

No. 665,637.

Patented Jan. 8, 1901.

S. P. GREY.
BLACKBOARD ERASER.

(Application filed Mar. 14, 1900.)

(No Model.)

Fig. 1.

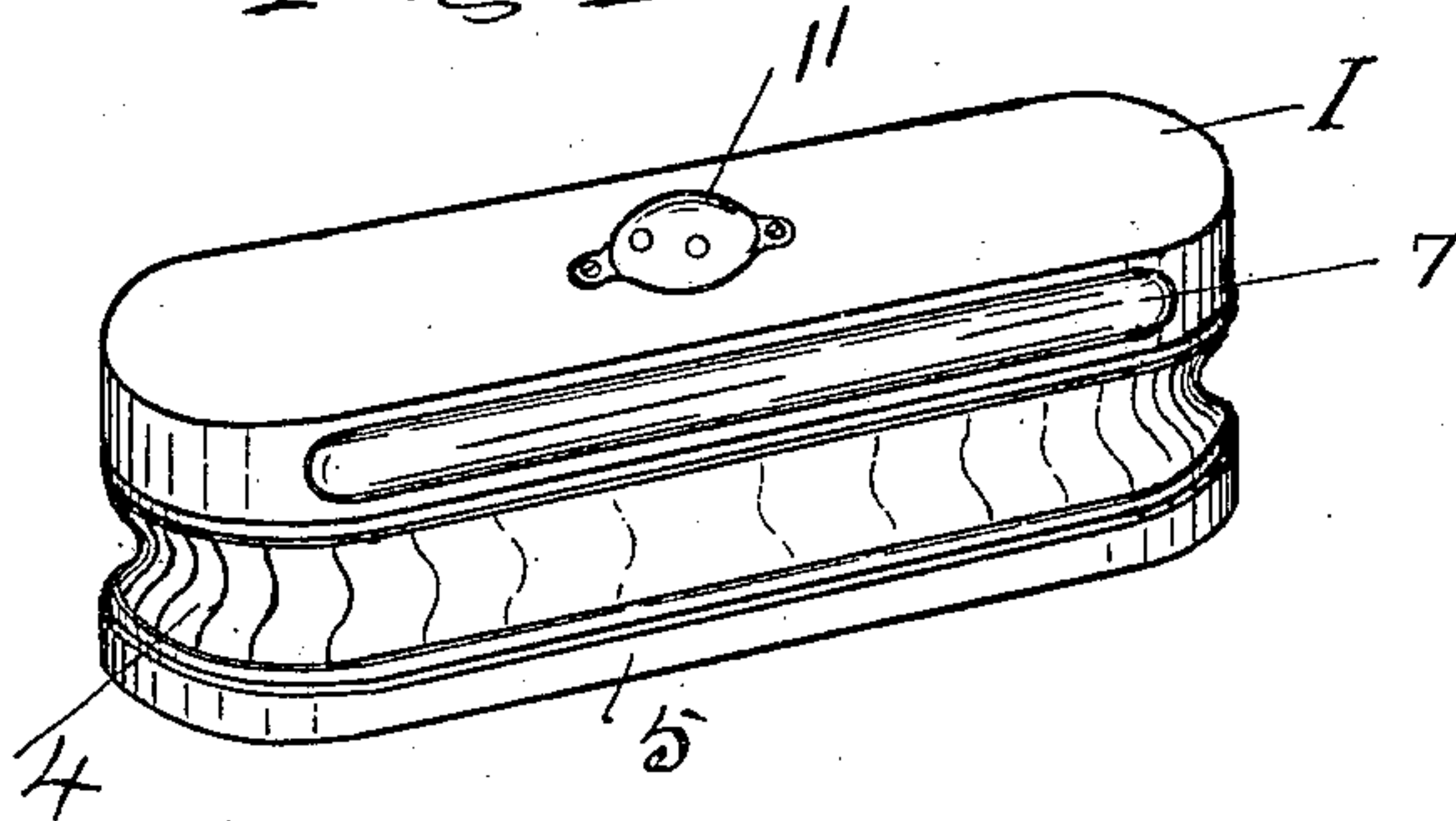


Fig. 2.

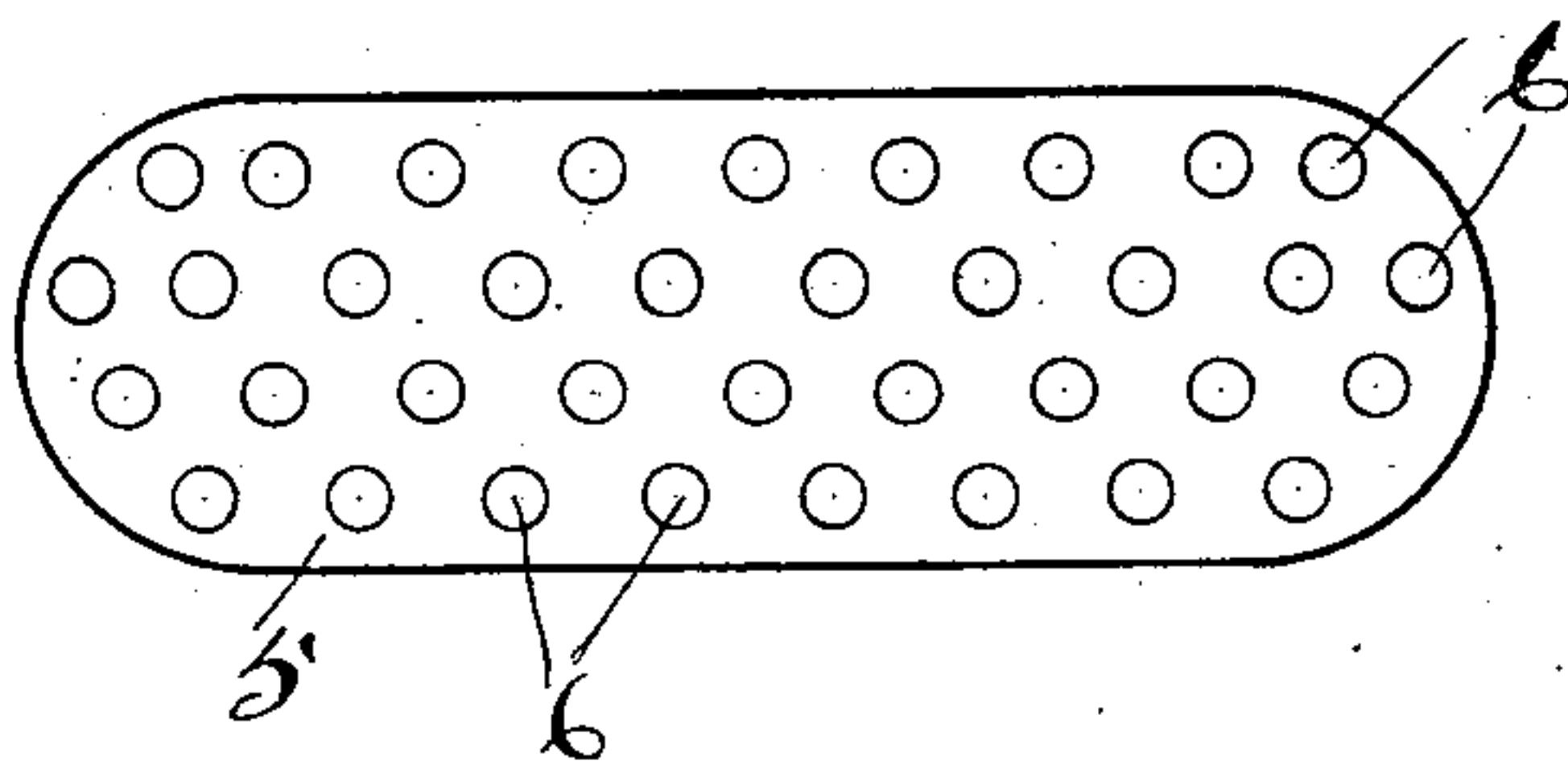


Fig. 3.

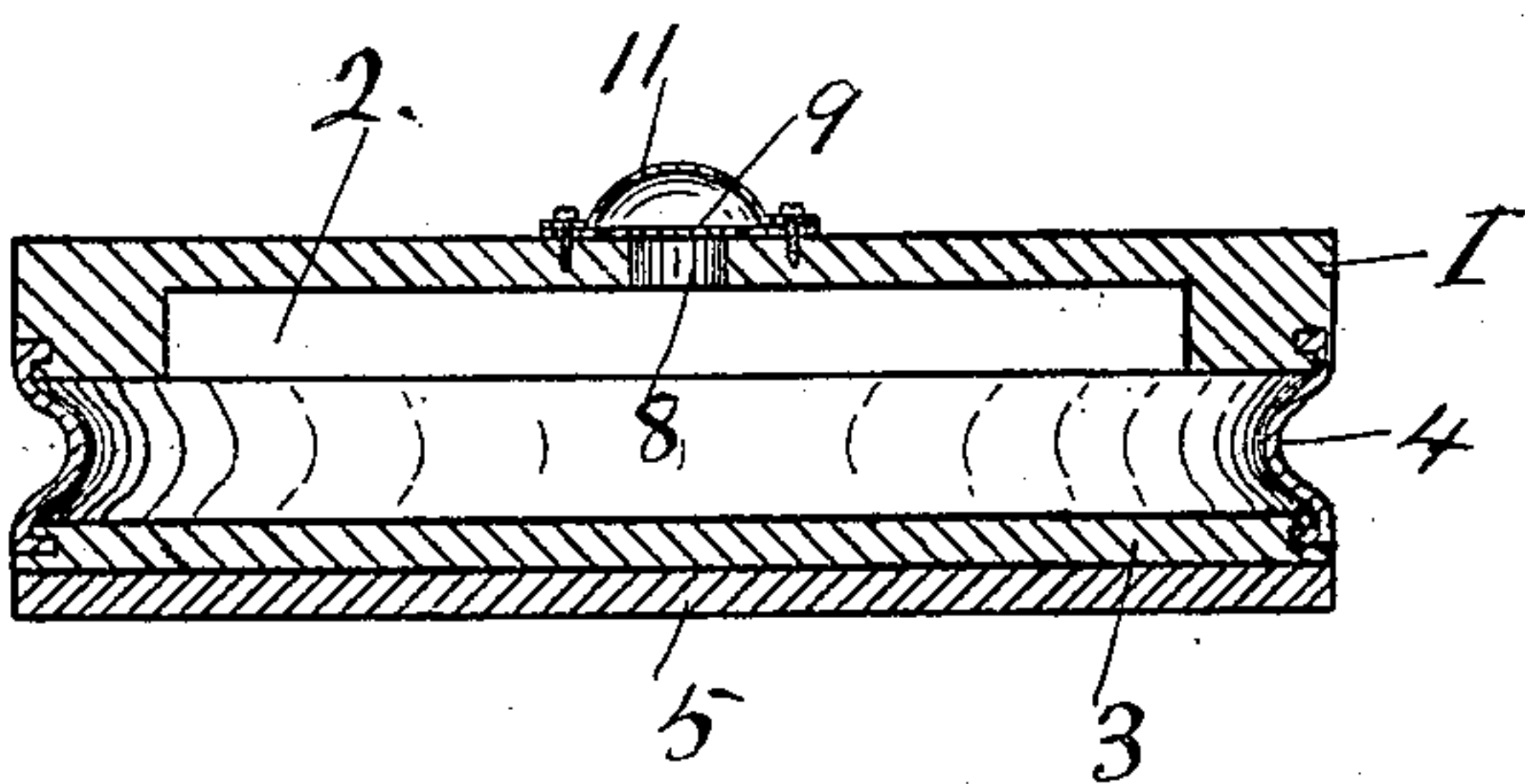


Fig. 4.

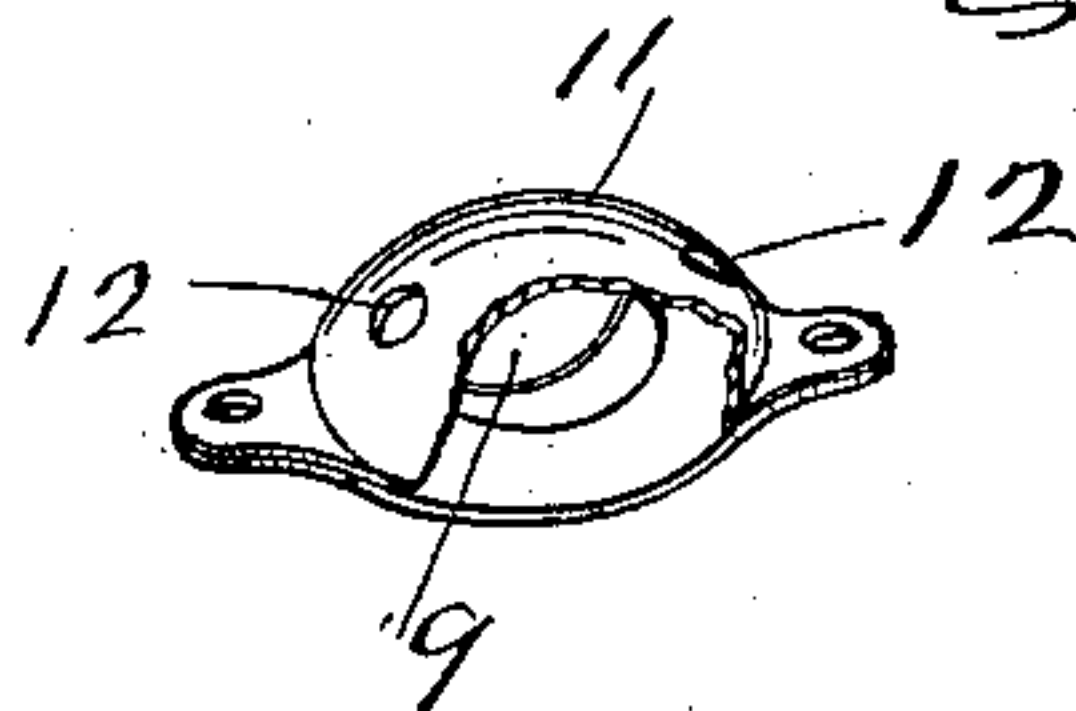
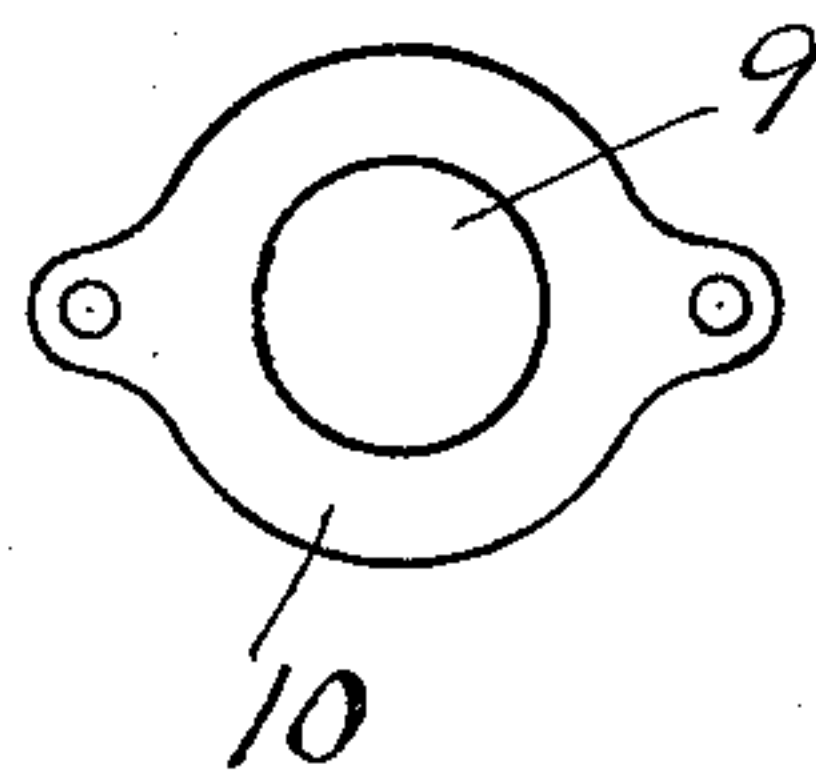


Fig. 5.



WITNESSES:

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SYLVESTER P. GREY, OF FORT WAYNE, INDIANA.

BLACKBOARD-ERASER.

SPECIFICATION forming part of Letters Patent No. 665,637, dated January 8, 1901.

Application filed March 14, 1900. Serial No. 8,583. (No model.)

To all whom it may concern:

Be it known that I, SYLVESTER P. GREY, a citizen of the United States, residing at Fort Wayne, in the county of Allen, in the State of Indiana, 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, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in blackboard-erasers.

It is well known that in the use of the ordinary blackboard-eraser but a very small and immaterial portion of the crayon-dust is retained or absorbed by the rubbing-surface, nearly the whole of it being thrown directly into the air, which is very injurious to the eyes and lungs of the user, as well as of all the occupants of the room in which it is used.

The object of my present invention is to provide a practically dustless eraser for blackboard use, and especially designed for use in the public schools, which is adapted to receive the crayon-dust into an interior dust chamber or receptacle, where it will be temporarily retained, but from which it can readily be removed when desired.

My improvement consists of a handpiece, and a base-plate in parallel arrangement united by an annular strip of rubber whose opposite edges are firmly fixed therein, the said handpiece being provided with a longitudinal recess or dust-chamber upon its lower face. This handpiece is provided upon its upper face with a dust-suction valve in communication with the said chamber by means of a suitable opening in said handpiece, the said base-plate being provided with a series of perforations leading to the said dust-chamber, and has its lower face covered by a proper flexible-fabric rubbing-surface.

The novel feature of my invention resides in the relative arrangement of the coöperative parts whereby the chalk-dust is drawn by suction into the said chamber and temporarily retained therein.

Similar reference-numerals indicate like parts throughout the several views, in which—

Figure 1 is a perspective view of my improvement, showing the relative arrangement of its operative parts. Fig. 2 is a bottom plan of the same, showing the chalk-dust openings leading into the dust-chamber. Fig. 3 is a longitudinal central section of the same, showing the interior of the suction-valve and the opening connecting the same with the interior dust-chamber. Fig. 4 is a perspective detail of the valve and valve-casing, partly broken away to show the interior part thereof. Fig. 5 is a bottom plan of the valve.

The body of my improved eraser is formed by the handpiece 1, preferably of wood, having a receptacle or chamber 2, adapted to receive the chalk-dust, and a basal strip or block, also preferably of wood, in parallel arrangement therewith, the parts being connected by a strip 4 of flexible material, preferably of rubber, whose opposite edges are secured in any proper manner to the said parts, respectively, preferably in suitable lateral grooves therein, as shown in Fig. 3. This flexible connecting-strip 4 is of sufficient strength to retain the body portions 1 and 3 in their relative positions properly separated, as shown. The basal strip 3 is provided with a series of vertical openings, through which the chalk-dust is admitted by suction to the dust-chamber. To the lower face of this strip is firmly secured in any proper manner a suitable eraser strip or strips 5 of flexible fabric, which may be plain, as shown, or ridged, if desired. These eraser-strips 5 are provided with a series of vertical openings 6 coincident with the said openings in the base-strips. The said block 1 is preferably provided upon its opposite side edges with the lateral grooves 7, adapted to provide a proper handhold in the use of the same. Approximately midway the ends and sides of the said handpiece 1 is a vertical opening 8. On the outer face of this block 1, above and in coöperative relation therewith is arranged a proper suction-valve 9, preferably formed from and integral with a proper strip of leather 10 or other suitable fabric, having proper perforated ears by which it is firmly held in position. This valve has a proper convex metallic case or covering 11, having suitable airvents 12 and provided with apertured ears 13 in register with the said ears of the valve.

This valve 9 is of greater area than the said opening 8, whereby the upper surface of the strip 1 forms an annular seat.

The operation and manner of employing my invention thus described are obvious, and, briefly stated, are as follows: The solid strips 1 and 3 are connected by a strip of rubber 4 or other elastic material of sufficient firmness to hold them normally apart, as shown in Fig. 3, thus forming a considerable air-space within the eraser in addition to the dust-chamber 2. When the eraser is used, the pressure of the hand incident to use will of course force the parts 1 and 3 into contact, or approximately so, thereby closing the said air-space and forcing the displaced air outward through the suction-valve 9. When the pressure of the hand on the body 1 of the eraser is removed even for an instant, as is the case at each stroke thereof upon the blackboard, the flexible connection 4 will of course resume its normal position, producing a vacuum within the eraser which is at once filled by an inrush of fresh air through the said openings 6, carrying with it the chalk-dust upon the adjacent rubbing-surface. The greater portion of the chalk or crayon dust which is removed by the rubbing-surface will be carried by suction through the said openings 6 into the said dust-chamber 2, from which it can readily be removed by jarring it out through the said openings 6.

My improvement is thus cheap, simple, and durable, not easily got out of repair, and has this additional advantage that when the felt or other proper rubbing-surface 5 is worn out it can readily be replaced at a mere nominal expense. The same is true of both the flexible connecting-strip 4 and of the said dust-suction valve.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. A blackboard-eraser consisting of a hollow body provided with a suction-valve as

shown, having its handpiece and rubbing-surface united by an elastic expanding-fabric connection, and having its rubbing-surface provided with a series of vertical openings through which the chalk-dust is admitted to the hollow interior by suction.

2. As a new article of manufacture, a blackboard-eraser consisting of a handpiece having a recess or chamber in its inner surface, and provided with a suction-valve communicating with said chamber, a flexible rubbing-surface arranged upon a rigid plate and united to the said handpiece by an elastic expanding-fabric connection, the said plate and said rubbing-surface being provided with coincident openings through which the chalk-dust is received by suction into said chamber.

3. The combination in a dustless blackboard-eraser, of a chambered handpiece having a suction-valve communicating with the interior thereof, a rubbing-surface mounted as shown on a proper supporting-plate, and provided with a series of inlet-openings adapted to admit by suction the dust from the rubbing-surface to the chambered interior and an elastic expanding connection uniting the said handpiece and the said rubbing-surface, substantially as described.

4. A blackboard eraser consisting of a handpiece having a suction-valve upon its upper surface, and provided upon its lower face with a chalk-receiving chamber, and a basal strip united to the said handpiece by an elastic expanding band as shown, and provided upon its outer face with a proper rubbing-surface having a series of inlet-openings leading to the dust-chamber.

Signed by me at Fort Wayne, Allen county, State of Indiana, this 6th day of March, A. D. 1900.

SYLVESTER P. GREY.

Witnesses:

ADELAIDE KEARNS,
ALICE KEARNS.