H. L. ANDREWS.

BLACK-BOARD ERASER.

No. 190,662. Patented May 15, 1877.

Fig.1.

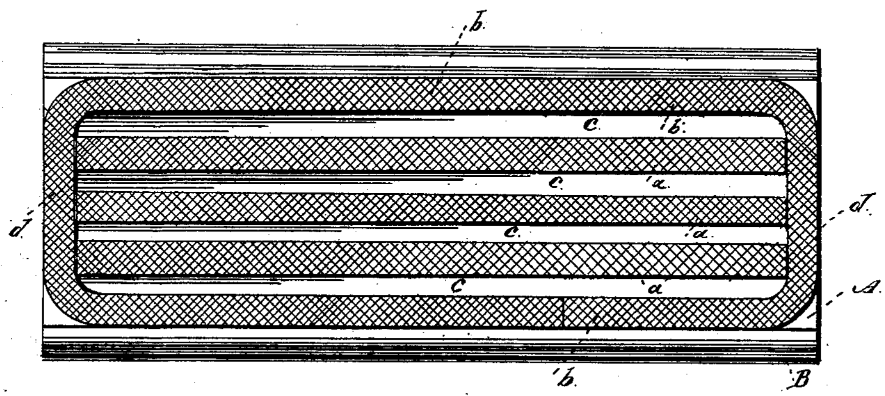


Fig.2.

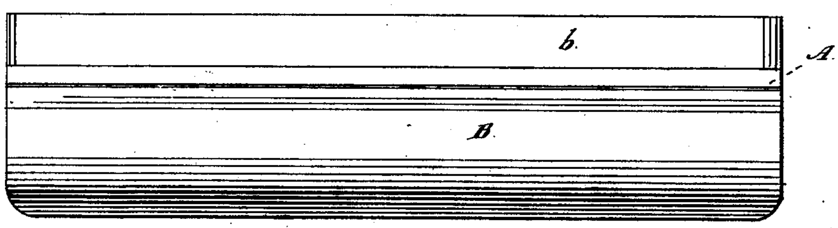


Fig.3.

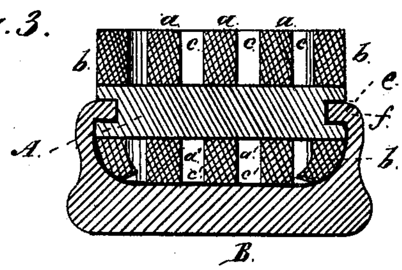
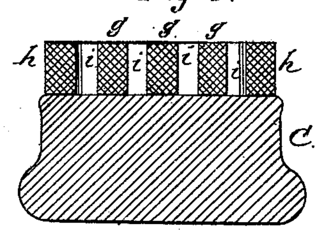


Fig.4.



Witnesses:

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UNITED STATES PATENT OFFICE.

HERBERT L. ANDREWS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN BLACKBOARD-ERASERS.

Specification forming part of Letters Patent No. **190,662**, dated May 15, 1877; application filed March 1, 1877.

To all whom it may concern:

Be it known that I, HERBERT L. ANDREWS, of the city of Chicago, Cook county, State of Illinois, have invented a new and useful Improvement in Blackboard-Erasers, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of the under side; Fig. 2, a side elevation; Fig. 3, a cross-section of Fig. 1; Fig. 4, a variation.

This invention consists in providing the face of the wood, which forms the handle of the eraser, with a number of strips of felt, or other similar suitable material, to be secured to the block by means of glue, and without the aid of grooves; in providing a continuous strip of the same material secured to the block in the same manner, which last-mentioned strip extends over the ends of the other strips, all of the strips having channels or spaces between them, and by making the outer strip continuous these channels, at the ends, are closed, so that while in use the dust which accumulates therein will not escape at the ends; and in the peculiar manner, herein described, of making an eraser reversible.

In the drawings, A represents a block of wood. *a* are strips of woven felt, or other similar material, which are placed upon their edges, and are glued to the block A. *b* is a continuous strip of the same material, extending around the other strips *a*, and across the ends thereof, as shown at *d*. *c* are channels or grooves between the strips *a*, and between the strips *a b*, and since the strip *b* extends across the ends of the block, the channels *c* are closed at their ends.

The block A, as represented, is provided with a groove, *e*, upon each side, and B is another block, the central portion of which is entirely cut away, and it is formed as shown in Fig. 3, *f* being flanges adapted to fit into the grooves *e*.

When made in this form, I provide both faces of the block A with the erasing material—*a'* being strips corresponding with *a*, *b'* being strips corresponding with *b*, and *c'* being channels corresponding with *c*.

When constructed as shown in Fig. 3, after the material has been worn down on one face, the block A can be removed, turned over, and a second eraser will be ready for use.

This reversible feature is not essential to my invention. The eraser may be constructed as represented in Fig. 4, in which C represents the block which forms the handle, to the face of which the strips of erasing material are secured, *g* corresponding to the strips *a*, *h* corresponding to the strips *b*, and *i* corresponding to the channels *c*.

This construction is considerably cheaper than the other, and may be more generally adopted for that reason.

I am aware that erasers have been made having strips of erasing material secured to a block of wood, with channels between the strips; but such channels have always been left open at their ends. These channels receive a large portion of the dust removed from the board by erasure; and when the channels are open at the ends, as mentioned, this dust escapes therefrom; and with such construction, also, the ends of the erasing material have no support whatever, and are very liable to become loosened from the block, or broken down in use; but with my construction, the ends of the inner strips are supported and protected by the continuous strip *b*.

There is an advantage in securing the erasing material to the block, as described, instead of placing it in grooves—in this, that less erasing material is required, as, practically, the whole of the erasing material can be worn up.

Where the erasing material consists simply of a series of strips secured to a block without a continuous strip, the sides of the strips are liable to be broken down in use; but by providing a continuous strip, *b*, one part supports another, and such strip retains its place until the eraser is completely worn out.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. A blackboard-eraser, consisting of a block having strips of felt *a*, or other similar material, glued to the block, and a strip, *b*, of the same material extending across the ends of the strips, all so arranged as to have chan-

nels *c* between the several strips, the channels being closed at their ends, substantially as and for the purposes specified.

2. A reversible blackboard-eraser, consisting of the block A, having strips of felt *a a'*, or other similar material, and strips *b b'*, glued to opposite sides thereof, and so arranged as to leave channels *c c'* between the strips, in combination with the block B, all constructed and operating substantially as described.

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Witnesses:

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