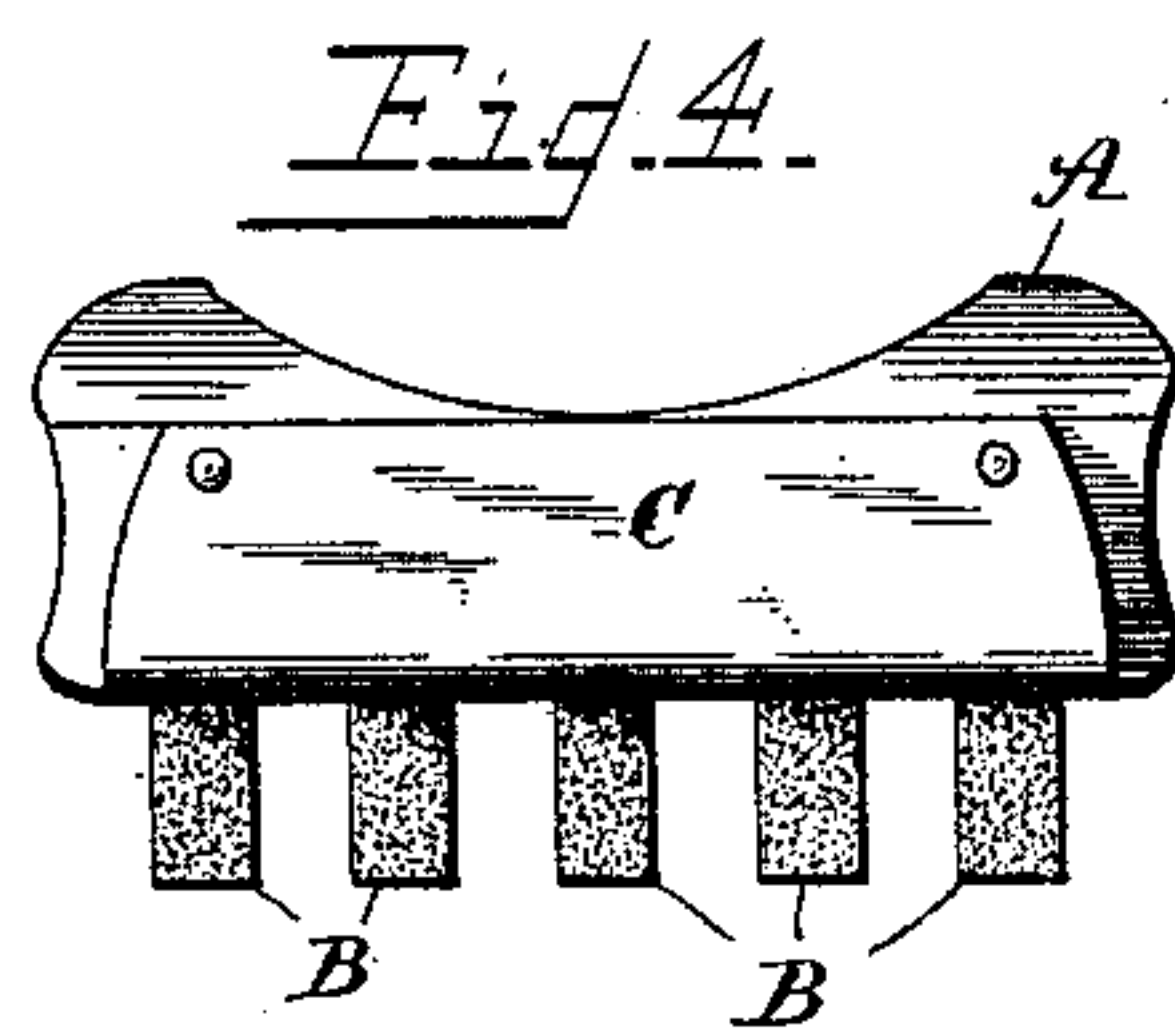
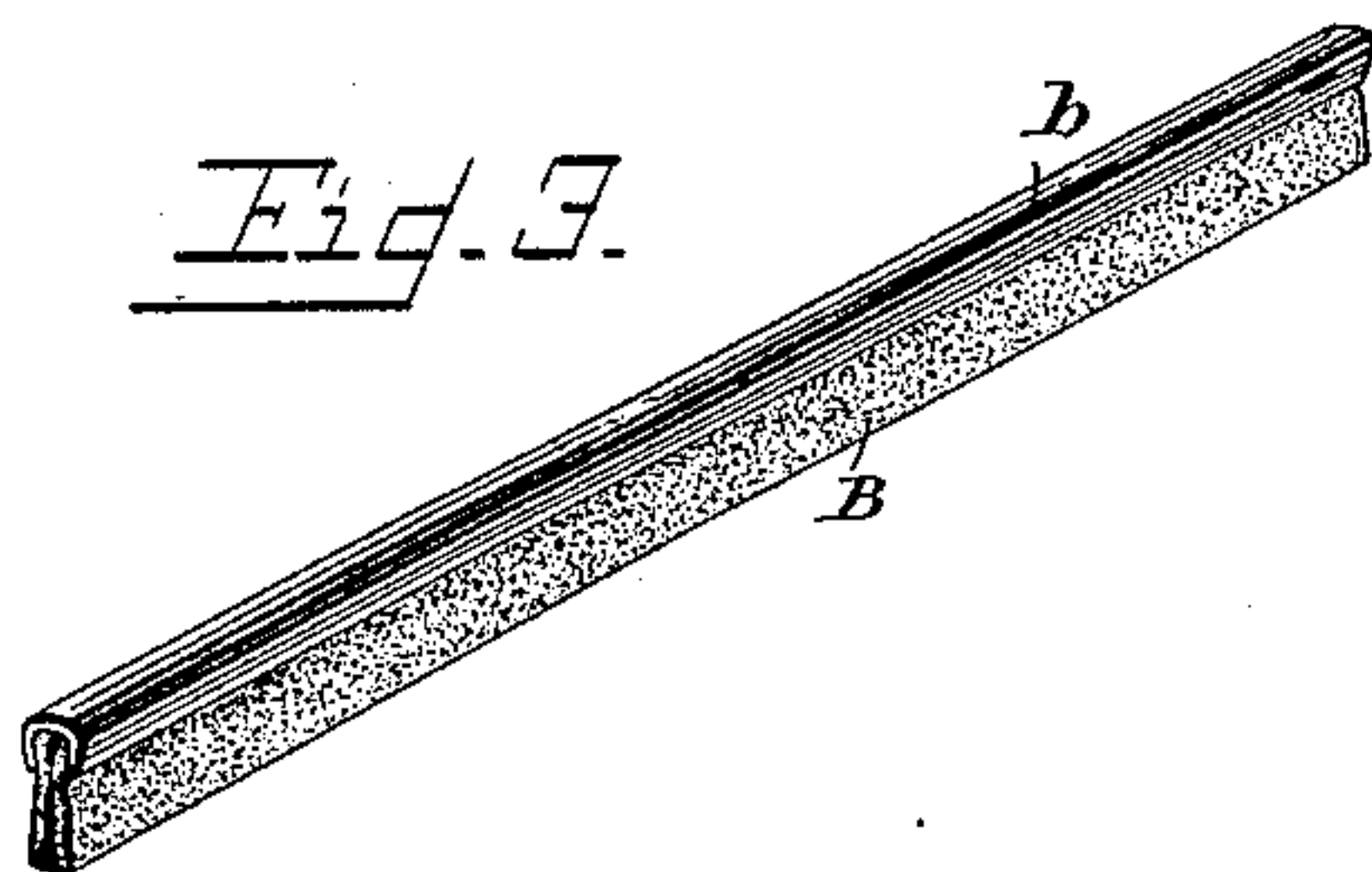
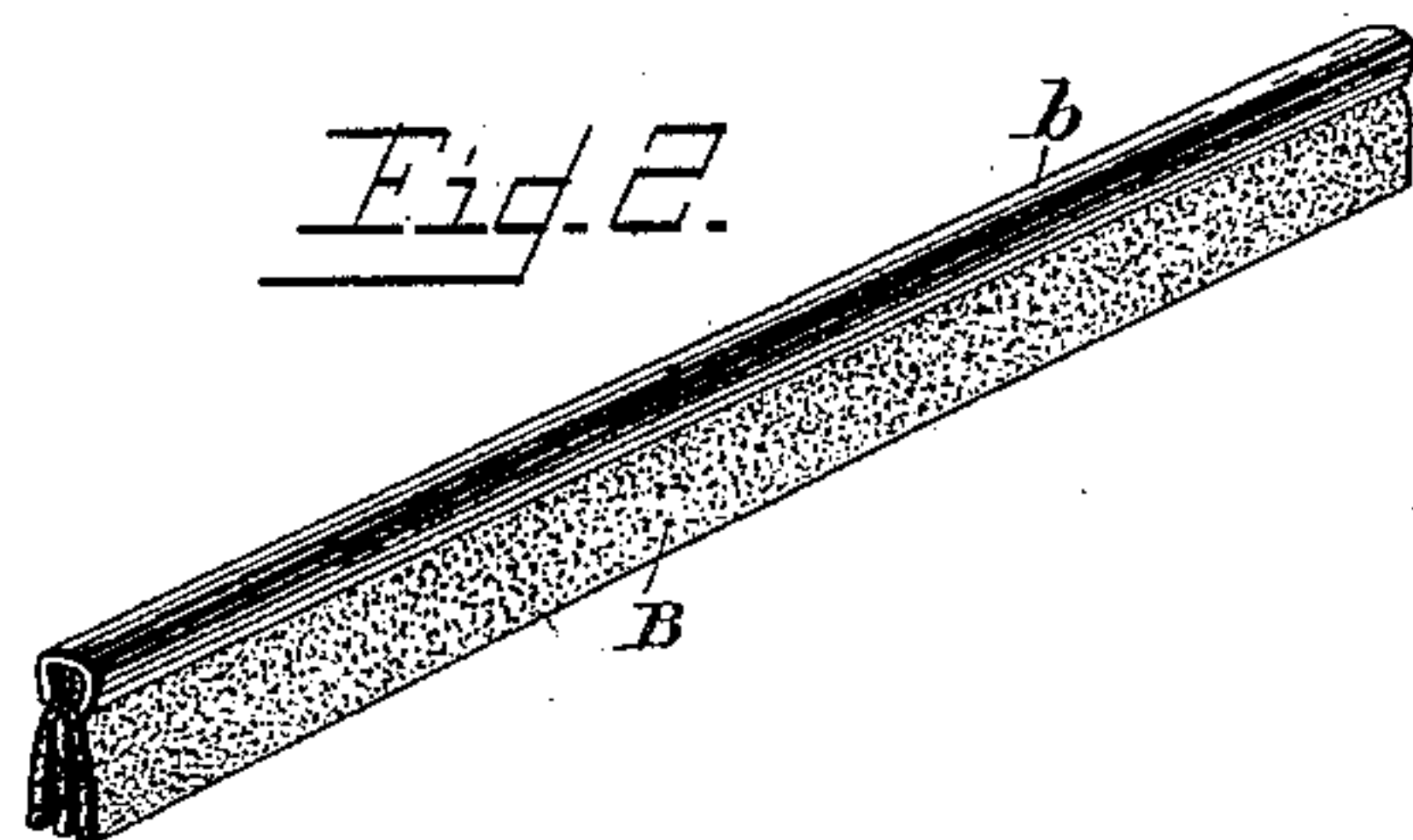
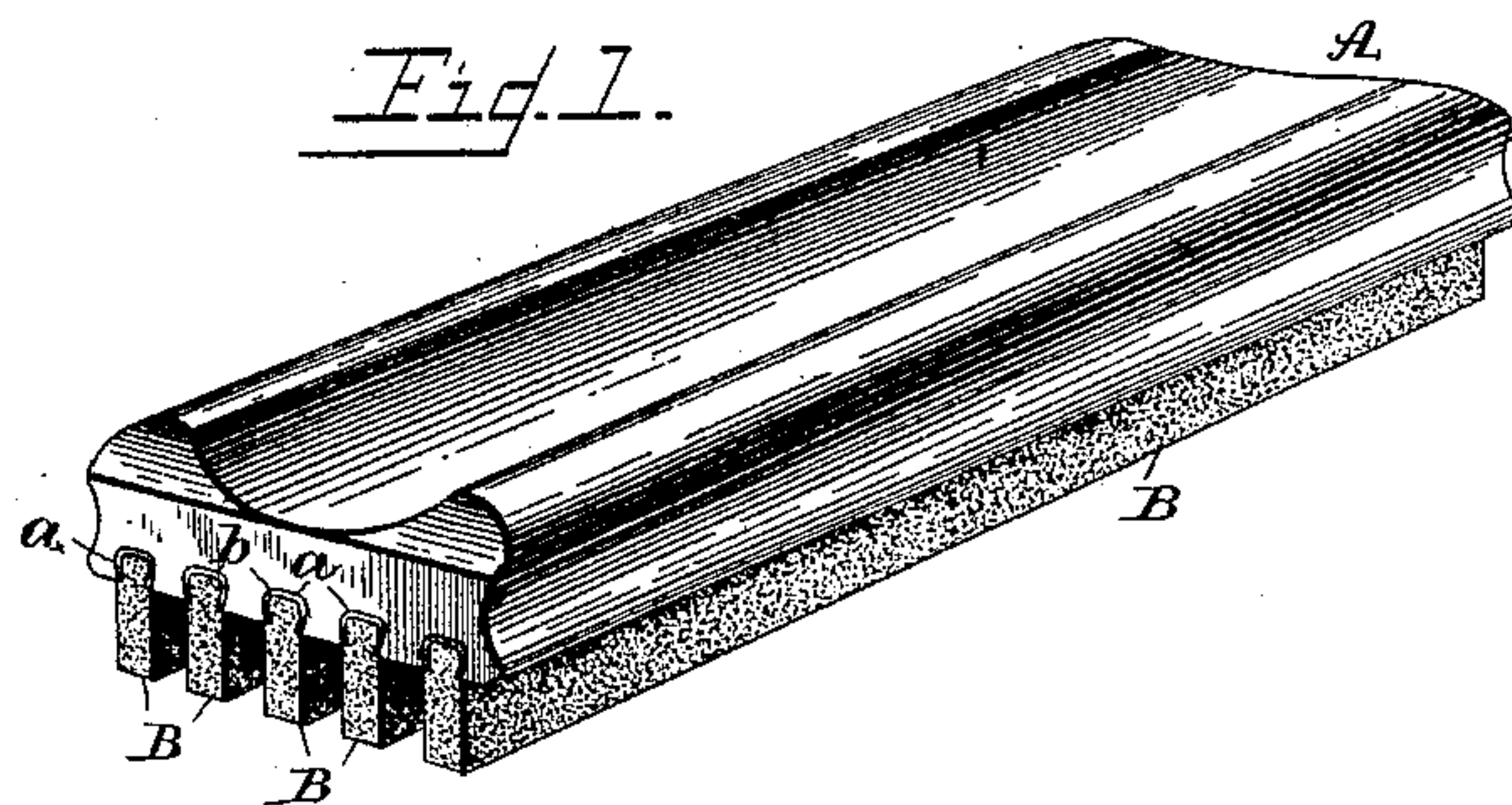


(No Model.)

H. E. GARDINER.
BLACKBOARD ERASER.

No. 437,106.

Patented Sept. 23, 1890.



Witnesses.

Edwin L. Bradford

Wm. M. Shackbridge.

Inventor.

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By his Attorneys

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UNITED STATES PATENT OFFICE.

HOWELL E. GARDINER, OF BATTLE CREEK, MICHIGAN.

BLACKBOARD-ERASER.

SPECIFICATION forming part of Letters Patent No. 437,106, dated September 23, 1890.

Application filed March 20, 1890. Serial No. 344,671. (No model.)

To all whom it may concern:

Be it known that I, HOWELL E. GARDINER, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Blackboard-Erasers; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in blackboard-erasers of the class in which parallel strips of felt, cloth, or other suitable material are attached to a head or block to form receptacles for the chalk dust and prevent the same from being rubbed back and forth on the board.

The object of my invention is to produce an eraser of the above class which will remain in good serviceable condition for a long period, be of low first cost, and which can be readily restored to its original condition when the fabric or rubbing material becomes worn.

To these ends the invention consists in the combination of a wooden back or hand-piece provided with a series of parallel longitudinal grooves or dovetails upon its under side and a plurality of wiper-strips made up of a single strip or duplication of strips of felt, cloth, or other fabric, and a thin metal plate bent around one of the edges thereof to clamp the part within its flanges, and which serves as a stiffening-piece to hold the strip within the grooves in the hand-piece.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the eraser, showing the grooves on the under side of the hand-piece and a series of rubbing or wiper strips inserted therein. Figs. 2 and 3 are perspective views of the wiper-strips, showing the use, respectively, of three and two bands or pieces of fabric; and Fig. 4 is an end view of the eraser, showing the stop-plate.

A is the wooden hand piece or block of the eraser, and *a a* represent the longitudinal grooves on the under side thereof. These grooves are preferably dovetailed or rounded in cross-section, in order to hold the wiper-strips therein.

B B are the wiper-strips, of felt, cloth, or other suitable fabric, which when attached to the hand-piece form the rubbing or erasing surface of the device. These strips have a piece of thin metal *b* bent around one edge, which bites into the cloth, forms a stiffening-piece therefor, and when a duplication of the pieces of fabric is employed serves as a clamp for securing the pieces together. This metal piece when bent corresponds approximately in cross-section and length with the grooves in the under side of the hand-piece A.

C is a metal stop-plate to prevent slipping back and forth of the wiper-strips after they have been inserted.

This eraser is used in the ordinary manner, the space between the wiper-strips serving as receptacles for the chalk dust, the provision of which prevents the smearing of the blackboard by rubbing the dust back and forth over it. When the erasing material has become worn out, it is simply necessary in order to renew the same to remove the plate C from the end of the hand-piece, withdraw the worn strips from their seat in the grooves *a a*, replace them by new strips, inserting them lengthwise into the grooves, and replace the plate C. The eraser is now in perfect condition.

As shown in Figs. 2 and 3, each wiper-strip B may have a plurality of erasing-surfaces, the several parts being clamped together by the metal piece *b*. In Fig. 2 three separate pieces are shown, while in Fig. 3 but a single piece of fabric is employed, the same being folded over upon itself. These wiper-strips may form a distinct article of manufacture to be sold to the trade independent of the rest of the eraser.

Having now described my invention, what I claim is—

1. A series of eraser-strips each composed of narrow pieces of flexible fabric and a clamping or binding plate, in combination with a grooved hand piece or block, substantially as described.

2. A blackboard-eraser consisting of the combination, with a hand piece or block having a series of parallel longitudinal dovetailed grooves upon its under side, of eraser-strips of flexible fabric, each strip having a

separate metal binding-plate upon one of its edges, adapted to fit the grooves in the hand-block, substantially as described.

3. A blackboard-eraser consisting of the
5 combination, with a hand piece or block having a series of parallel longitudinal dovetailed grooves upon its under side, of eraser-strips of flexible fabric, having a metal binding upon one of their edges, adapted to fit the

grooves in the hand-block, and a stop-plate 10 for preventing the movement of the strips after insertion, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

HOWELL E. GARDINER.

Witnesses:

WM. K. LOUGHBOROUGH,
E. C. LOUGHBOROUGH.