An attachment shelf includes a base, two stop members mounted on the base, a plurality of magnetic members mounted on the base, and a magnetic element mounted on the base and located between the stop members. Thus, the attachment shelf can attach a smaller article (such as a box, key and the like) containing a magnetic material to a larger object (such as a car, furniture, electric appliance and the like) containing a magnetic material by the magnetic actions of the magnetic members and the magnetic element.
MULTI-PURPOSE ATTACHMENT SHELF WITH A MAGNETICALLY ATTRACTIVE EFFECT

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a shelf and, more particularly, to an attachment shelf that is bonded onto an object containing a magnetic material.

[0003] 2. Description of the Related Art

[0004] A conventional shelf is used to place articles, such as tissue boxes, keys, rings and the like. However, the conventional shelf occupies a larger space. A tissue box contains tissues for use with a user. When the tissue box is used in a car, the tissue box is usually placed on a storage shelf at the front side of the car or directly placed on the seat at the rear side of the car. However, the tissue box is not fixed in the car by any fastening device so that the tissue box easily moves, sways, slips or falls down when the car is driving, thereby causing inconvenience to the user. In addition, when the tissue box is placed on the seat, the tissue box occupies a larger space.

BRIEF SUMMARY OF THE INVENTION

[0005] In accordance with one embodiment of the present invention, there is provided an attachment shelf, comprising a base, two stop members mounted on the base, a plurality of magnetic members mounted on the base, and a magnetic element mounted on the base and located between the stop members. The base has an interior provided with a chamber. The base has a perimeter provided with an arcuate peripheral wall which defines the chamber. The chamber of the base has a surface provided with a plurality of receiving recesses and a plurality of fixing holes. Each of the receiving recesses of the base has an upper end provided with a retaining tenon. Each of the magnetic members is received in a respective one of the receiving recesses of the base and is retained by the retaining tenon of the respective receiving recess of the base. The attachment shelf further comprises a plurality of locking members each extended through and protruded outward from a respective one of the fixing holes of the base.

[0008] The base is a sheet plate. Each of the fixing holes of the base is extended through a whole thickness of the base. Each of the magnetic members is a strong magnet. Each of the fixing holes of the base is a screw hole, and each of the locking members is a screw.

[0009] The primary objective of the present invention is to provide a multi-purpose attachment shelf with a magnetically attractive effect.

[0010] According to the primary advantage of the present invention, the attachment shelf can attach a smaller article (such as a box, key and the like) containing a magnetic material to a larger object (such as a car, furniture, electric appliance and the like) containing a magnetic material so that the article is directly attached to the object and will not occupy the space.

[0011] According to another advantage of the present invention, the attachment shelf attaches a smaller article to a larger object by the magnetic actions of the magnetic members and the magnetic element so that the article is attached to the object easily and quickly, thereby facilitating a user mounting the attachment shelf.

[0012] According to a further advantage of the present invention, when the attachment shelf is used in the car, the box is fixed at a determined position of the car by the attachment shelf so that the box is positioned exactly and steadily and will not move, sway or slip freely.

[0013] According to a further advantage of the present invention, the attachment shelf is bonded onto any magnetic part in the car so that the box can be placed in the car according to the user’s requirement, thereby facilitating the user using the box.

[0014] Further benefits and advantages of the present invention will become apparent after a careful reading of the detailed description with appropriate reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

[0015] FIG. 1 is a perspective view of an attachment shelf in accordance with the preferred embodiment of the present invention.

[0016] FIG. 2 is an exploded perspective view of the attachment shelf as shown in FIG. 1.

[0017] FIG. 3 is a top view of the attachment shelf as shown in FIG. 1.

[0018] FIG. 4 is a cross-sectional view of the attachment shelf taken along line 4-4 as shown in FIG. 3.

[0019] FIG. 5 is a locally enlarged cross-sectional view of the attachment shelf taken along circle 5A as shown in FIG. 4.

[0020] FIG. 6 is a schematic side cross-sectional operational view of the attachment shelf for a car as shown in FIG. 1 in use.

[0021] FIG. 7 is a locally enlarged cross-sectional view of the attachment shelf taken along circle 7A as shown in FIG. 6.
FIG. 8 is a partially exploded perspective view of an attachment shelf in accordance with another preferred embodiment of the present invention.

FIG. 9 is an exploded perspective view of the attachment shelf as shown in FIG. 8.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings and initially to FIGS. 1-7, an attachment shelf in accordance with the preferred embodiment of the present invention comprises a base 1, two stop members 2 mounted on the base 1, a plurality of magnetic members 3 mounted on the base 1, and a magnetic element 30 mounted on the base 1 and located between the stop members 2.

The base 1 is a rectangular shell and has an interior provided with a chamber 111. The base 1 has a perimeter provided with an arcuate peripheral wall 11 which defines the chamber 111. The chamber 111 of the base 1 has a surface provided with a plurality of receiving recesses 12 and a plurality of fixing holes 13. The receiving recesses 12 of the base 1 are located at four corners of the base 1. Each of the receiving recesses 12 of the base 1 has an upper end provided with a retaining tenon 121 (see FIG. 5). Each of the fixing holes 13 of the base 1 is preferably a screw hole.

Each of the stop members 2 is made of a magnetic material. Each of the stop members 2 is a substantially L-shaped plate and has a first section 21 abutting the magnetic element 30 and a second section provided with a plurality of through holes 22.

Each of the magnetic members 3 is received in a respective one of the receiving recesses 12 of the base 1 and is retained by the retaining tenon 121 of the respective receiving recess 12 of the base 1. Each of the magnetic members 3 is preferably a strong magnet.

The magnetic element 30 is clamped between the first sections 21 of the stop members 2. The magnetic element 30 is preferably a strong magnet.

The attachment shelf further comprises a plurality of first fastening members 131 each extended through a respective one of the fixing holes 13 of the base 1 and each extended through a respective one of the stop members 2, and a plurality of second fastening members 14 each locked onto a respective one of the first fastening members 131 and each abutting a respective one of the stop members 2. Each of the first fastening members 131 is extended through a respective one of the through holes 22 of the respective stop member 2.

Thus, each of the stop members 2 is locked onto the base 1 by the first fastening members 131 and the second fastening members 14. In the preferred embodiment of the present invention, each of the first fastening members 131 is a screw, and the second fastening members 14 is a nut.

When in use, referring to FIGS. 6 and 7 with reference to FIGS. 1-5, the magnetic element 30 is bonded onto a top plate 41 of a car 4 by the magnetically attractive action between the magnetic element 30 and the top plate 41 of the car 4 so as to attach the attachment shelf to the car 4. In such a manner, a box 5 made of a magnetic material is attached to the base 1 by the magnetically attractive action between the magnetic members 3 and the box 5 so that the box 5 is attached to the car 4 by the attachment shelf. The box 5 can be used to receive items, such as tissues 51 and the like.

Accordingly, the attachment shelf can attach a smaller article (such as a box, key and the like) containing a magnetic material to a larger object (such as a car, furniture, electric appliance and the like) containing a magnetic material so that the article is directly attached to the object and will not occupy the space. In addition, the attachment shelf attaches a smaller article to a larger object by the magnetic actions of the magnetic members 3 and the magnetic element 30 so that the article is attached to the object easily and quickly, thereby facilitating a user mounting the attachment shelf. Further, when the attachment shelf is used in the car, the box is fixed at a determined position of the car by the attachment shelf so that the box is positioned exactly and steadily and will not move, sway or slip freely. Further, the attachment shelf is bonded onto any magnetic part in the car so that the box can be placed in the car according to the user's requirement, thereby facilitating the user using the box.

Referring to FIGS. 8 and 9, an attachment shelf in accordance with another preferred embodiment of the present invention comprises a base 1a, and a plurality of magnetic members 3 mounted on the base 1a.

The base 1a is a rectangular sheet plate and has a surface provided with a plurality of receiving recesses 12 and a plurality of fixing holes 13. The receiving recesses 12 of the base 1a are located at four corners of the base 1a. Each of the receiving recesses 12 of the base 1a has an upper end provided with a retaining tenon 121. Each of the fixing holes 13 of the base 1a is extended through a whole thickness of the base 1a. Each of the fixing holes 13 of the base 1a is preferably a screw hole.

Each of the magnetic members 3 is received in a respective one of the receiving recesses 12 of the base 1a and is retained by the retaining tenon 121 of the respective receiving recess 12 of the base 1a. Each of the magnetic members 3 is preferably a strong magnet.

The attachment shelf further comprises a plurality of locking members 131a each extended through and protruded outward from a respective one of the fixing holes 13 of the base 1a. In the preferred embodiment of the present invention, each of the locking members 131a is a screw.

Thus, the base 1a is locked onto a larger object by the locking members 131a and a smaller article containing a magnetic material is bonded onto the base 1a by the magnetic action of the magnetic members 3 so that the article is directly attached to the object by the attachment shelf.

Although the invention has been explained in relation to its preferred embodiment(s) as mentioned above, it is to be understood that many other possible modifications and variations can be made without departing from the scope of the present invention. It is, therefore, contemplated that the appended claims will cover such modifications and variations that fall within the true scope of the invention.

1. An attachment shelf, comprising:
   a base;
   two stop members mounted on the base;
   a plurality of magnetic members mounted on the base; and
   a magnetic element mounted on the base and located between the stop members;
   wherein the base has an interior provided with a chamber;
   the base has a perimeter provided with an arcuate peripheral wall which defines the chamber;
   the chamber of the base has a surface provided with a plurality of receiving recesses and a plurality of fixing holes;
   each of the receiving recesses of the base has an upper end provided with a retaining tenon;
each of the magnetic members is received in a respective
one of the receiving recesses of the base and is retained
by the retaining tenon of the respective receiving recess
of the base;
the attachment shelf further comprises:
a plurality of first fastening members each extended
through a respective one of the fixing holes of the base
and each extended through a respective one of the stop
members; and
a plurality of second fastening members each locked onto
a respective one of the first fastening members and each
abutting a respective one of the stop members.
2. The attachment shelf of claim 1, wherein
each of the stop members has a first section abutting the
magnetic element and a second section provided with a
plurality of through holes;
each of the first fastening members is extended through a
respective one of the through holes of the respective stop
member;
each the stop members is locked onto the base by the first
fastening members and the second fastening members.
3. The attachment shelf of claim 2, wherein each of the stop
members is a substantially L-shaped plate.
4. The attachment shelf of claim 1, wherein each of the stop
members is made of a magnetic material.
5. The attachment shelf of claim 1, wherein
each of the fixing holes of the base is a screw hole;
each of the first fastening members is a screw; and
the second fastening members is a nut.
6. The attachment shelf of claim 1, wherein each of the
magnetic members is a strong magnet.
7. The attachment shelf of claim 1, wherein the magnetic
element is a strong magnet.
8. The attachment shelf of claim 2, wherein the magnetic
element is clamped between the first sections of the stop
members.
9. An attachment shelf, comprising:
a base; and
a plurality of magnetic members mounted on the base;
wherein the base has a surface provided with a plurality of
receiving recesses and a plurality of fixing holes;
each of the receiving recesses of the base has an upper end
provided with a retaining tenon;
each of the magnetic members is received in a respective
one of the receiving recesses of the base and is retained
by the retaining tenon of the respective receiving recess
of the base;
the attachment shelf further comprises a plurality of lock-
ing members each extended through and protruded out-
ward from a respective one of the fixing holes of the
base.
10. The attachment shelf of claim 9, wherein the base is a
sheet plate.
11. The attachment shelf of claim 9, wherein each of the
fixing holes of the base is extended through a whole thickness
of the base.
12. The attachment shelf of claim 9, wherein each of the
magnetic members is a strong magnet.
13. The attachment shelf of claim 9, wherein
each of the fixing holes of the base is a screw hole;
each of the locking members is a screw.
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