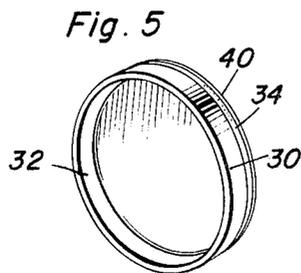
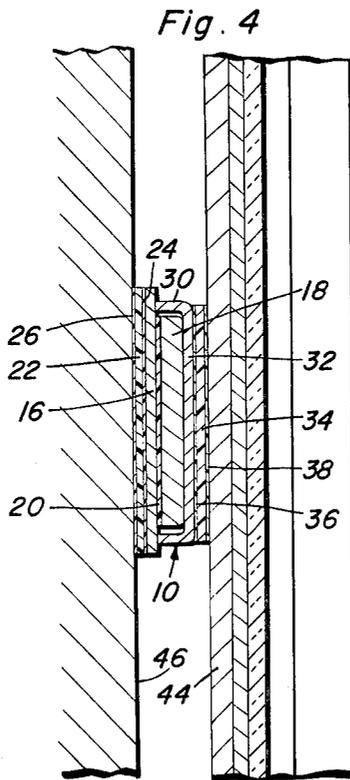
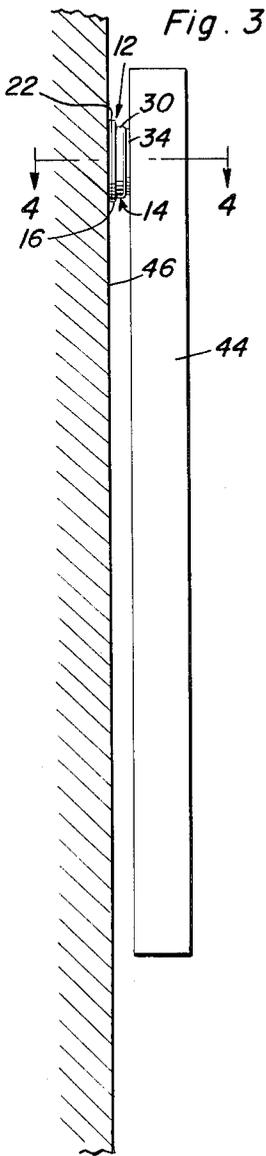
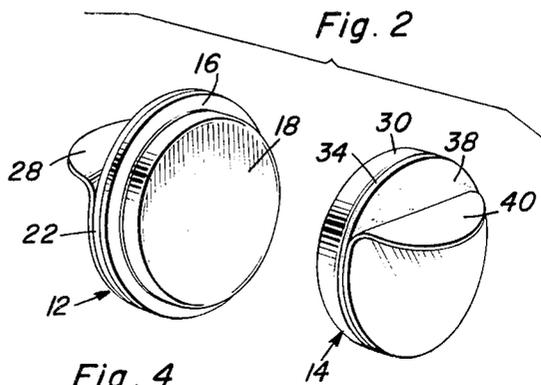
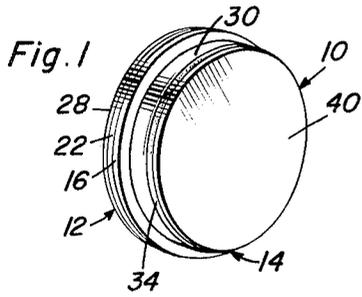
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MAGNETIC AND ADHESIVE MOUNTING SUPPORT

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3,239,178
MAGNETIC AND ADHESIVE MOUNTING
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This invention relates to a novel and useful magnetic and adhesive mounting support and more specifically to an assemblage designed primarily for securing substantially any article to a supporting surface by means of adhesive material and yet in a manner whereby the article supported may be removed from its supporting surface without interrupting the adhesive bond between either the article or its supporting surface and the corresponding portions of the assemblage of the instant invention.

The magnetic and adhesive mounting support of the instant invention includes first and second magnetically attracted sections. The first section comprises a magnetizable panel-like member having first adhesive means on one side thereof adapting it to be adhesively secured to the article which is to be supported by the supporting surface.

A permanent magnet is secured to the opposite side of the panel-like member in any convenient manner. The second section of the assemblage of the instant invention comprises a shallow magnetizable housing having one open end and a remote closed end. Second adhesive means is carried by the outer surface of the closed end of the housing adapting the housing to be adhesively secured to the supporting member from which the article is to be supported. The panel-like member is removably positioned over the open end of the housing with the side thereof remote from a first adhesive means frictionally engaging the end edges of the housing and the magnet snugly and seatingly received in the closed end of the housing. The first and second adhesive means are each of a type adapted to afford greater adhesion between the first and second sections of the assembly and the support member from which the article is to be supported and the article to be supported, respectively, than the total magnetic attraction between the two sections of the assembly. In this manner, the housing may be adhesively supported by means of the second adhesive means applied thereto and the first section of the assemblage may be adhesively secured to a suitable support member by means of the first adhesive means carried thereby. Then, the first and second sections of the assemblage of the instant invention may be magnetically secured together in a manner such that they may be readily removed from engagement with each other without interrupting the adhesive bond between either the first and second sections and the article which is to be supported and the support member from which the article and mounting support are to be supported.

The magnetic and adhesive mounting support of the instant invention has many uses and may be utilized in the home and in other locations such as automobiles where it is frequently desirable to stationarily support certain articles from suitable supporting surfaces but in a manner whereby these articles may be repeatedly removed and again re-secured to the supporting surfaces.

The main object of this invention is to provide a magnetic and adhesive mounting support in accordance with the preceding description which will provide a means whereby substantially any portable article may be readily adhesively secured to a suitable supporting surface.

Still another object of this invention, in accordance with the immediately preceding object, is to provide a magnetic and adhesive mounting support constructed in a manner whereby the article being supported may be

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repeatedly removed from its supporting surface and re-secured thereto without interrupting the adhesive bond between the first section of the assemblage and the support surface from which the article which is to be supported as well as the adhesive bond between the second section of the assemblage and the article which is to be supported.

Still another object of this invention is to provide a magnetic and adhesive mounting support including means by which the article supported therefrom may be readily rotated relative to the surface from which it is supported in order to reorientate the article.

A final object of this invention to be specifically enumerated herein is to provide a magnetic and adhesive mounting support in accordance with the preceding object which will conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device that will be economically feasible, long lasting and relatively trouble-free in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the magnetic and adhesive mounting support of the instant invention;

FIGURE 2 is an exploded perspective view of the magnetic and adhesive mounting support shown with the first and second sections thereof in exploded relation;

FIGURE 3 is a side elevational view showing the manner in which an article may be readily removably secured to a suitable supporting surface by means of the magnetic and adhesive mounting support of the instant invention;

FIGURE 4 is an enlarged fragmentary horizontal sectional view taken substantially upon the plane indicated by section line 4—4 of FIGURE 3; and

FIGURE 5 is a perspective view of the second section of the magnetic and adhesive mounting support.

Referring now more specifically to the drawings the reference numeral **10** generally designates the magnetic and adhesive mounting support of the instant invention. As can best be seen from FIGURE 2 of the drawings the support **10** includes first and second sections generally referred to by the reference numerals **12** and **14**, respectively. The first section includes a generally circular panel-like member **16** constructed of magnetizable material and having a disk-shaped ceramic magnet **18** secured to one side thereof in any convenient manner such as by bonding **20**, see FIGURE 4.

The magnet **18** may be constructed of any suitable material although ceramic material has proven most desirable. In addition, it may be seen that a resilient disk **22** constructed of urethane material is secured to the side of the disk-shaped panel member **16** by means of a coating of pressure sensitive adhesive material **24** interposed between the disk **22** and the panel-shaped member **16**. Further, the side of the resilient disk **22** remote from the panel-like member **16** is also provided with a coating of pressure sensitive adhesive material **26**. Further, a protective disk-shaped panel **28** of any suitable material is disposed over the pressure sensitive material **26** to protect the latter until it is desired to use the mounting support **10**.

The second section **14** of the mounting support **10** includes a shallow cup-shaped housing **30** having a rim and an end which is closed by means of end wall **32**. The outer surface of the end wall **32** also has a resilient disk **34** of urethane material secured thereto by means of a coating of pressure sensitive adhesive material **36** disposed between the disk **34** and the outer surface of the end wall **32**. Additionally, the surface of the disk **34**

remote from the adhesive coating 36 is also provided with a coating 38 of pressure sensitive adhesive. As in the case with the pressure sensitive adhesive material 26, the adhesive material 38 is also covered by means of a flexible panel 40 constructed of any suitable material for protective purposes until such time as it is desired to use the mounting support 10.

The axial length of the disk-shaped magnet 18 approximately equals the length of the cylindrical housing 30 and the diameter of the panel-like member 16 is appreciably greater than the outside diameter of the cylindrical housing 13, the magnet 18 being centrally disposed on the panel-like member 16. Accordingly, it may be seen that the surface of the panel-like member 16 may be disposed in magnetically attracted surface-to-surface contacting relation with the rim of the housing 30 with the magnet 18 snugly and seatingly disposed within the housing 30 and magnetically attracted to the end wall 32 thereof.

In operation, when it is desired to utilize the magnetic support 10, the panels 28 and 40 may be removed from the disks 22 and 34, respectively, and the article 44 to be supported by means of the support 10 may be pressed into engagement with the pressure sensitive adhesive 38. Then, the first section 12 may be pressed into engagement with the supporting surface 46 in the desired location thereon. Thereafter, the sections 12 and 14 may be magnetically secured together by bringing them into intimate relation as hereinbefore set forth. Thereafter, the article 44 may be readily removed from the supporting surface 46 merely by pulling the article 44 away from the surface 46. It is to be understood that the total magnetic attraction between the sections 12 and 14 is less than the adhesive attraction of the sections 12 and 14 with the supporting surface 46 and the article 44.

If it is desired to reorientate the article 44 relative to the supporting surface 46, the article 44 may be readily rotated about the longitudinal axis of the cylindrical housing 32 to the desired position.

The cylindrical housing 30 is provided in order to provide a means for concentrating the lines of magnetic flux of the permanent magnetic 18 in order that its total magnetic forces may be fully concentrated on the panel-like member 16. Actually, only the end wall 32 is needed but the cylindrical rim of the housing 30 forms a dual function of concentrating the lines of magnetic flux of the magnet 18 and also preventing relative shifting of the article 44 and the support surface 46 laterally of a longitudinal axis of the cylindrical housing 30.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A magnetic and adhesive mounting support com-

prising first and second magnetically attracted sections, said first section comprising a magnetizable panel-like member, first adhesive means on one side of said panel-like member adapting it to be adhesively secured to a supporting member, said second section comprising a shallow cup-shaped housing having a rim and a closed end, a permanent magnet of a size and shape conforming to the interior of said housing, means securing said permanent magnet to the side of said panel-like member remote from said first adhesive means, second adhesive means on the outer surface of the closed end of said housing adapting said housing to be adhesively secured to an article which is to be supported by said support, said panel-like member removably abutting the rim of said housing with the side thereof remote from said first adhesive means frictionally engaging said rim and said magnet snugly and seatingly disposed in said housing, said panel-like member and said magnet being magnetically secured to said rim and said closed end of said housing, respectively, the latter comprising a means for concentrating the magnetic flux of said magnet, the magnetic attraction between said panel-like member and said housing and said magnet and housing being less than the adhesive force effected by said first and second adhesive means on said supporting member and article, respectively.

2. The combination of claim 1 wherein said housing is generally cylindrical and said magnet is circular and snugly and rotatably received in said housing.

3. The combination of claim 2 wherein said panel-like member is circular in plane shape and is of a diameter greater than the external diameter of said housing.

4. The combination of claim 3 wherein said magnet is centrally disposed on said panel-like member.

5. The combination of claim 1 wherein said first adhesive means comprises a disk of resilient urethane with both sides thereof coated with pressure sensitive adhesive.

6. The combination of claim 1 wherein said second adhesive means comprises a disk of resilient urethane with both sides thereof coated with pressure sensitive adhesive.

7. The combination of claim 1 wherein said housing is generally cylindrical and said magnet is circular and snugly and rotatably received in said housing, said second means comprising a disk of resilient urethane with both sides thereof coated with pressure sensitive adhesive.

8. The combination of claim 7 wherein said panel-like member is circular in plane shape and is of a diameter greater than the external diameter of said housing, said magnet is centrally disposed on said panel-like member.

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