

UNITED STATES PATENT OFFICE.

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BLACKBOARD-TROUGH.

SPECIFICATION forming part of Letters Patent No. 713,377, dated November 11, 1902.

Application filed August 16, 1900. Serial No. 27,002. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. BAKER, a citizen of the United States, and a resident of Winterpark, Orange county, Florida, temporarily residing in the borough of Brooklyn, in the city and State of New York, have invented a certain new and useful Improvement in Blackboard-Troughs, of which the following is a specification.

The improvement pertains to blackboards and analogous extended surfaces adapted for easy marking and erasing. I will describe it as applied to blackboards for school use.

It has long been common to provide the lower edge of a blackboard with a horizontally-projecting strip of more or less width, serving as a trough to receive the dust which falls from the blackboard in various quantities in the act of marking thereon with chalk or crayon and always in erasing marks therefrom. Such trough is also utilized to hold chalk or crayons and to hold brushes or other erasers. The importance of holding up the crayons and erasers out of the dust, so that they shall remain clean to be handled, has long been appreciated, and many more or less cumbrous and elaborate efforts have been made to provide means for such.

I have discovered that the quantity of dust is but slight, even from a blackboard much used, and have devised a construction which is so simple, cheap, and durable as to constitute an important advance in the arts. I produce deep grooves in the upper surface of a piece of wood, which may be a narrow strip produced from a board of soft or hard wood. This grooved piece or strip I supply with provisions for removably holding it in position, so that it will form a tight-bottomed trough for the blackboard, which trough can be temporarily removed when desired for emptying the dust which accumulates in the grooves. As a further advantage and special improvement I make the lands between the grooves higher and higher toward the front of the trough, so that said lands form or aid in forming a large pocket for holding the cloth or other board-cleaning device on the trough. Moreover, it is most useful to hold the trough when in service firmly, so that it will not rattle, while yet it can be removed and replaced with proper ease.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a front view of the entire blackboard and trough on a small scale. Fig. 2 is a corresponding vertical section. The remaining figures show certain portions on a larger scale. Fig. 3 is a section corresponding to Fig. 2. Fig. 4 is a plan view from below corresponding to Fig. 3. Figs. 5 and 6 are sections corresponding to Fig. 3, showing modifications.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

A is the blackboard, and A' brackets of iron secured thereto by screws.

B is a strip of lumber. This may be of cherry or analogous fine-grained hard wood nicely finished; but a soft cheap wood, as ordinary pine or white wood, will serve well. I prefer to use lumber having an original thickness of one and one-half inches; but ordinary inch lumber will serve. Four inches is a good breadth; but it may be wider or even much narrower, if preferred.

Referring to Figs. 3 and 4, the upper surface is hollowed, as indicated in Fig. 3. A series of grooves are formed longitudinally on the upper face, as indicated by b. These grooves are narrow and deep and are smoothly finished. A preferable mode of manufacture in the large way is to pass the lumber under a rapidly-revolved cutter properly comb-shaped, sometimes termed a "bit," and thereby produce grooves of the desired width and depth. I esteem it important that the upper edge of the "lands" B' between these grooves be made V-shaped, so that practically none of the dust will remain on the lands. The crayons, erasers, and other implements, as rules, compasses, or the like, which may be required in the working on the blackboard, may rest on these lands in the ordinary manner and be always clean. The dust falling from the blackboard in the use of the crayons and in the subsequent brushing in erasing drops into and remains in the grooves.

By having the upper surface of the trough hollowed, as shown in Figs. 3 and 5, instead of flat, as in Fig. 6, not only does the trough

have a more artistic appearance, but the lands rising higher and higher toward the front form together the wall of a large pocket for retaining or for aiding to retain a cloth, blackboard-cleaner, or other large object on the trough, as well as forming severally the division-walls and crayon-supports between the grooves or small dust-pockets. I hold the strip firmly, so that it cannot be displaced by accident or design, except when it is desired to remove it for cleaning, holding it by bolts D D', of which D are the shanks and D' are T-shaped heads. The shanks extend down through holes produced for the purpose, and the head of each lies longitudinally in the corresponding groove. Each bolt extends down through a hole in a corresponding bracket A' and receives a nut E, which can be set up with any required tightness. If there is risk of frolicsome or mischievous pupils removing the trough, these nuts may be square or hexagonal and be set tightly with a wrench. At long intervals, preferably during vacation, an attendant removes the nuts and lifts the several lengths out of position and more or less carefully inverts and jars and brushes to remove the dust, after which they are replaced. The parts are not exposed to wear or severe strains and may serve for an indefinite period.

For a small blackboard of the style here represented it is preferable to have but two brackets, one near each end, and only two holding bolts and nuts. For long blackboards, especially those which are made a part of a long school-room wall, the troughs may be made in convenient lengths and simply abutted together. Wherever an end is exposed I apply a corresponding cap C, secured by gluing or screwing, or both.

In what I consider the most complete development of the invention a deeper piece of thin lumber is glued or otherwise permanently secured on the front, with its upper edge extending above the other part. Such is indicated at G. It aids to insure the retention of any articles, as crayons, erasers, &c., resting mainly on the lands B'. I attach importance to the firm holding, because it gives reliability to the fixture and avoids the noise and irregularities incident to a loose board in the presence of playful or angry persons, and I attach importance to the facility of removal and resecuring, for the reason, among others, that these qualities allow the trough to be carried out of doors for emptying at the long intervals when such becomes desirable.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention.

The breadth of the grooves and of the lands may be varied; but it is important that the grooves be always so narrow that the crayons will not fall into them unless finely broken. The tops of the lands may be left flat, so as

to retain a narrow line of dust without preventing the trough from serving usefully.

Parts of the invention may be used without the whole.

Fig. 5 shows a modification in which my trough, grooved, as shown, is equipped with pins, which may be common nails extending downward therefrom, each engaging in a corresponding close-fitting hole in a lower trough permanently fixed to the blackboard. This lower trough may be any form of the ordinary trough M, the bottom of my strip being shaped to match thereto.

Fig. 6 shows a deep trough M', permanently fixed and adapted to serve as an ordinary trough. My grooved lumber is made to match with tightness in the interior of the permanent trough. Either of these forms and many others may serve with ordinary troughs. They can be pried up with proper tools, taking care to brush, blow, or otherwise remove the dust before the return of my grooved trough after it has been taken out and emptied. These forms, in which my grooved lumber is applied within the ordinary trough, are eminently useful in applying the invention to troughs already made. I have referred to the material as "lumber" and suggested some varieties; but it is obvious that they may be made of sheet metal deeply corrugated, or various other materials may serve. I prefer wood. The front plate G may be of metal, if preferred in any case. Instead of metal for the brackets A', I can use wood in the form of a rectangular block or of any fancy form of molding, making proper flat places for the nuts to bear and fastening and liberating the trough in the same way as described with the metal brackets. The whole or any portion of the surfaces may be varnished or otherwise treated, as convenience or taste may dictate.

I claim as my invention—

1. A blackboard attachment comprising a strip adapted to be secured by one edge along the front of a blackboard, the upper surface of which strip is furnished with flutes which extend parallel with said edge, and a bead along the opposite edge extending above the fluted surface, substantially as herein specified.

2. A blackboard attachment comprising a strip adapted to be secured by one edge along the front of a blackboard, the upper surface of which strip is furnished with flutes which extend parallel with said edge, substantially as and for the purpose set forth.

3. The combination with a blackboard A of a tight-bottomed trough B provided with deep longitudinal grooves b and provisions for firmly securing it in position and allowing its easy release for removal to be emptied when required, adapted to serve substantially as herein specified.

4. The combination with a blackboard, of a trough having parallel lands B' with deep narrow grooves between adapted to receive

the dust in the grooves and hold the crayons at a higher level, and the brackets A' and T-headed bolts D D and nuts E adapted to serve substantially as herein specified.

5 5. The combination with a blackboard, A, of a tight-bottomed trough, B, provided with deep longitudinal grooves, and provisions for removably holding the trough in position, substantially as described.

10 6. The combination with a blackboard, A, of a tight-bottomed trough, B, provided with deep longitudinal grooves and having the

lands between the grooves higher and higher toward the front of the trough, and provisions for removably holding the trough in po- 15
sition, substantially as described.

In testimony that I claim the invention above set forth I affix my signature in the presence of two witnesses.

THOMAS R. BAKER.

Witnesses:

J. B. CLAUTICE,

M. F. BOYLE.