

May 20, 1969

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3,444,579

REVERSIBLE, DISPOSABLE CHALKBOARD ERASER PAD AND HOLDER THEREFOR

Filed May 17, 1967

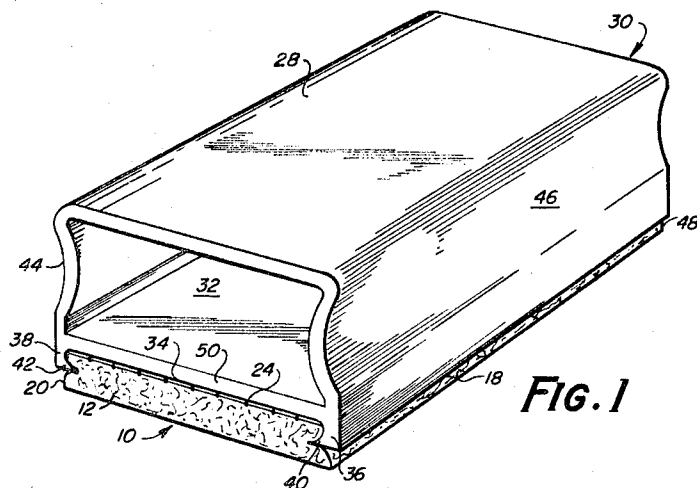


FIG. 1

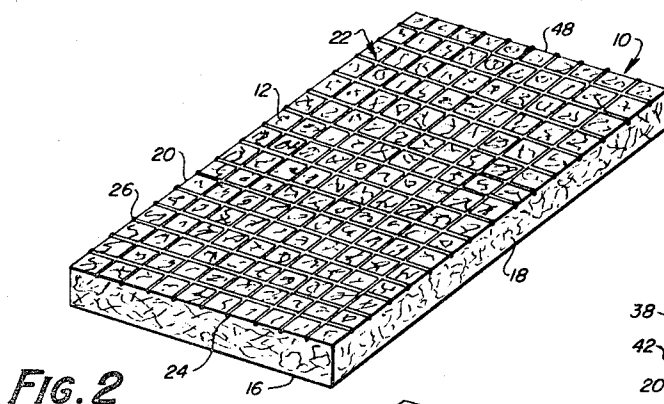


FIG. 2

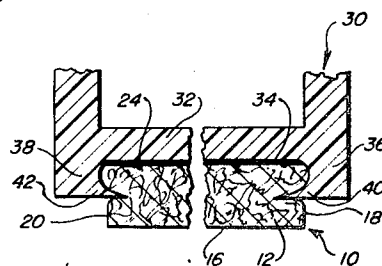


FIG. 4

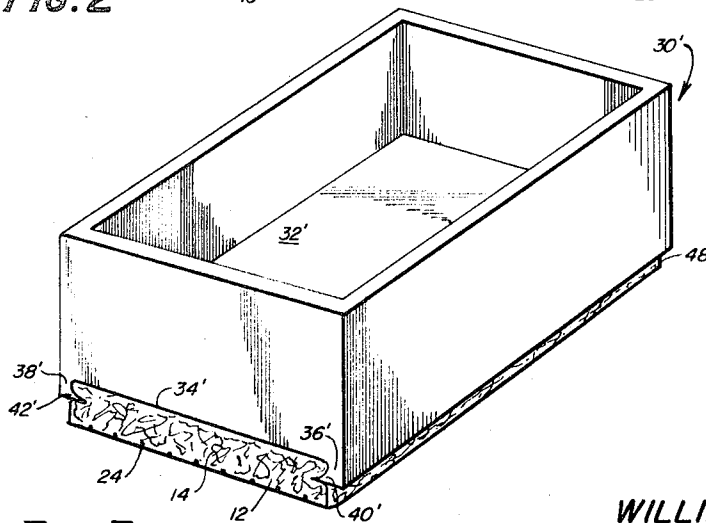


FIG. 3

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REVERSIBLE, DISPOSABLE CHALKBOARD ERASER PAD AND HOLDER THEREFOR

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Filed May 17, 1967, Ser. No. 639,240

Int. Cl. A47I 17/00; B43I 21/04

U.S. Cl. 15—118

2 Claims

ABSTRACT OF THE DISCLOSURE

A relatively thin, felted, fibrous pad is used as a chalkboard eraser either alone or held in a holder. One surface of the pad has adhered thereto an extruded thermoplastic net to serve as a stiffener for the pad and, additionally, as a means of removing heavy or soft chalk marks that are difficult to remove, such as marks caused by heavy application of chalk or by use of colored chalk.

This invention relates generally to chalkboard erasers for removing chalk marks, particularly heavy or soft chalk marks from the conventional chalkboard.

More specifically, this invention relates to a combination reversible and disposable chalkboard erasers pad and a holder therefor.

For many years, it has been conventional in schools, offices, and the like, where chalkboards are used to employ a chalkboard eraser comprised generally of a solid handle, usually of wood, and having securely affixed thereto, several strips of a tight felt-like material which are usually secured together by sewing and then fastened by various means to the handle.

Such erasers must be frequently cleaned in order to perform well and in order to avoid damaging the extensive chalkboard surface.

Such cleaning operations are frequently done manually by the building maintenance staff although there are available mechanisms for cleaning chalkboard erasers.

Either of these means of cleaning chalkboard erasers is expensive involving the expenditure of monies for labor and sometimes machinery.

In addition, certain types of chalk marks are very difficult to remove by this conventional type of eraser, particularly those made by a soft chalk, as is common with colored chalk (although some white chalk is also quite soft), and those made when excessive pressure is used in applying the chalk to the chalkboard surface. These marks, which are difficult to remove and caused, as indicated above, are referred to herein as "heavy or soft" chalk marks. Frequently, substantial tiny pieces of chalk will be left embedded in a soft, thick layer of chalk when excessive pressure is thus applied. Conventional chalkboard erasers at first merely spread this chalk around on the chalkboard and require repeated rubbings in order to remove the same.

In addition, where chalkboards are used constantly and frequently, it is sometimes necessary to occasionally wash these chalkboards by use of various materials in order to remove such heavy or soft chalk marks. Such washing cannot be done frequently as it is generally deleterious to the chalkboard surface.

It is, therefore, an object of this invention to provide a suitable chalkboard eraser which is inexpensive enough to be disposable, thus avoiding the excessive costs involved in cleaning conventional chalkboard erasers.

It is another object of this invention to provide a chalkboard eraser which is reversible, thus to bring into play a somewhat different erasing surface in order to remove heavy or soft chalk marks on a chalkboard.

It is still another object of this invention to provide a permanent type handle to which replaceable pads may be secured, thus further reducing the costs of providing suitable erasers for chalkboards.

Commonly, particularly in classrooms, it has been found that two or three erasers provided as the beginning of a school year frequently are reduced to a single eraser due to pilferage. Accordingly, it is another object of this invention to provide an eraser that is less subject to pilferage due to the fact that its erasing surface, being very thin, is not readily adaptable to repeated cleanings and, as such, has little value if pilfered.

The article of this invention including the preferred embodiment is fully disclosed in the following specification and drawing in which:

FIG. 1 is a perspective view of a combination eraser pad and holder of this invention,

FIG. 2 is a perspective view of the eraser pad of this invention,

FIG. 3 is a perspective view of a modified form of holder showing the pad in reversed position,

FIG. 4 is a cross-sectional view taken transversely through the article of FIG. 1 and partly broken away.

The chalkboard eraser of this invention consists of generally two parts—the eraser pad 10 and the holder 30 for the pad 10. Having reference to FIG. 2, the pad 10 is shown as comprising a body portion 12 having upper and lower surfaces 14 and 16, respectively. The pad is generally rectangular in shape and as such, has two longitudinal generally parallel side edges 18 and 20.

Adhered to the upper surface 14 of the pad is a net material 22. This net material is, preferably, an open net having longitudinal and transverse strands 24 and 26, respectively.

The pad may be used by holding the same in the hand; however, the dimension of the pad is approximately 2 inches by 5½ inches by ¼ inch in thickness and, as such, is somewhat awkward to hold. Accordingly, this invention also includes a suitable handle for holding the pad 10.

In FIG. 1, a holder 30 for the pad 10 is shown as comprising a hollow body portion 28 having a closed bottom 32, which, in turn, has a pad engaging surface 34. Laterally of the bottom 32, there are two longitudinal outwardly extending lips 36 and 38. The lips 36 and 38 include inwardly projecting lip edges 40 and 42, respectively. These lip edges 40 and 42 project into the longitudinal edges 18 and 20, respectively, of the pad body 12.

The holder 30 shown in FIG. 1 has been designed particularly for production by means of a plastic extrusion die mechanism and, as such, is shown as generally hollow. The particular shape of the hand-held portion of the holder 30, however, is not critical and may be injection molded, carved from wood, or produced from any other suitable material. In FIG. 3, handle 30' is shown which could be injection molded. Because of the manner of manufacturing the holder 30', it is not practical to have the finger and thumb indents 44 and 46 shown in the embodiment of FIG. 1. The basic pad engaging mechanism of the embodiment of FIG. 3 is the same as that shown in FIG. 1 and, as such, the corresponding elements have been shown in FIG. 3 with the same reference numerals but with the addition of a prime (') after the numeral. That is to say that the elements shown in FIG. 3 by the numerals 32', 34', 36', 38', 40', and 42' are identical in structure to elements 32, 34, 36, 38, 40, and 42, respectively, in FIG. 1. As such, there is no need to repeat the description of these elements and their function since reference may be had to the corresponding elements in FIG. 1.

In FIG. 3, however, the pad 10 is shown as being reversed such that the surface 16 of the pad is upward in

engagement with the pad engaging surface 34' of the holder 30' rather than being downwardly positioned for engagement with the chalkboard as is shown in FIG. 1. Thus the surface 14 is shown as exposed in FIG. 3. This surface has been the net 22 exposed for engagement with a chalkboard when in use. Because of the perspective view in FIGS. 1 and 3, only the ends of the longitudinal strands 24 are visible in these figures. It is evident, of course, that the pad 10 as shown in FIG. 1 could be reversed in the holder 30 in the same fashion as it is shown reversed in FIG. 3 in the holder 30' since the only difference between the holders 30 and 30' is in that portion of the holder which is held in the hand and the difference is caused by the different method of manufacture. Similarly, the pad 10 shown in FIG. 3 with its surface 14 exposed could as well be reversed in the holder 30' and have its surface 16 exposed in the same fashion as is shown in FIG. 1.

FIG. 4 shows an enlarged view of the means for retaining the pad 10 in the holder 30. This figure, since it is not in perspective, perhaps better shows the manner in which the lips 36-38 and the lip edges 40-42 slightly compress the edges 18 and 20, respectively, of the pad 10. It will be seen from this figure that the lip edges 40-42 cut into the edges 18-20 slightly and compress these edges very slightly in order to hold the pad 10 in engagement with the surface 34 of the holder 30.

The material of the pad 10 is, preferably, a relatively short cellulose and preferably lignocellulose fiber bonded with a suitable binder, such as a resin or starch. Other suitable fibrous materials interfelted in any one of a number of ways may, however, be used. The holder 30 may be of any of a number of materials as previously indicated including plastic, wood, metal, and others.

The net material 22 may be plastic and is preferably an extruded thermoplastic net. Certain woven plastic nets on the market have been found to present relatively sharp edges which are unsuitable and, accordingly, a net which is formed by extruding both the longitudinal and transverse strands, thus forming an integral joint, has been found preferable because of the smoothness of the joint and the avoidance of sharp, deleterious edges. Certain nets formed from twisted cotton yarns and woven may also be used, but these have been found to be somewhat rough though not excessively so.

Because of the small dimension, light weight, and economics of the device of the invention, it is possible to use the pad 10 until it has become filled with chalk dust and other chalkboard debris and then to dispose of the same. In this way, the bothersome chore of cleaning erasers and the labor and material costs associated therewith are eliminated. In addition, since the pad as shown in FIG. 2 is small and economical, it may be used alone without the holder in those instances where pilferage is a problem, although normally, it would be used in conjunction with the holder. Even when used in conjunction with the holder, the entire eraser would be less apt to be pilfered since any attempt to clean the pad would destroy it in short order.

As indicated, it has been found that in those instances where the chalk is applied to the chalkboard with excessive force, thus creating a large spot of considerable thickness of chalk and sometimes including substantial pieces of chalk, it can be readily removed by use of the surface 14 of the eraser pad since the net 22 serves to break up the larger clumps of hard or soft chalk marks and the surface 14 of the pad 12 may, when pressure is applied, protrude through the openings in the net 22 and take up the chalk and debris after it is broken up by the netting. At the same time, however, the netting 22 is of such a nature that it does not scratch or harm the

chalkboard in any way. Such an application is also unusually helpful when colored chalks, which are normally quite soft, are used on the chalkboard. Normally, such colored chalks are very difficult to remove; however, by use of the rearward surface 14 of the pad 12, the combination of the fibrous pad and the net 22 readily remove such colored markings.

The netting being somewhat stiffer than the pad also serves to give it rigidity and stiffness and when used in the more common position with the surface 16 exposed, also helps to retain the pad 10 in the holder 30 since when used in the more common position with the surface 16 of the pad exposed, the netting 22 has the edges thereof overlapping and behind the lip edges 40-42, thus helping to retain the pad in position.

It will be obvious from the above disclosure that the pad 10 is inserted in the holder 30 length-wise, longitudinally of the pieces. That is to say that the pad 10 shown in FIG. 2 is inserted into the holder 30 by inserting the end 48 thereof, or the opposite end, into the end, say end 50, of the holder 30. The pad is then slid along until it is entirely inserted. Of course, when starting the pad, it is necessary to compress the edges 18 and 20 slightly so that they may be engaged by the lips 36-38 and the lip edges 40-42. The pad, of course, is removed similarly by sliding it longitudinally relative to the holder 30 although it would be possible to rip the pad out face-wise away from the holder, this would create tearing and dust because of the destruction of the pad.

I claim:

1. An article of the type described comprising an elongated pad of fibrous material having a soft absorbent face suitable for erasing chalk marks from a chalkboard, said pad having an opposite and substantially parallel second face, an elongated holder for said pad of such dimension as to be readily held in the hand, said holder having a pad engaging surface, two lips integral with said holder and extending outwardly therefrom along two opposite sides of said pad engaging surface, said lips projecting inwardly toward each other in engagement with the opposite longitudinal edges of said pad, said lips retaining said pad in said holder for ready removability and reversibility, with said second face of said pad in engagement with said pad engaging surface of the holder, said pad having a body of felted fibrous material, said second face including a netting material adhered to said pad, said netting being relatively stronger and stiffer than the body of said pad, and said netting being positioned with the edges thereof behind and in overlapping relationship to said lips, whereby said net serves to help to hold said pad in position in said holder.

2. The article of claim 1 in which said netting is a thermoplastic material.

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U.S. Cl. X.R.

15-210; 161-89