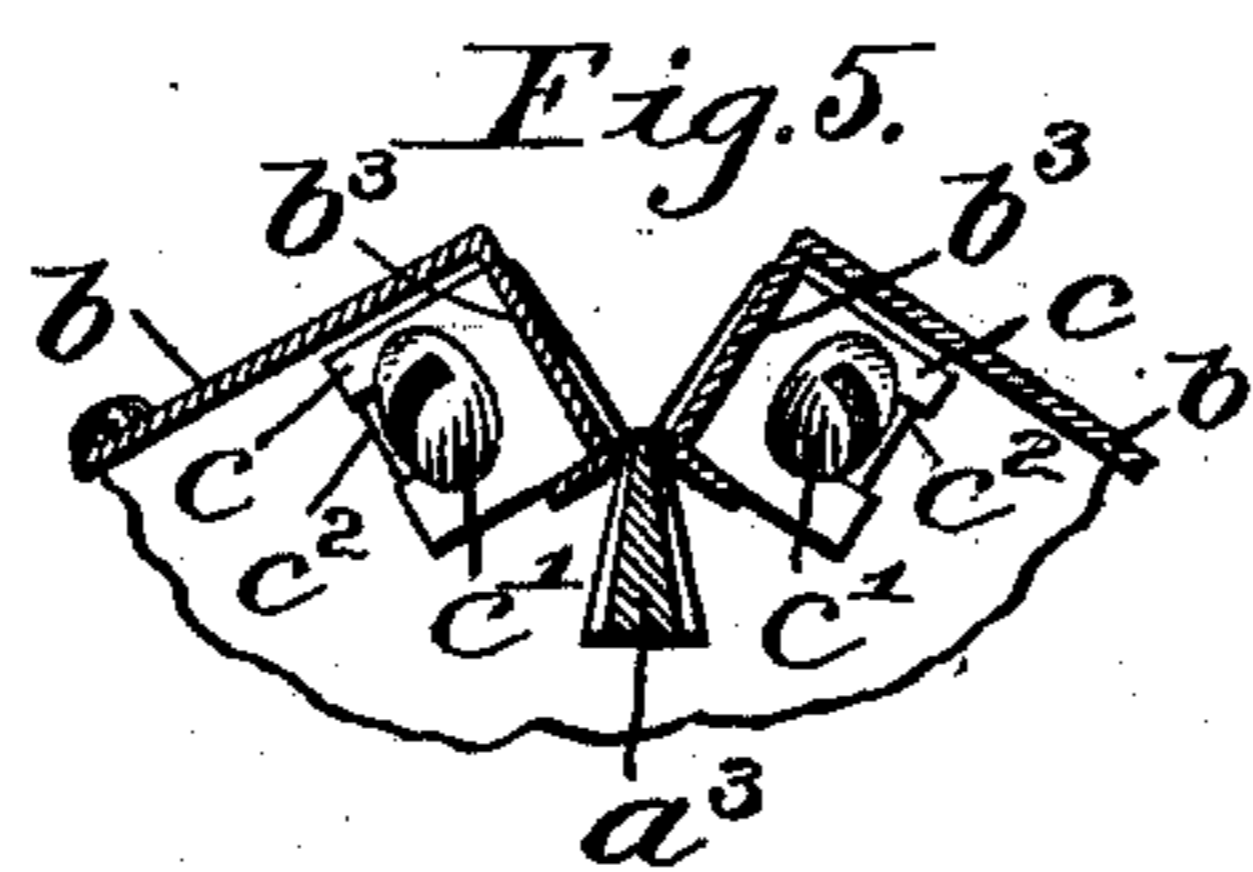
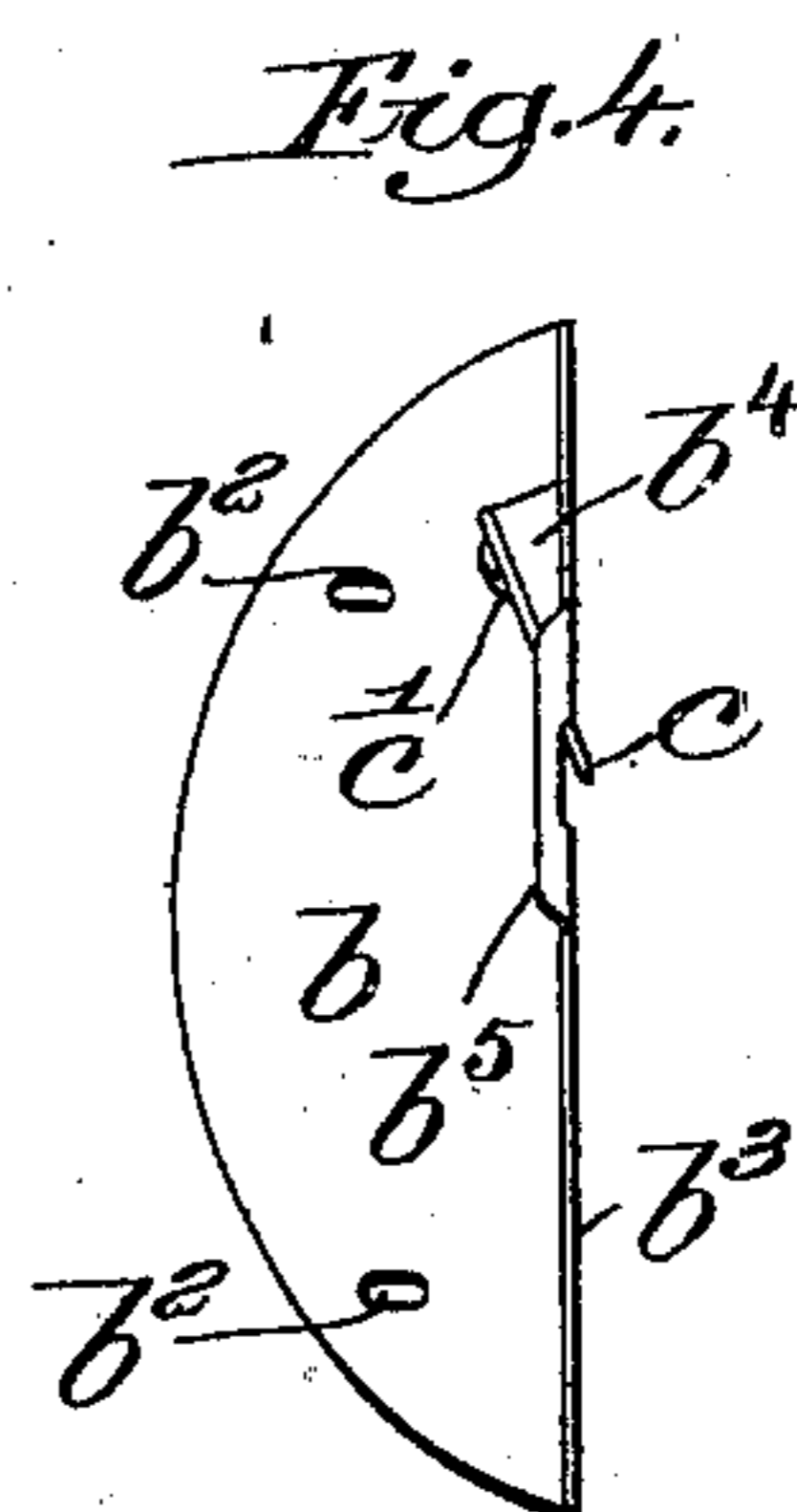
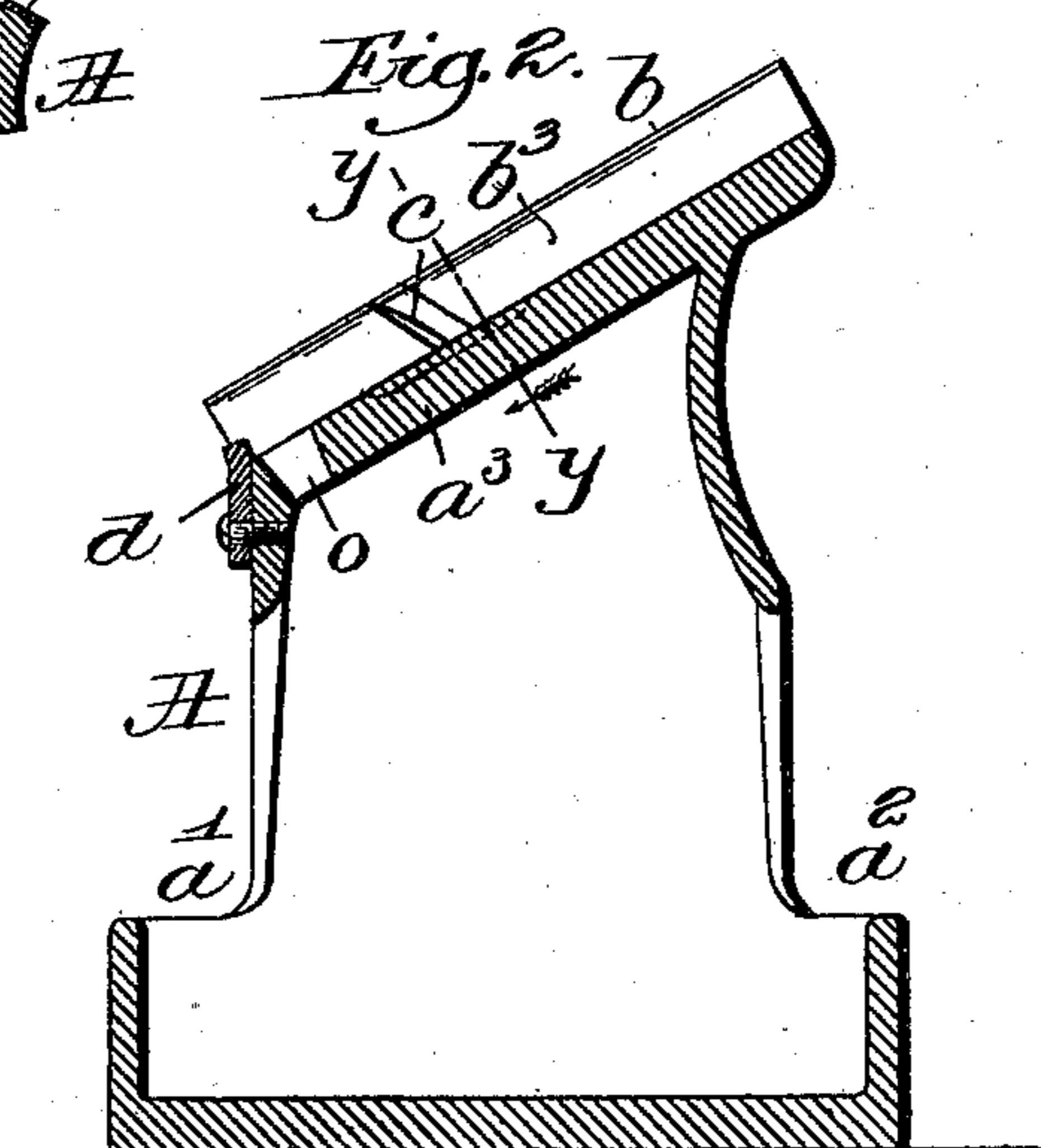
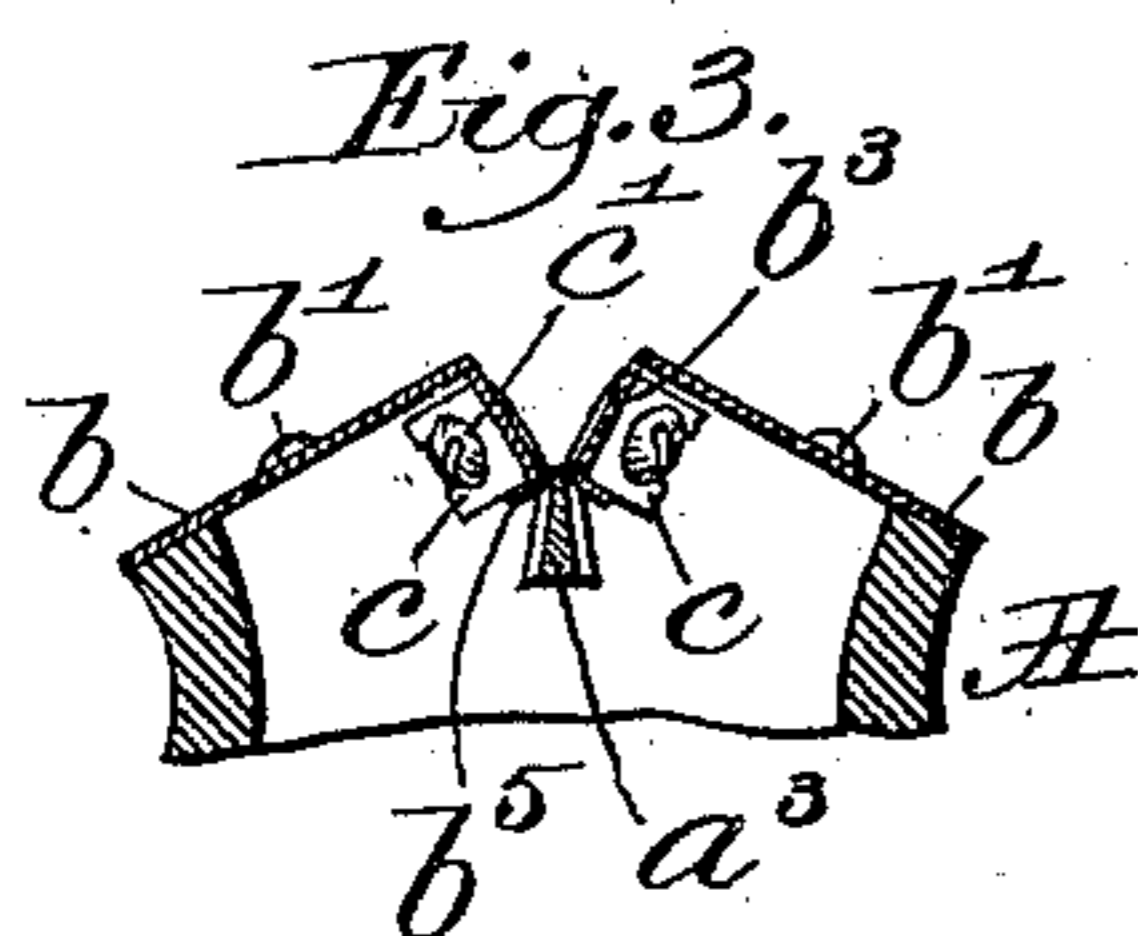
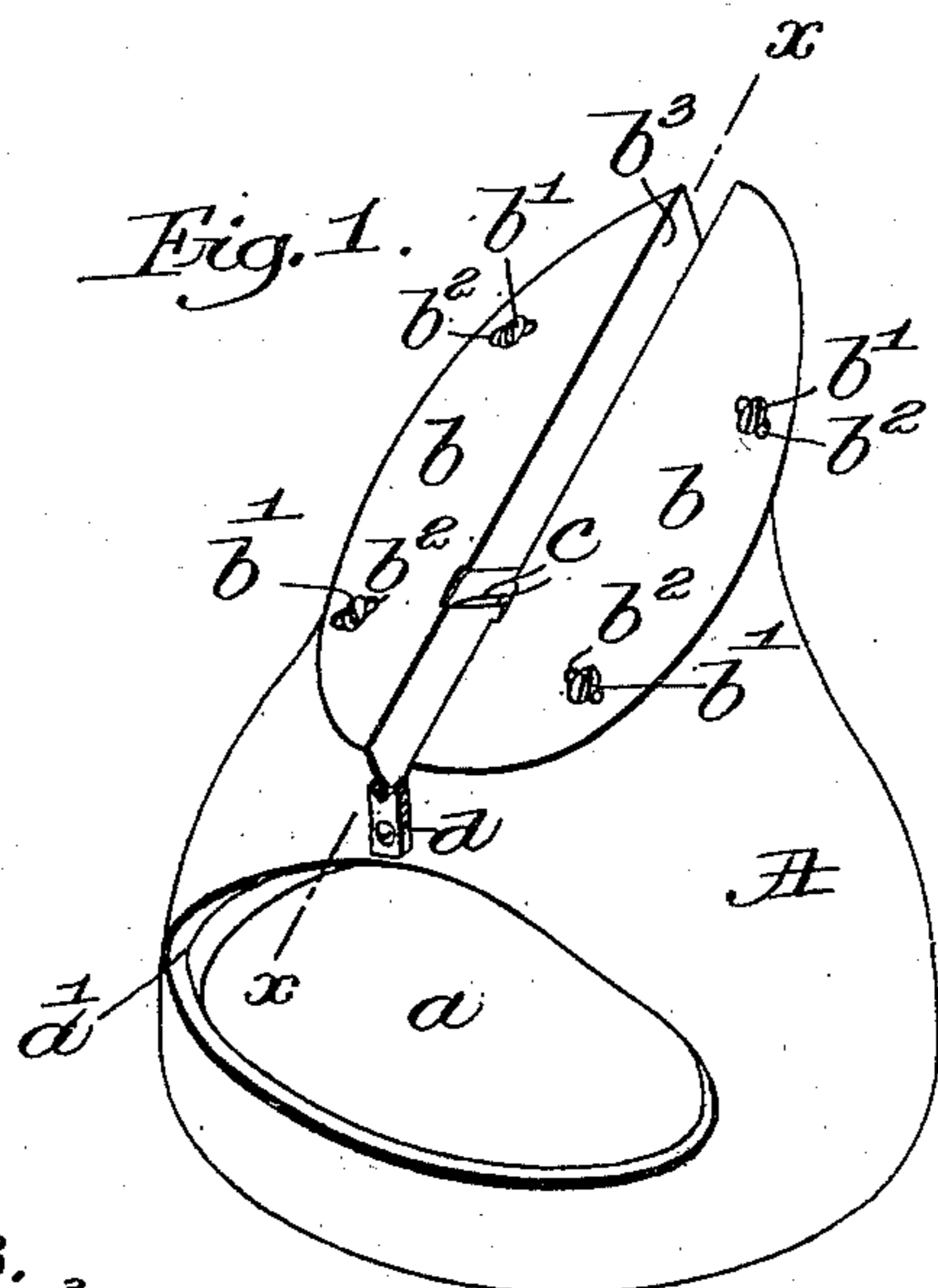


No. 625,878.

Patented May 30, 1899.

J. J. FRASER.
CRAYON SHARPENER.
(Application filed Feb. 20, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JOHN J. FRASER, OF ROSLINDALE, MASSACHUSETTS.

CRAYON-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 625,878, dated May 30, 1899.

Application filed February 20, 1899. Serial No. 706,255. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. FRASER, of Roslindale, county of Suffolk, State of Massachusetts, have invented an Improvement in Crayon-Sharpeners, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide an improved device for sharpening crayons—such, for instance, as chalk and the like—whereby to provide the same with a knife-like or sharp edge particularly adapted for drawing and marking.

The invention consists in various features of construction to be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective of a crayon-sharpener, illustrating one embodiment of my invention; Fig. 2, a vertical section thereof, taken longitudinally of the crayon-receiving groove or channel indicated by the line $x x$; Fig. 3, a cross-sectional detail on dotted line $y y$, Fig. 2, showing the relative arrangement of the sharpening-knives and the means for carrying the same; Fig. 4, an under side view of the knife-carrying plates, showing the knife in position; and Fig. 5, an enlarged cross-sectional detail of a portion of Fig. 3.

Referring to the drawings, in the embodiment of my invention there shown for illustration, A is a suitable base or support adapted to carry the various parts of the device. Preferably this base or support A will be shaped—as, for instance, like Fig. 1—to provide a receptacle a for the fine particles of crayon that are removed by the action of the knives, together with one or more suitable openings, as $a' a^2$, offering convenient access to the receptacle a , and through one or both of which the particles referred to may be removed at will.

The upper end of the support A for convenience is shown as beveled to form suitable supports for the two plates $b b$, which latter are preferably made adjustable transversely on the inclined face of the support—as, for instance, by the screws b' , passing through slots b^2 in the plates—whereby the separation of the plates one from the other may be varied to accommodate crayons of varying sizes or

to fix the edge to be produced by the action of the knives upon the crayon. These carrier-plates $b b$ are preferably of thin material, (I having found resilient metal to be the best,) and the inner or adjacent edges of these plates are shown as turned downwardly at a comparatively abrupt angle to produce the depending wings or walls b^3 , Figs. 3 and 4. These walls being without support along their lower edges are more or less resilient or yielding, so as to permit them to spread or recede more or less under the action of the chalk, as will be described.

Intermediate the length of the two plates $b b$ the depending walls b^3 thereof are shown as provided with apertures, through which protrude the sharpening knives or blades $c c$. These blades are secured in suitable manner to the plates $b b$, they being herein shown as secured to the beveled supports b^4 , formed upon or at the inner faces of the walls b^3 —that is, the faces at the backs or inner sides of said depending walls. For the best results these blades should be adjustably secured in position, as by the screws c' passing through slots c^2 in the blades in order that the positions of the blades may be adjusted not only to vary the depth of cut in acting upon the crayon, but also to compensate for sharpening of the blades, &c. The angle of these blades will be such as to produce the best results, I having found the angle here shown to be about right for most kinds of crayon.

As will be seen by reference to Fig. 3, the depending walls b^3 are converged somewhat toward each other from their upper to their lower edges, as also the blades c , so that with the device in the position Fig. 1, resting upon a table or counter, a piece of chalk if drawn downwardly through the channel formed between the converging walls b^3 will be acted upon by the blades or cutters c , protruding through the walls, and sharpened. The channel or trough between the walls b^3 is shown as provided with a bottom a^3 , formed, preferably, by a triangular member cast with and secured to the support A. This bottom a^3 has a top surface of a character such that it serves to support the edge of the crayon as the latter is drawn downwardly through the channel or trough. The thin edge of the crayon thus finds a sufficient support to pre-

vent easy crumbling, and said support also prevents the crayon from being inserted too deeply into the channel or trough and the consequent removal of too much of the crayon.

5 After the required edge has been formed the bottom a^3 prevents the removal of any further material by repeating the operation.

Frequently the pieces of crayon or chalk vary as to thickness, and if the channel
10 formed between the cutter-walls were fixed and unyielding it would be difficult and at times impossible conveniently to sharpen these varying thicknesses of crayon. To provide for these, I have made the walls b^3 yield-
15 ing or movable, as described, to enable them to recede somewhat to accommodate automatically the thicker pieces of crayon pressed into the channel during the cutting operation, thus to permit the edge of the chalk or
20 crayon always to be pressed downwardly until it finds a support upon the bottom a^3 . The correct edge is thus insured regardless of the thickness of the crayon.

The beveled portions b^4 , that carry the
25 knives c , are shown as dropped somewhat below the main portions of the carrying-plates b , (see Fig. 3,) so as to permit free yielding movement of the walls b^3 for the purpose described.

30 At the lower end of the inclined channel referred to I have provided a wiper, (shown as in the form of a notched piece of felt d ,) attached in suitable manner to the support A and which serves to clean the sharpened edge
35 of the crayon as it emerges from the channel. Obviously instead of the felt d I may employ any other suitable material or cleaning device capable of cleaning or smoothing the sharpened edge as it emerges from the channel.

40 Referring to Fig. 4, in the preferred construction the aperture through which the cutter-blade of each wall protrudes is closed at both top and bottom, at the top by the flat portion of the plate-like carrier and at the
45 bottom by the bridge portion b^5 , whereby the movement of the wall at one side of the knife is communicated more or less to the portion at the opposite side thereof—that is, notwithstanding the aperture the wall throughout its
50 length will respond or move substantially as though imperforate throughout. Furthermore, by providing the yielding walls to carry the cutters—in other words, by providing yielding supports for the cutters—the latter
55 and the walls will yield more or less during the cutting action, and thereby prevent the crumbling or breaking away of the edge of the crayon to the extent that would result if the said walls and the cutters were absolutely
60 rigid and unyielding. With the rigid and unyielding walls the crayon would stick in the channel between the walls and cause much difficulty, which is entirely obviated by the yielding construction described.

65 At the lower end of the channel I have provided an aperture o , through which the mate-

rial removed by the cutters may drop into a receptacle provided therefor.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A device of the class described, presenting a flaring channel or trough in and along which the crayon to be sharpened is drawn, and one or more cutters yieldingly arranged
75 at the side of the said channel or trough and extending in a direction from the bottom toward the top thereof, to operate, substantially as described.

2. A device of the class described constructed to present a flaring trough having a yielding or resilient movable side wall, and one or more cutters to act upon the crayon as it is drawn in and along the said channel or trough.

3. A device of the class described constructed to present an inclined flaring trough or
85 channel having one or more yielding movable side walls, and means carried by said movable side wall or walls to cut or sharpen the crayon as it is drawn in and along said trough or
90 channel, substantially as described.

4. A crayon-sharpener consisting of a base containing a receptacle, means thereon forming a flaring trough or channel in and along which the crayon is drawn, and one or more
95 cutters yieldingly arranged at the side of said trough or channel to sharpen the crayon drawn past the same, as described.

5. In a device of the class described, the combination with a suitable support, of carrier-plates provided with depending wings or
100 walls made freely yielding, and a cutter or cutters operating in conjunction with said walls, as described.

6. A support, the carrier-plates provided
105 with depending resilient and freely-yielding walls adjustable one toward the other, and a cutter or cutters, to operate as described.

7. In a crayon-sharpener, the combination with a trough or channel in and along which
110 the crayon is drawn, one or more yielding side walls for said trough or channel, and cutters or blades carried thereby and movable therewith, and means adjacent the end of said trough or channel to clean the edge of
115 the crayon emerging therefrom, as described.

8. In a crayon-sharpener, the combination with a support presenting a channel or trough having one or more yielding side walls, and a stationary unyielding bottom support, and
120 one or more cutters, of a wiper arranged at or adjacent the end of said trough or channel to clean the edge of a crayon emerging therefrom.

9. The combination with a support, of the
125 plates adjustably mounted thereon and provided with depending yielding walls forming between them a flaring trough or channel in and along which the crayon is drawn for sharpening, and cutters protruding through
130 apertures in the said walls, the latter being united above and below said apertures to

cause the portions of the walls at opposite sides of the apertures to move as one, and a support for the edge of the crayon, the same being arranged between said yielding walls and at or above the level of the bottoms of said cutters substantially as described.

10. In a crayon-sharpener, the combination with a yielding-mounted cutter or cutters to sharpen the crayon, of a fixed support independent of the cutter or cutters to support the edge of the crayon during the sharpening operation.

11. In a crayon-sharpener, the combination with a support for the edge of the crayon, of

side walls forming a trough or channel for the crayon while drawn along said support, and made yielding to permit crayons of varying thickness, to be pressed always to a suitable bearing on said support while said crayon is being drawn in and along said trough or channel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN J. FRASER.

Witnesses:

FREDERICK L. EMERY,
LAURA T. MANIX.