

Oct. 13, 1964

R. McFADYEN

3,153,177

MAGNETIC HOLDER FOR PAPER CLIPS

Filed Sept. 11, 1962

FIG. 1

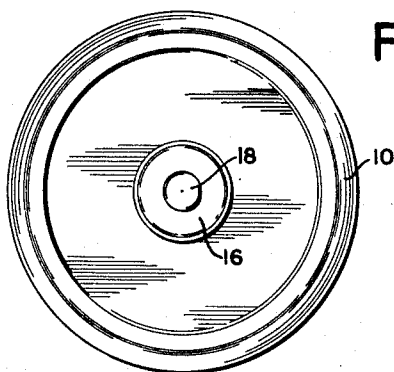


FIG. 2

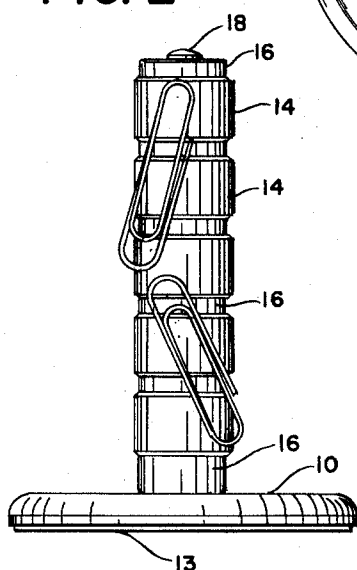


FIG. 3

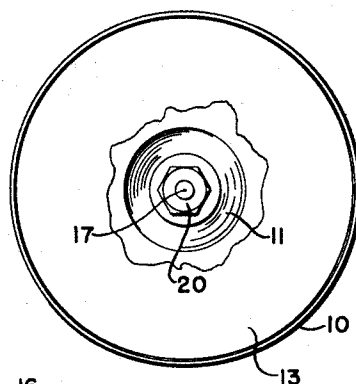
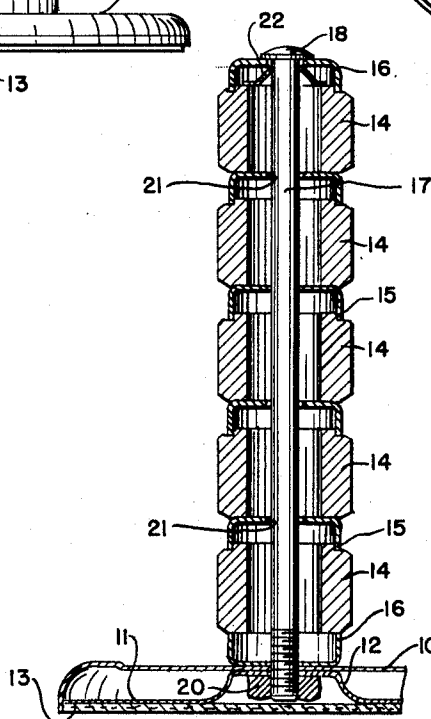


FIG. 4



INVENTOR.
RICHARD McFADYEN
BY *Darby & Darby*
ATTORNEYS

1

3,153,177

MAGNETIC HOLDER FOR PAPER CLIPS

Richard McFadyen, Upper Montclair, N.J., assignor to Ketcham and McDougall, Inc., Roseland, N.J., a corporation of New Jersey

Filed Sept. 11, 1962, Ser. No. 222,845

3 Claims. (Cl. 317-159)

The present invention relates to desk accessories broadly and particularly to a holder for paper clips in the form of an upstanding rod placed on a base, the vertical rod portion being magnetized and therefore holding a plurality of paper clips of the usual form which are generally made of ferrous magnetizable material.

More particularly the clip holder or stick of the present invention is so constructed that the base portion, although made of ferrous material, does not become magnetized and does not attract paper clips while the vertical or stick portion is so arranged as to exert a magnetic field of such strength that clips placed directly upon the stick are held thereto and clips coming into contact with these clips may also be held to the stick but with relatively slight attractive force. Thus when the overlying clip is removed the underlying clip, i.e., the clip directly in contact with the magnetic stick will remain in position so that only one clip will be removed.

It is an object of the invention to provide a desk accessory and particularly a paper clip holder which comprises an upstanding stick member formed of a plurality of magnets which attract and hold paper clips on their surfaces.

It is another object of the invention to provide such a magnetic clip stick in which the base which supports the stick, although formed of ferrous magnetizable material does not become magnetized and therefore no paper clips are held in an undesirable position on the base.

Another object of the invention is to so orient the magnets of which the stick is comprised that the magnetic fields are partially shorted to thus assure that paper clips may be removed from the stick individually rather than in groups.

It is another object of the invention to provide such a magnetic paper clip holder which is simple in construction pleasing in appearance, and economically manufactured.

Other objects and features of the invention will be apparent when the following description is considered in connection with the annexed drawings, in which,

FIGURE 1 is a top plan view of a magnetic paper clip holder in accordance with my invention;

FIGURE 2 is an elevation of the clip holder of FIGURE 1;

FIGURE 3 is a bottom view of the clip stick of the preceding figures, the central portion of the base insert being broken away in order to show the construction; and

FIGURE 4 is a vertical cross-sectional view of the device of the preceding figures.

Referring now to the drawings, there is shown at 10 a base which is generally cup-shaped and which is formed of steel having a brass plating thereupon. In addition to the outer element 10 the base has an inner element 11 which has a concave central portion 12, the two portions being fastened together as will later be described to form a more rigid structure than the single member 10 could provide.

Additionally, the major portion of member 11 lies in a plane slightly above the lower peripheral edge of the cup-shaped member 10 leaving a space in which a cork or other protective insert 13 is positioned and fastened to the annular portion of the member 11.

Fixed centrally of the base 10 is a stack of magnets

2

comprising the magnets 14. These magnets are all alike and, as clearly shown in FIGURE 4, are annular in form being provided at their upper edge with a reduced diameter portion 15. The magnets alternate with cup-shaped spacers 16 the periphery of which spacers is of a size to fit on the reduced magnet diameter thereby keeping the stack in vertical alignment. It should be noticed that the lowermost cup member 16 is reversed and faces upwardly whereas the remainder face downwardly.

The stack of magnets 14 and spacers 16 is held in position on the base 10 by means of a rod 17 which rod is provided with a head 18 at its upper end and is threaded and provided with a nut 20 at its lower end. The rod 17 is of ferrous material and passes through central openings 21 in the spacers 16, these openings being clearance openings so that the rod 17 makes contact with the intermediate spacers 16 in a very limited area. The top spacer 16, however, is seated against the head 18 and therefore has a considerable area in contact and in a similar manner the lower spacer 16 is in contact with the ferrous metal and with the upwardly concave portion of element 11 as well as with the nut 20 so that there is a relatively large area of contact between the spacer and the rod or rivet 17.

The magnets 14 are preferably oriented so that the like poles of adjacent magnets are adjacent each other, but may be oriented in the same direction so that all of the magnets have, for example, the north pole at the top and the south pole at the bottom it being understood that it is immaterial whether the north or south pole be at the top. As a result of the construction described the magnets as a whole are shortcircuited by the rod or rivet 17 and no magnetic flux is present in the base 10 and therefore no magnetic attraction is exerted and clips are not retained on the base 10. Each magnet 14 is individually partially shunted by virtue of the contact of the adjacent spacing washer with the magnet and with the rod 17, but as explained above, the contact with the rod 17 is very limited so that the shunt is only slightly effective.

However, this partial shunting is sufficient to reduce the tendency of clips retained on the holder to become magnetized to an extent to hold additional clips. As a result a clip may be removed from the holder without removing a second undesired clip, while at the same time a clip may be held directly by the holder or be held solely by attraction of a clip on that holder.

In order to assure that the array of magnets be held in position, a spring washer 22 is provided, this washer being concave upwardly and exerting a downward pressure upon the upper magnet. This arrangement assures that the stack be firmly held while at the same time reducing the likelihood that one or more of the magnets will be cracked by exerting too great a pressure during assembly. The magnets 14 may be of the ceramic type and thus somewhat fragile.

Although the rod 17 has been described as threaded and provided with a nut, it will be understood that the rod may be inverted and the end thereof be riveted over. This end may also be a press fit in the concave portion of the base element 11 or any other suitable means of fixing the rod 17 in the base comprising elements 10 and 11 may be utilized.

Many other variations in construction are also possible as for example magnets 14 may be provided with reduced diameter portions at both ends thereof and two spacing washers be provided between each pair of magnets to increase the centering effect.

Since the suggested variations and many others are well within the skill of the art, I wish to be limited not by the foregoing description but solely by the claims granted to me.

What is claimed is:

1. In a holder for paper clips and the like, in combination, a base, a plurality of magnets mounted in stacked array on said base, said magnets being annular and axially magnetized forming a north pole on one edge and a south pole at the other, one face of each said magnet being provided with a reduced portion, spacing washers of magnetizable material having clearance holes therein, said spacing washers being cup-shaped, said reduced portion of said magnet fitting within the periphery of the corresponding cup-shaped washer, and a rod passing through the centers of said magnets and through said washer clearance holes, said rod serving to shunt the magnetic flux of the complete array of magnets, said washers serving to partially shunt individual magnets, said rod having an enlarged head bearing against the uppermost washer and an enlarged area at the base in magnetic contact with the lowermost washer.

2. A device in accordance with claim 1, wherein an annular spring washer is provided between the head on said rod and the uppermost magnet to thereby exert a constant pressure on the stacked array to retain the magnets and spacers in aligned position substantially perpendicular to the base.

3. In a holder for paper clips and the like, in combination, a base comprising a cup-shaped member of ferrous material, a disk having a central upwardly concave portion within said base, the peripheral edges of said base extending downwardly beyond the peripheral edges of said disk, a protective insert fixed to the under surface of said disk, said insert being of a thickness to position its lower surface substantially flush with the edge of said base, a plurality of magnets mounted in stacked array on said base, said magnets being annular and axially magnetized forming a north pole at one edge and a south pole at the other, means for shunting a small portion of the magnetic flux of the individual magnets of the array and means for substantially completely shunting the flux of the complete array whereby clips will be retained upon said array when in contact therewith and said base will remain unmagnetized.

References Cited in the file of this patent

UNITED STATES PATENTS

3,051,875 Farwell Aug. 28, 1962

FOREIGN PATENTS

307,578 Great Britain Mar. 14, 1929