

(No Model.)

W. M. MOSELEY.  
PENCIL SHARPENER.

No. 574,558.

Patented Jan. 5, 1897.

Fig. 3

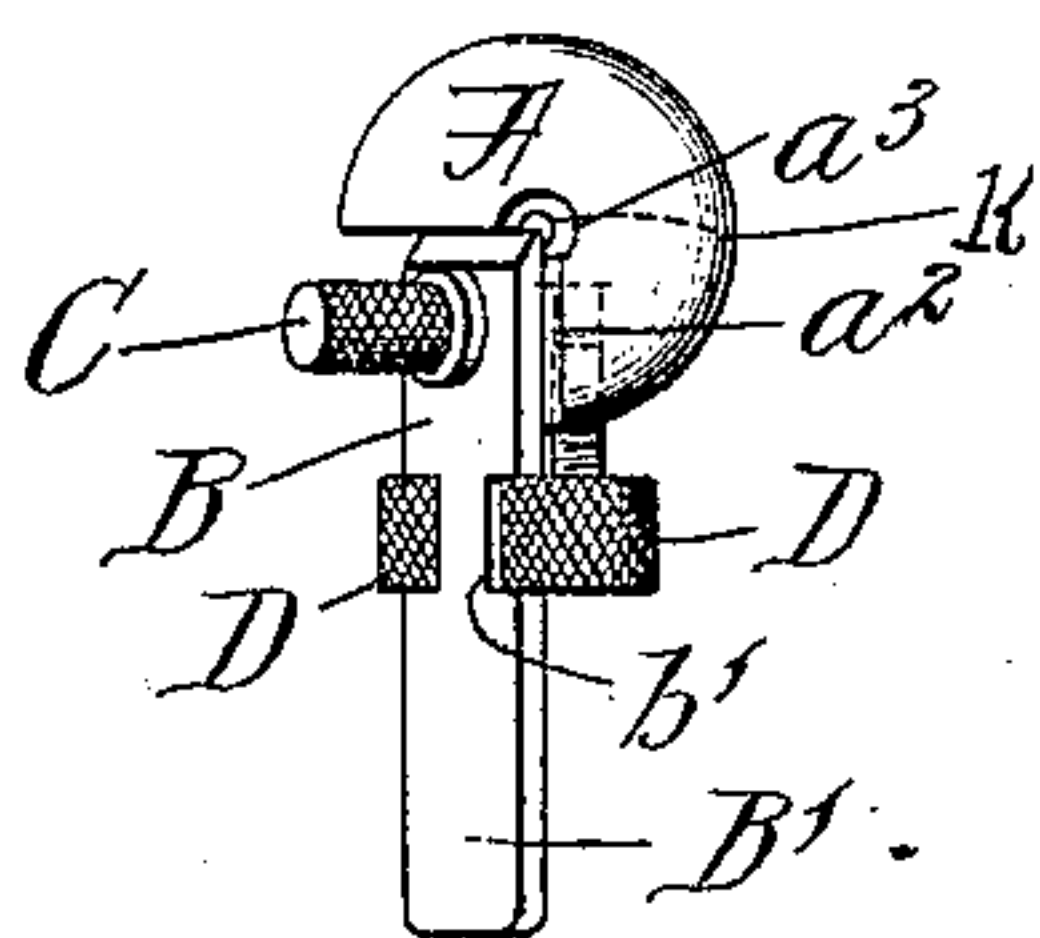


Fig. 1

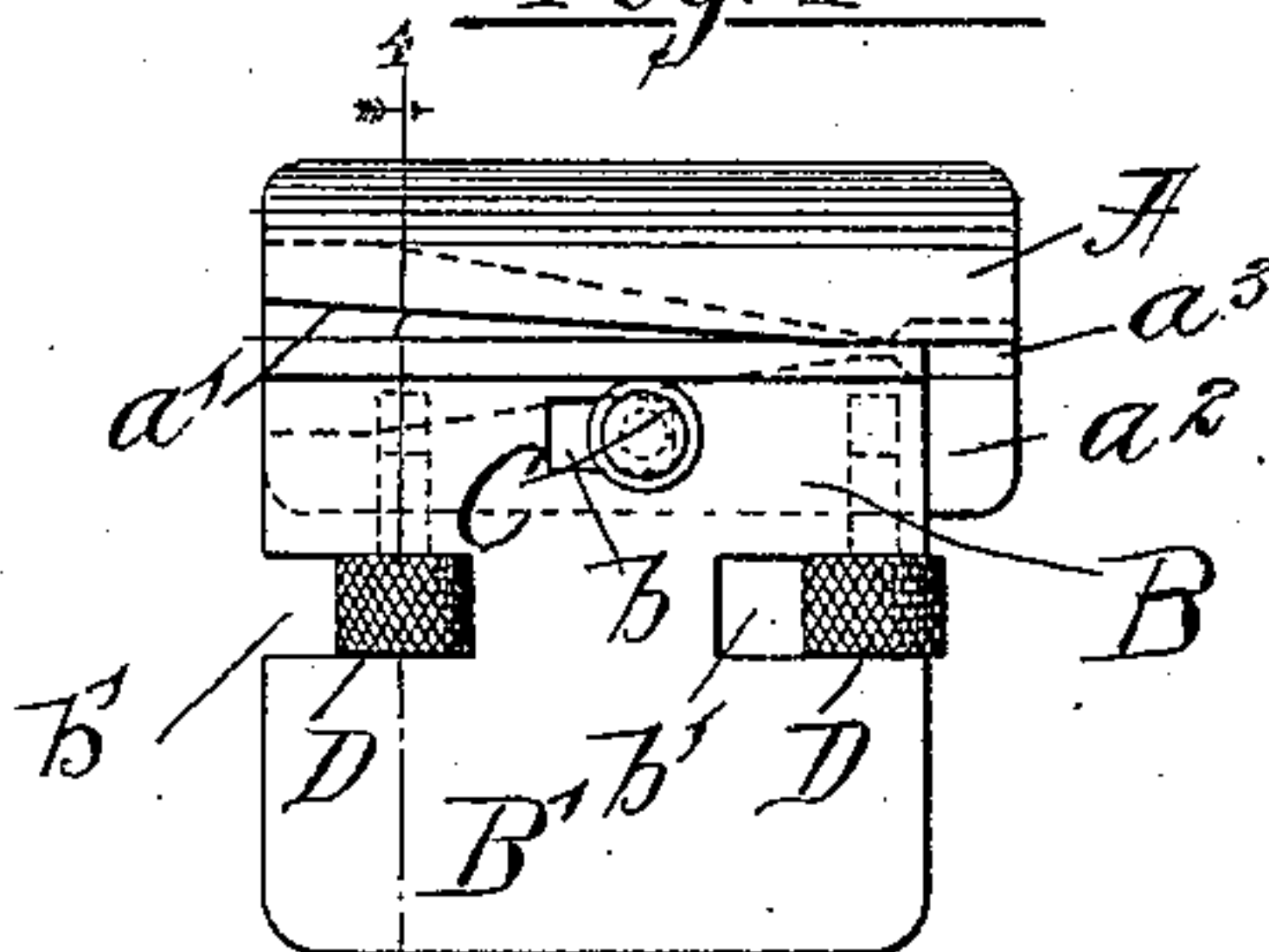


Fig. 4

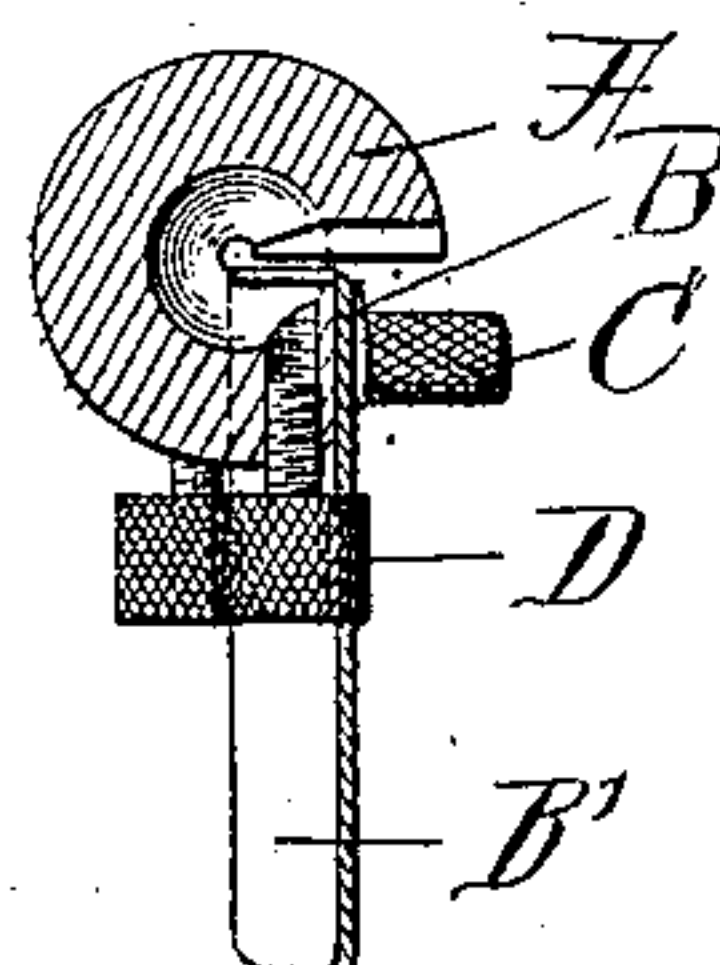


Fig. 16

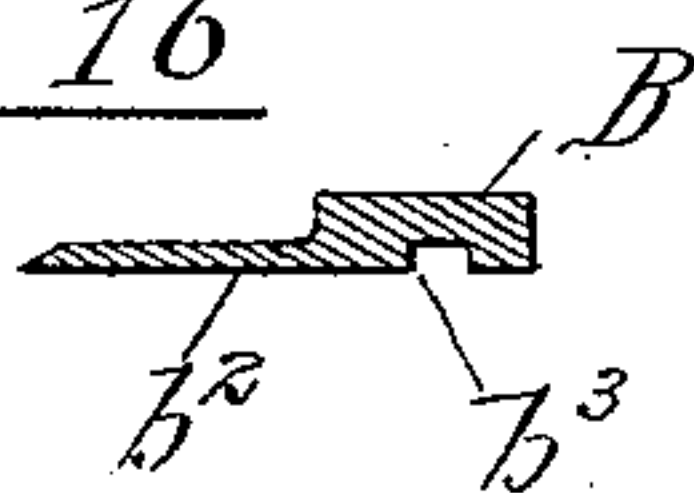


Fig. 2

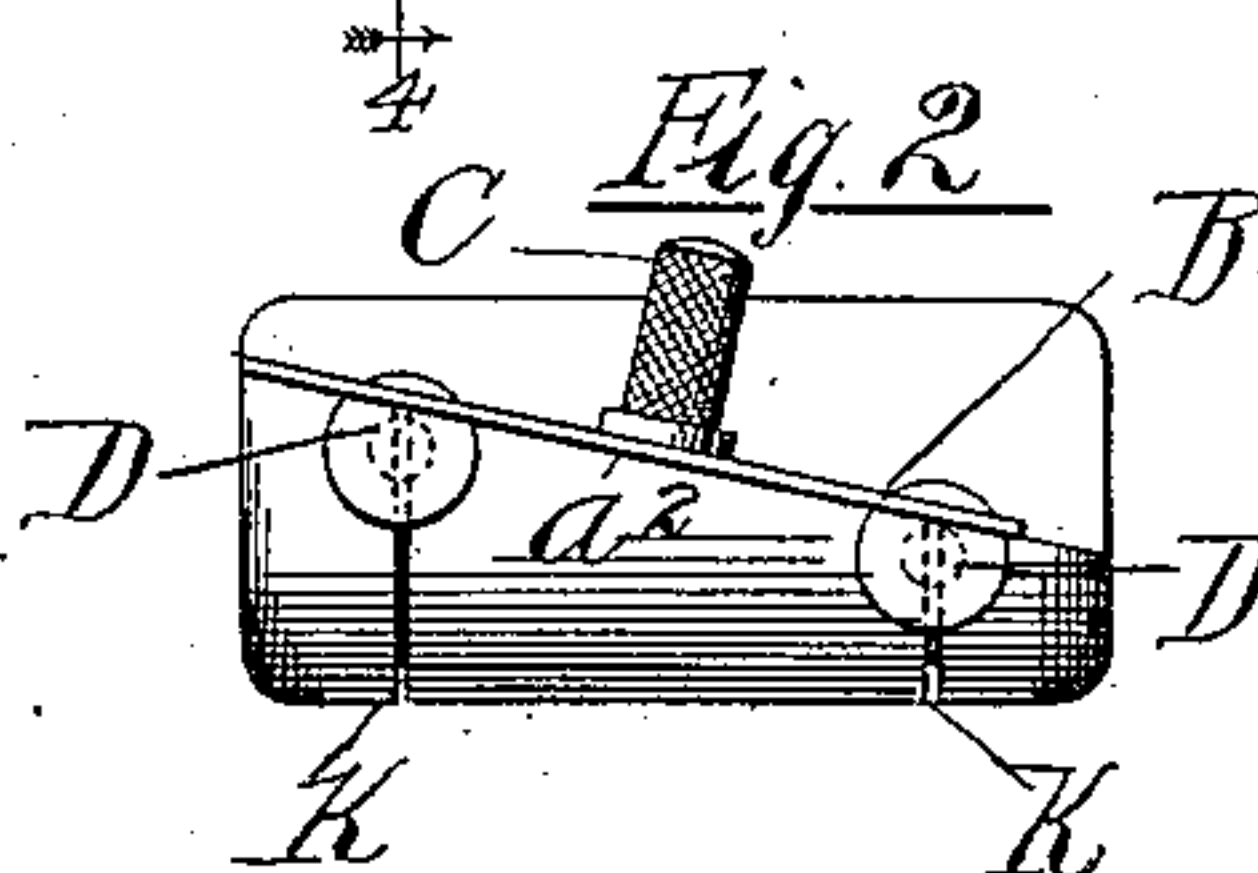


Fig. 17

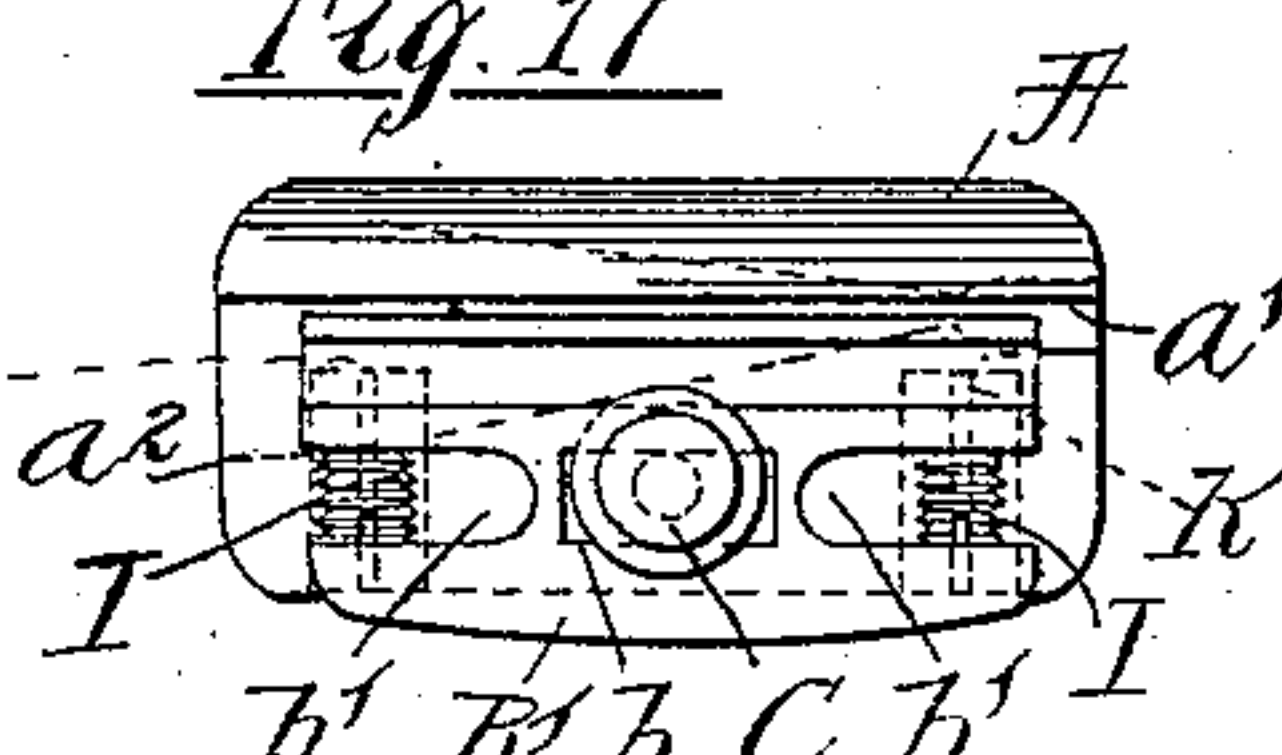


Fig. 8

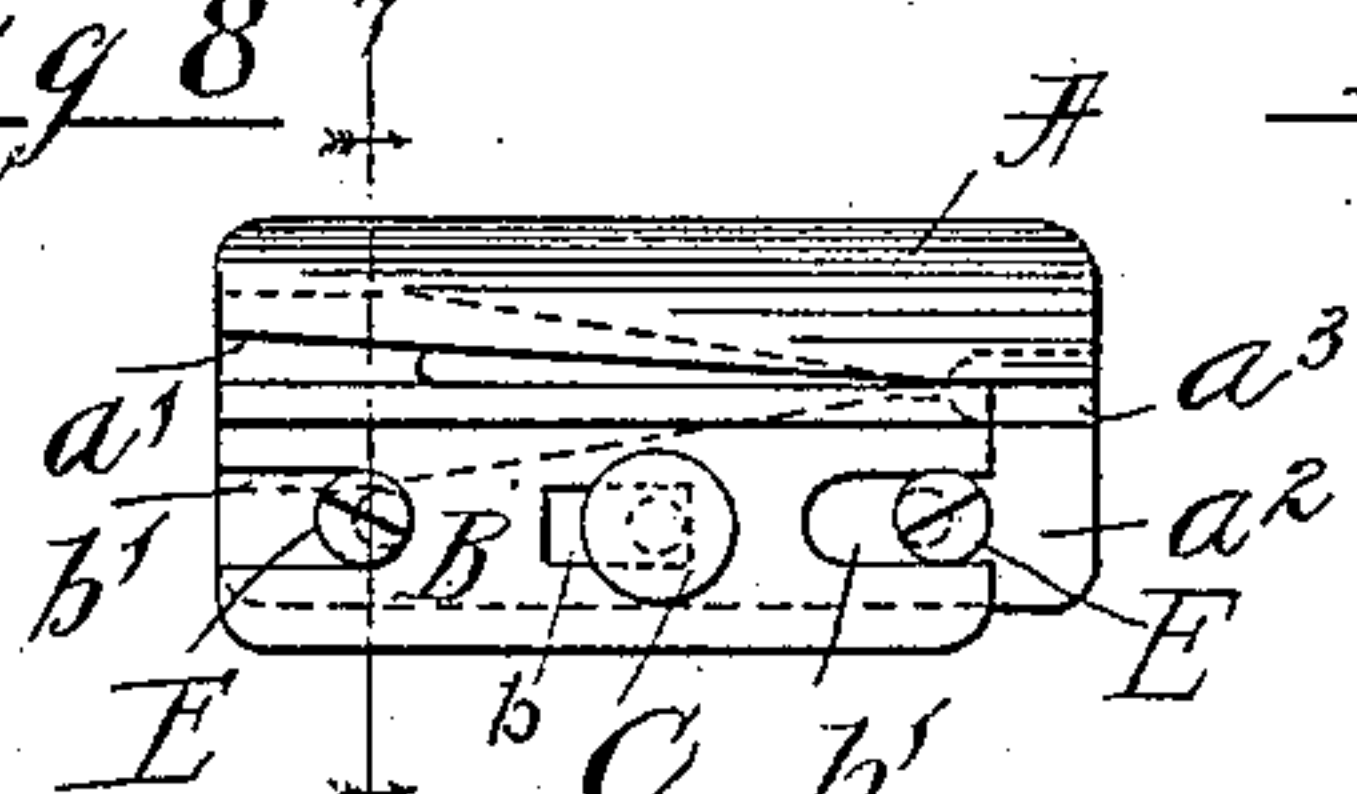


Fig. 10

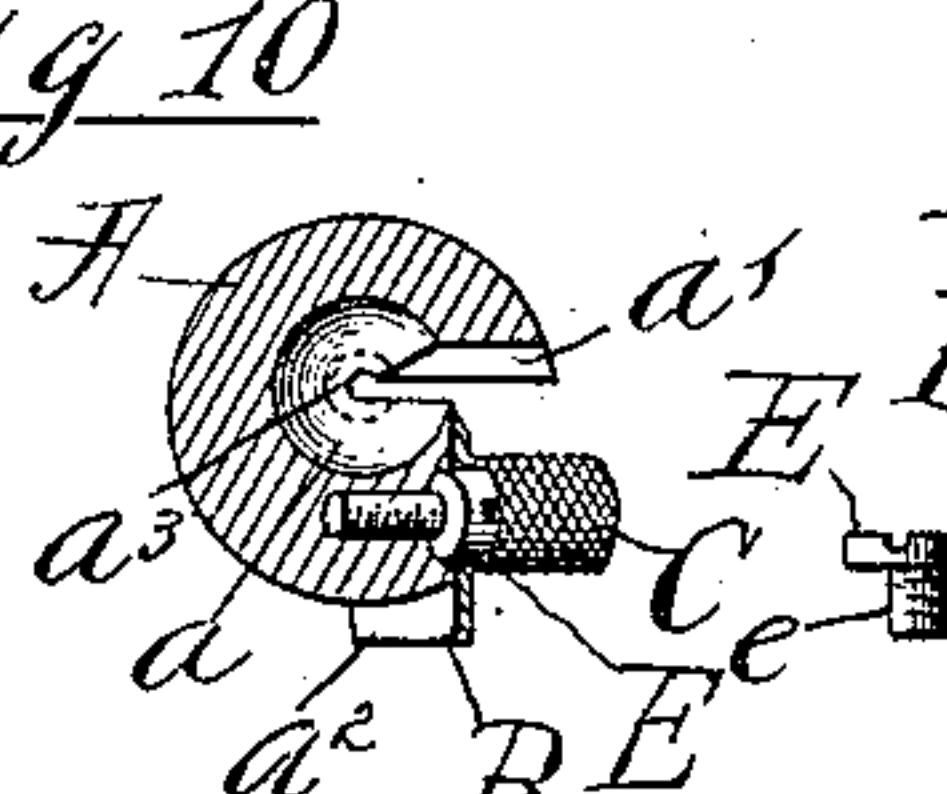


Fig. 9

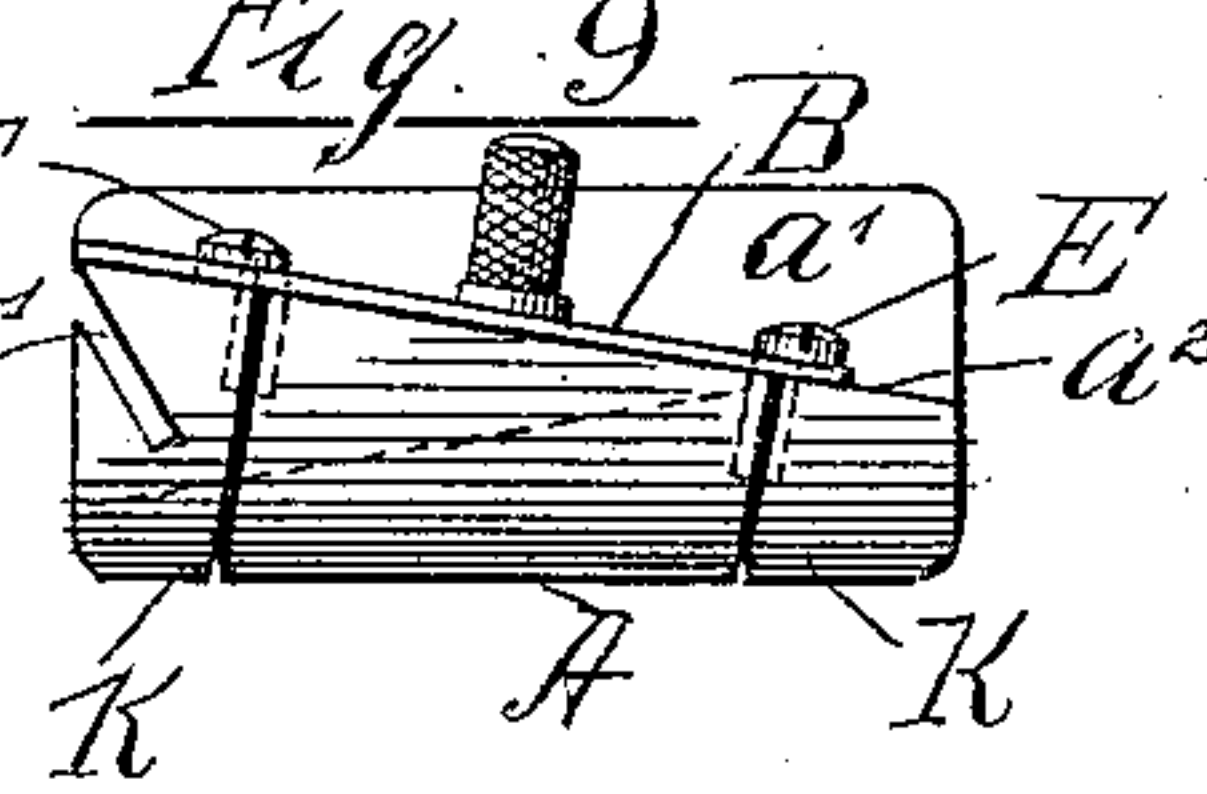


Fig. 5

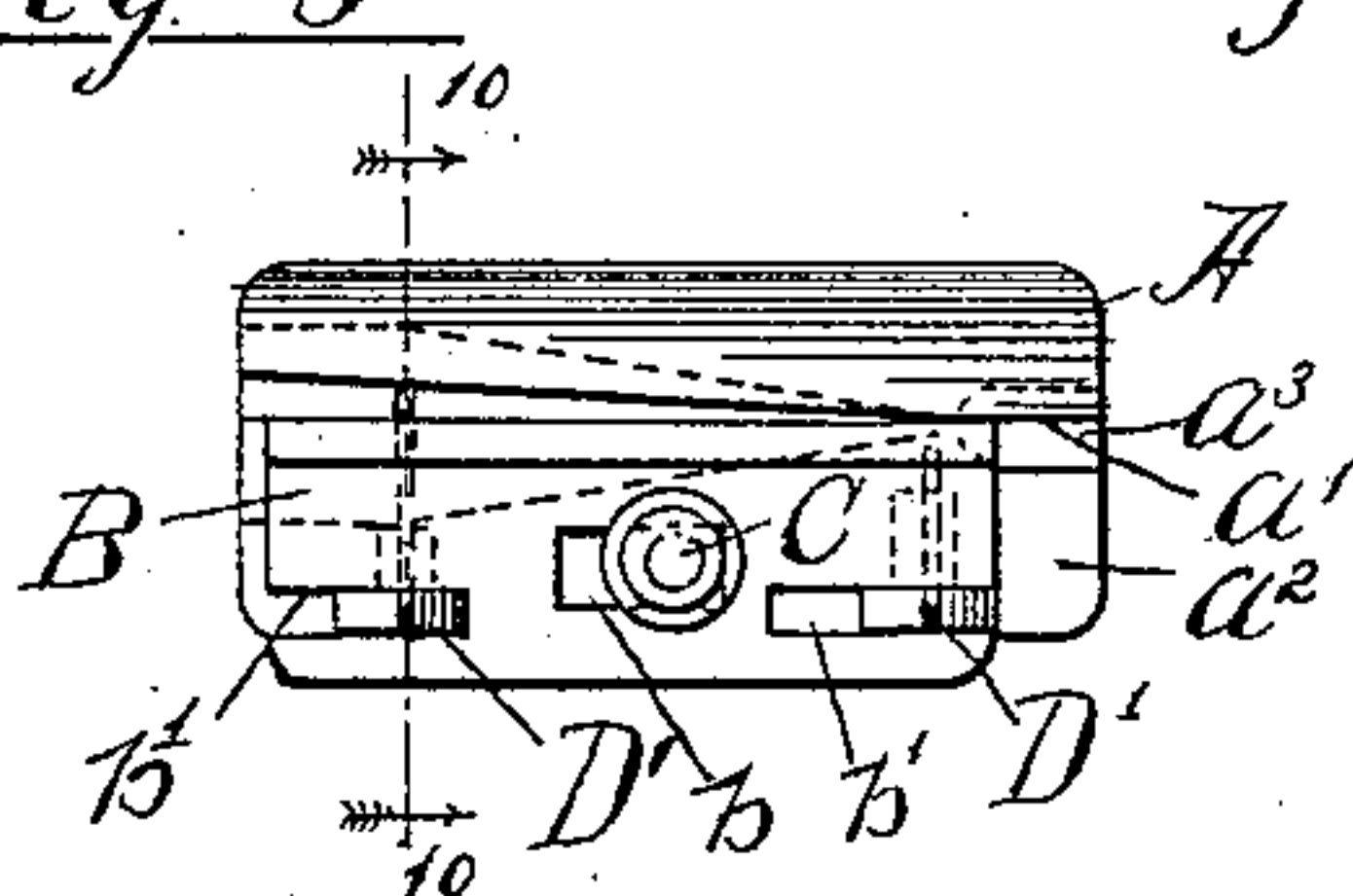


Fig. 7

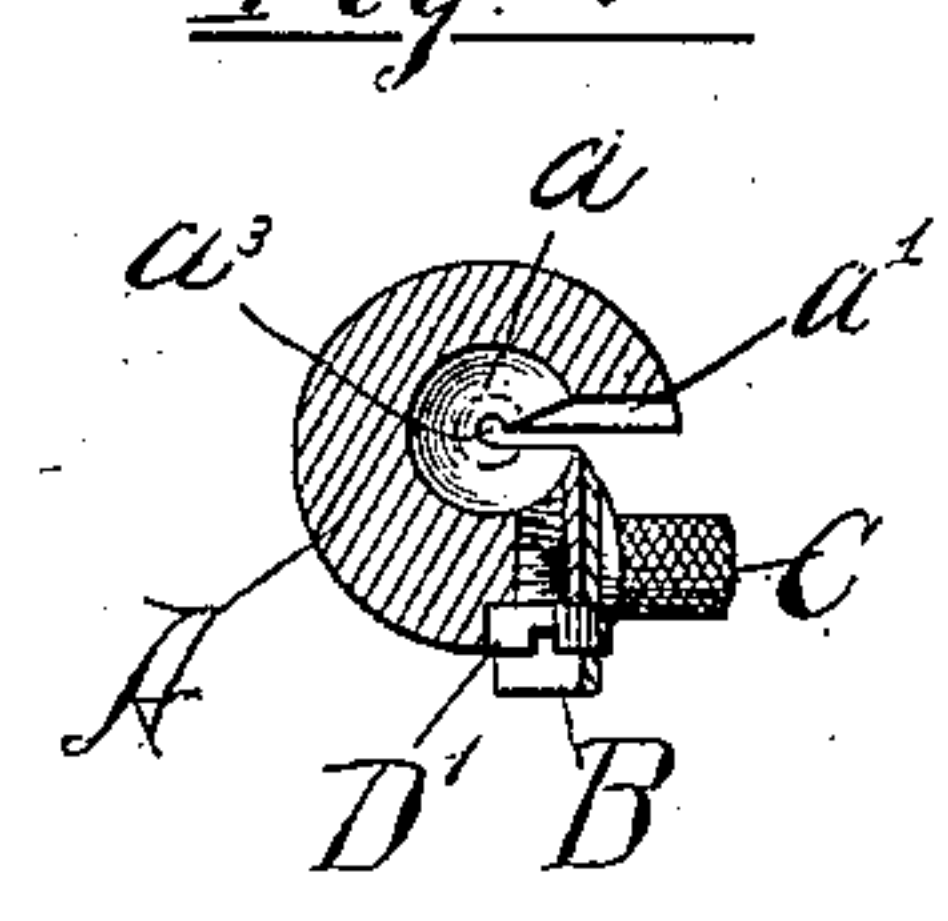


Fig. 6

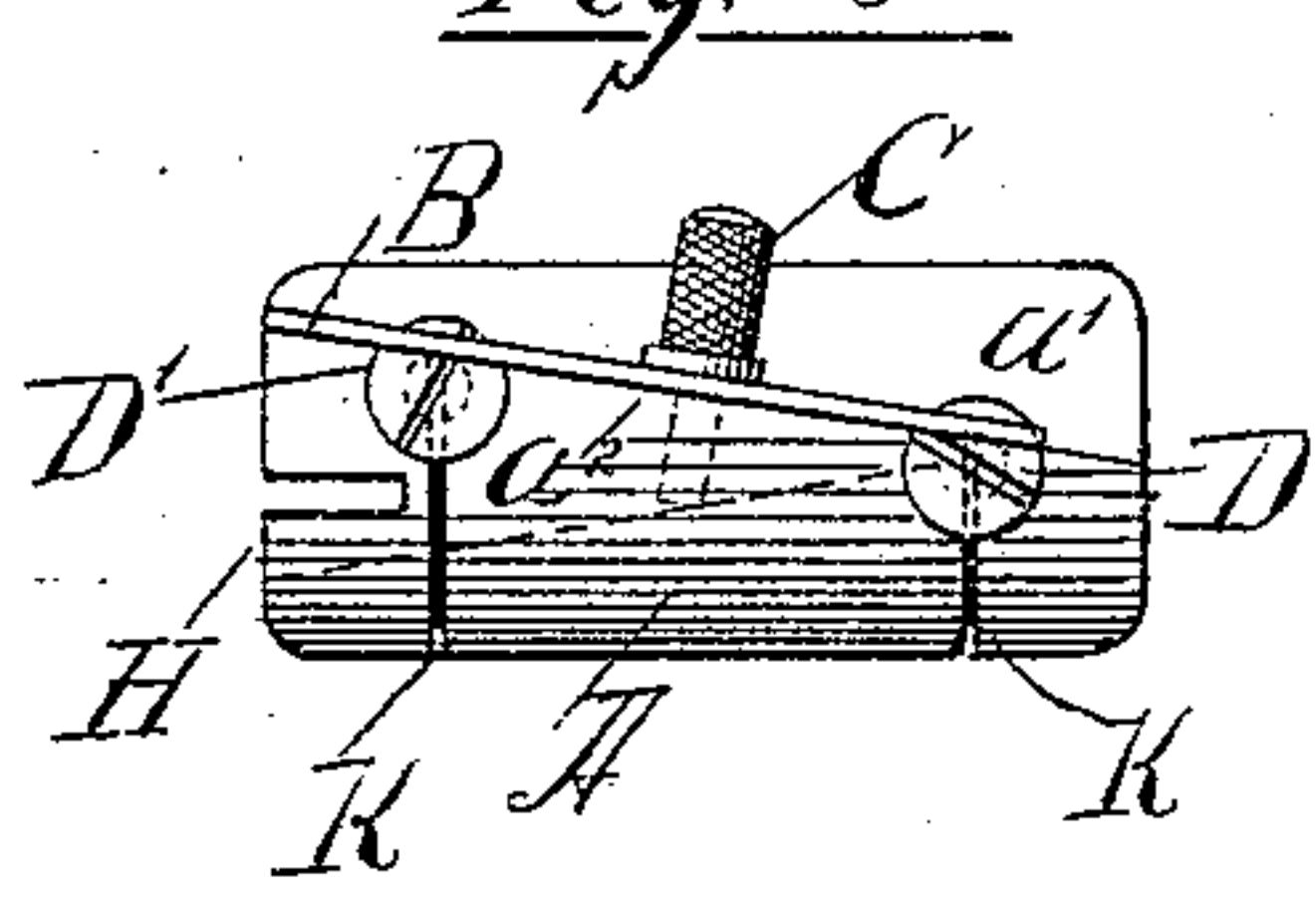


Fig. 11

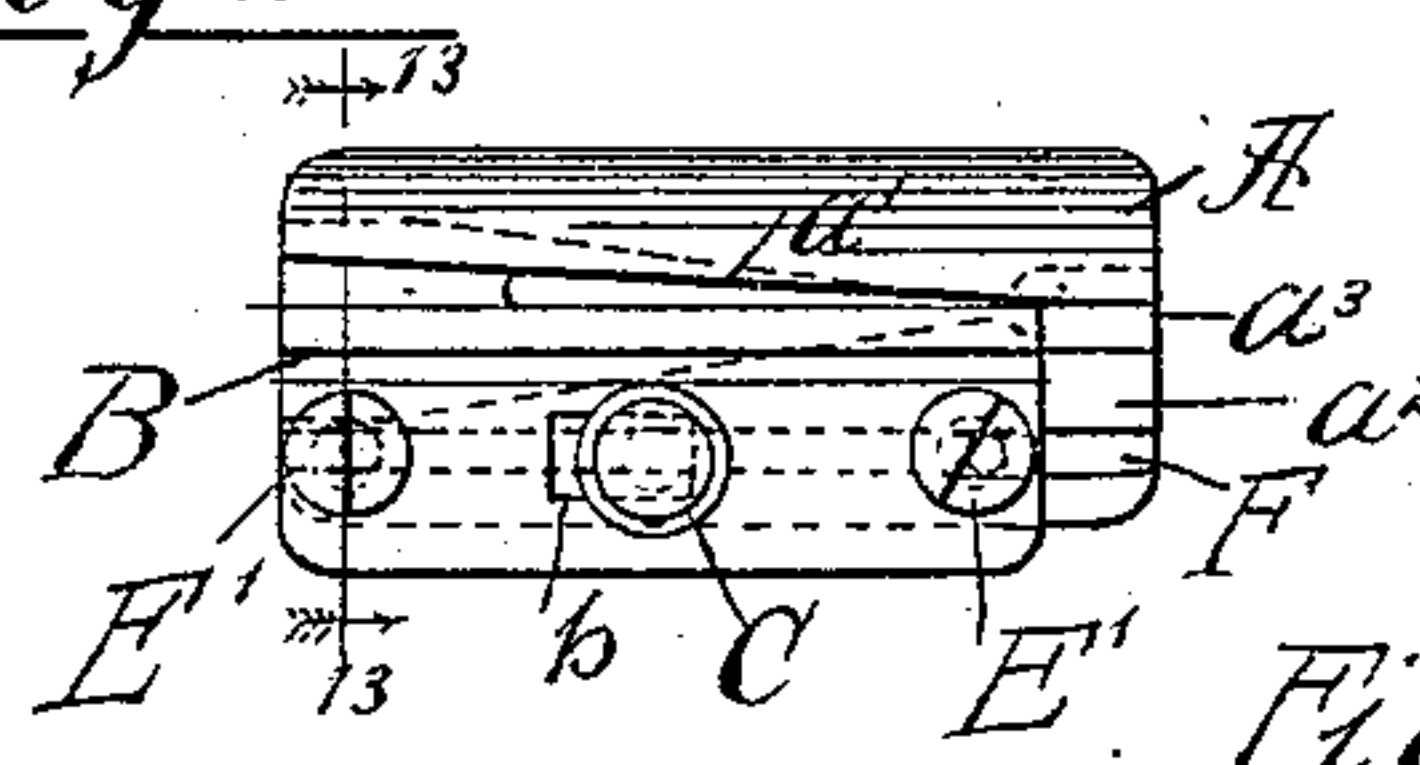


Fig. 13

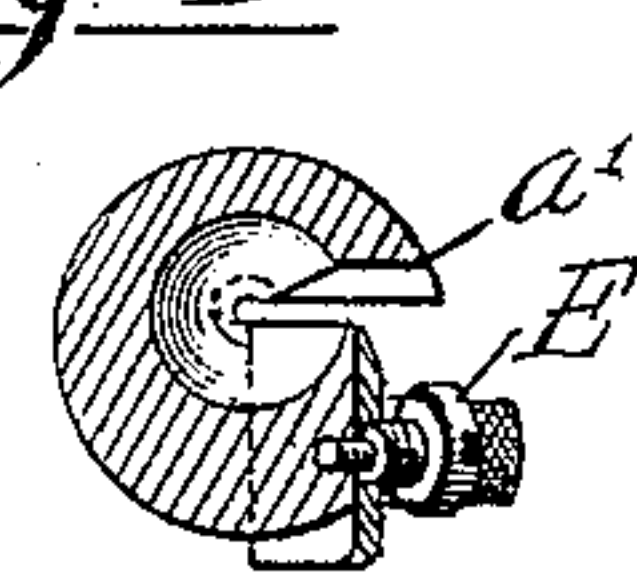


Fig. 12

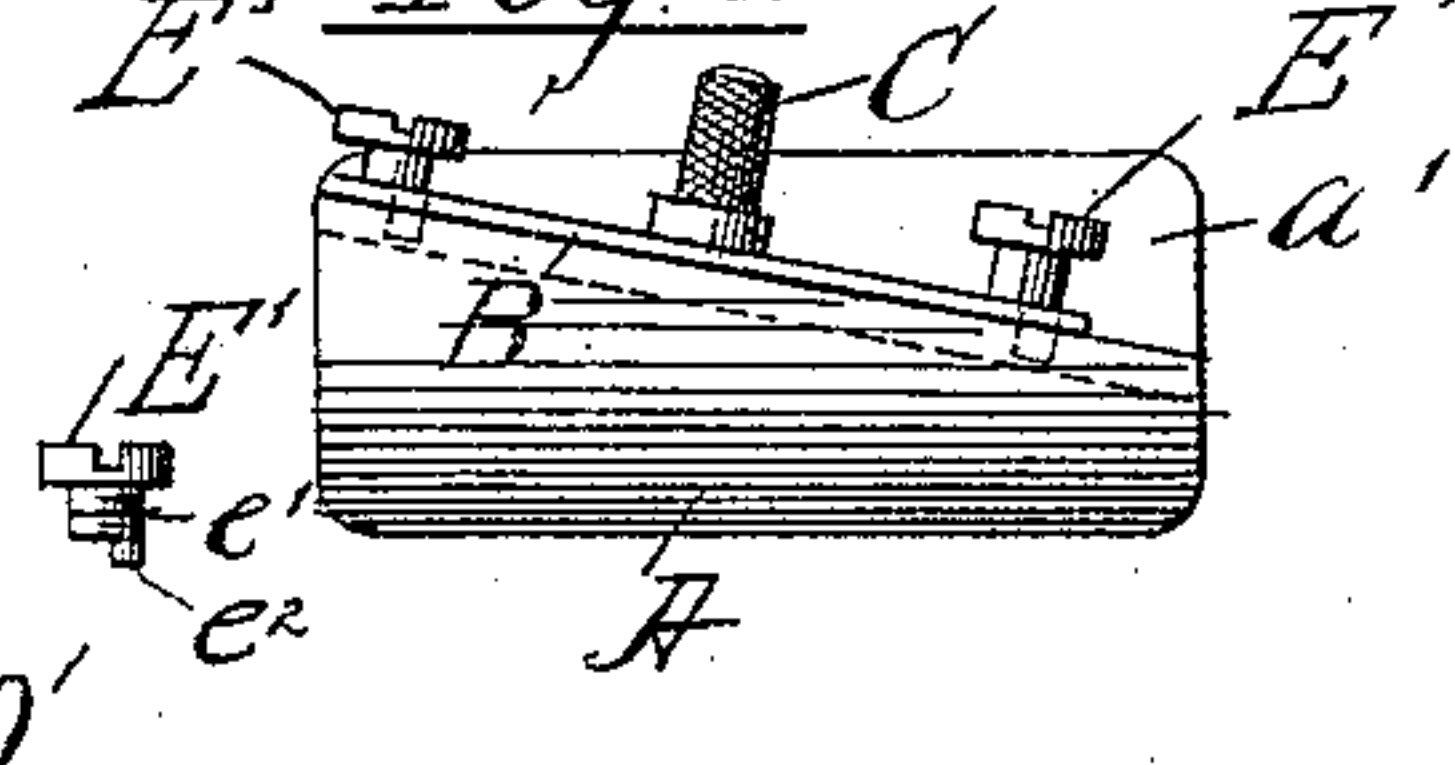


Fig. 14

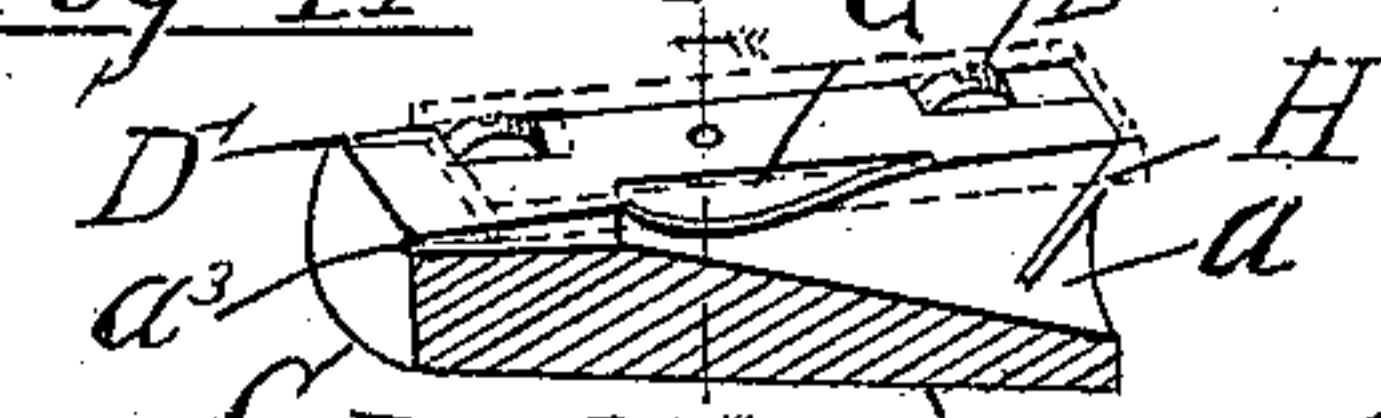
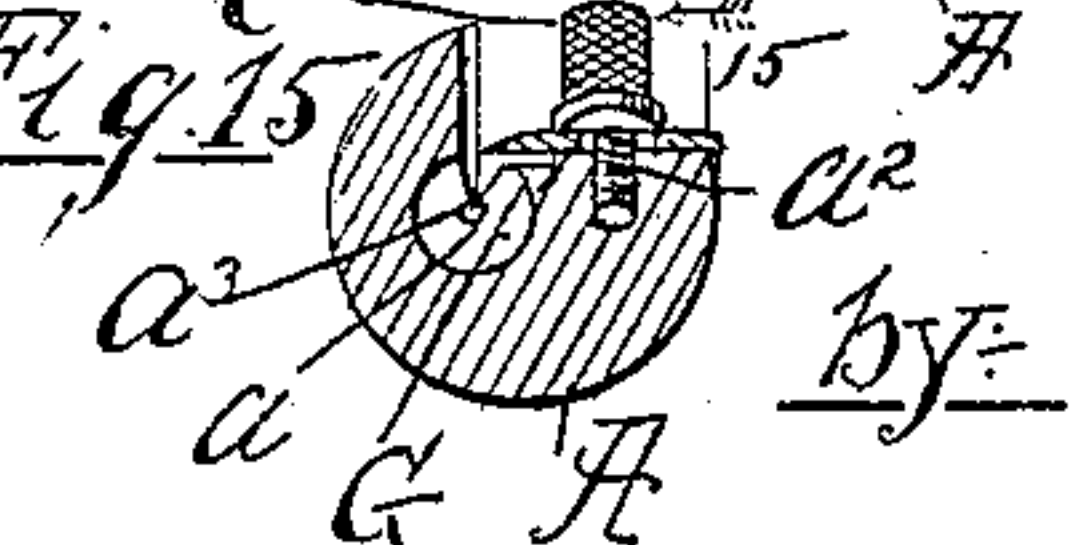


Fig. 15



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM M. MOSELEY, OF ELGIN, ILLINOIS.

## PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 574,558, dated January 5, 1897.

Application filed October 18, 1895. Serial No. 566,059. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. MOSELEY, of Elgin, in the county of Kane and State of Illinois, have invented certain new and useful  
5 Improvements in Pencil-Sharpeners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked there-  
10 on, which form a part of this specification.

My invention relates to appliances, known as "lead-pencil sharpeners," which are designed to bevel or taper the ends of lead-pencils, so as to permit the graphite core to pro-  
15 trude from the wooden case or sheath sufficiently for effective use of the pencil.

The primary objects of my invention are to produce a lead-pencil sharpener the cutting-blade of which shall be longitudinally  
20 adjustable, so as to enable sharp portions of the cutting edge of the blade to replace portions of the blade which have become dulled by contact with the graphite core of the pencil; also, to provide a clearance-space  
25 for the blade which shall prevent clogging of the sharpener by chips that are severed from the point of union of the wooden case or sheath of the pencil with its graphite core; furthermore, to provide means which shall  
30 adapt the body portion of the sharpener to be used as a holder for the cutting-blade while the latter is being whetted or sharpened; finally, to provide means for effecting precise lateral adjustments of the cutting-  
35 blade, so as to insure the exactly proper tapering of the end of the pencil.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as herein-  
40 after described and claimed.

The more precise nature of my invention will be better understood when described with reference to the accompanying drawings, in which—

45 Figure 1 is a plan view of one form of a pencil-sharpener embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is an end elevation of the same. Fig. 4 is a transverse section of the same, taken on the line 4 4 of Fig. 1. Fig. 5 is a plan view  
50 of a modified form of pencil-sharpener also

embodying my invention. Fig. 6 is a side elevation of the same. Fig. 7 is a transverse section of the same, taken on the line 10 10 of Fig. 5. Fig. 8 is a plan view of a further  
55 modified form of pencil-sharpener embodying my invention. Fig. 9 is a side elevation of the same. Fig. 10 is a transverse section of the same, taken on the line 7 7 of Fig. 8. Fig. 11 is a plan view of a still further modified form of pencil-sharpener embodying my  
60 invention. Fig. 12 is a side elevation of the same. Fig. 13 is a transverse section of the same, taken on the line 13 13 of Fig. 11. Fig. 14 is a view, principally in perspective  
65 and partly in longitudinal section, of a holder having a clearance-cavity, the blade being shown in dotted lines. Fig. 15 is a transverse section of the same, the blade and its clamping-screw being shown in solid lines.  
70 Fig. 16 is a transverse sectional view, enlarged, of a modified form of the cutting-blade. Fig. 17 is a plan view of another modified form of my invention. Fig. 18 is a modified form of the screw for adjusting the  
75 blade shown in Figs. 8, 9, and 10.

In said drawings, A designates the body portion or holder of the sharpener, this body portion being preferably (although not necessarily) of metal and being also preferably of  
80 approximately cylindrical form, excepting for the presence of its cut-away portion, as hereinafter to be more particularly described. This body portion of the holder is formed with a tapered or conical bore or socket  $a$ , which  
85 extends longitudinally of the holder from one end thereof almost to the other, and into the larger end of which one end of the pencil is to be inserted during the sharpening of the pencil. The apex of the conical bore  $a$  joins  
90 the inner end of a tubular opening  $a^3$  at one end of the holder A. One side of this holder is cut away longitudinally, so as to form two shoulders  $a'$  and  $a^2$ , the planes of which are arranged at any desired angle to each other,  
95 though shown in the drawings as being at right angles to each other, and which may extend throughout the entire length of the holder. The position and direction of the shoulder  $a'$  are not material, further than that  
100 it be of sufficient distance from the cutting edge of the blade when the same is in opera-



tive position to allow the free egress of the chips severed from the pencil in the process of sharpening the same. The shoulder  $a^2$  forms the seat for the cutting-blade of the implement, and its longitudinal inclination is determined by the degree of the inclination of the periphery of the bore to its axis. The plane of cut to form this shoulder or seat  $a^2$  may extend across the holder, if desired, and thus avoid the necessity of having the shoulder  $a'$ .

Referring at this point more particularly to Figs. 1, 2, 3, and 4, B designates the cutting-blade, the length of said blade being preferably somewhat less than the length of the shoulders  $a'$  and  $a^2$ , for a purpose to be presently explained. Midway of its length the blade B is formed with an elongated opening or slot  $b$ , extending lengthwise longitudinally of the holder A and designed to receive the stem of the clamping-screw C. This clamping-screw is inserted into a socket which is internally screw-threaded and located midway of the length and width of the shoulder  $a^2$ . The stem of the clamping-screw is of less diameter than either the width or length of the slot  $b$ . The arrangement is such that if the clamping-screw be turned so as to loosen, the blade B can be moved toward or from the shoulder  $a'$  and also toward or away from the receiving end of the holder, the clamping-screw being subsequently turned downward upon the blade and clamping it in its desired position. The purpose in moving the blade away from the receiving end of the holder is to bring a sharper part of the cutting edge into contact with the protruding graphite of the pencil after one part of the blade has been dulled by the graphite, while the purpose in moving the blade toward and away from the shoulder  $a'$  is to bring the cutting edge of the blade into proper operative position with respect to the pencil. The preferable adjustment of said cutting-blade is one where the cutting edge is tangential to the periphery of the conical bore (slightly below an exact tangential line to) and at an angle to the axis of the bore  $a$ . This latter adjustment of the blade B is effected by means of two adjusting-screws D, which work within screw-threaded sockets in one side of the body A, said sockets being located just below the shoulder  $a^2$  and near the ends of the body or holder A. The adjusting-screws D thus protrude at approximately right angles from the clamping-screw C, and the heads of the screws D, which are much larger than their stems, enter at their sides two recesses  $b'$  in the blade, the stems of the screws extending beneath the blade parallel therewith. The recesses  $b'$  are located one at each end of the blade, said recesses being elongated in a direction lengthwise of the body A sufficiently to permit the described movements of the blade endwise of the body or holder A without disengaging the heads of the screws from the recesses.

It will thus be seen that if the clamping-screw C be loosened and the adjusting-screws D be turned in one or the opposite direction the edge of the blade B can be moved toward or from the shoulder  $a'$ , the clamping-screw C being subsequently tightened again. It will also be seen that either one of the adjusting-screws D may be turned only or may be turned in either direction more than the other to adjust the cutting edge of the blade B. In the construction shown in these figures the blade B is formed with an extension  $B'$  projecting outward from the body A to afford a convenient holder for grasping the blade when its cutting edge is being sharpened.

In Figs. 5, 6, and 7 I have shown a construction which is essentially the same as illustrated in Figs. 1, 2, 3, and 4, but which differs therefrom in that the extension  $B'$  is dispensed with and the adjusting-screws  $D'$  (corresponding with the adjusting-screws D) have slotted heads to receive a screw-driver instead of being knurled to be grasped by the fingers and thumb, as are the screws D.

In Figs. 8, 9, and 10 I have shown a construction which also embodies the essential features of my invention, but in this instance adjusting-screws E are employed in lieu of the adjusting-screws D or  $D'$ . The screws E are inserted into internally-screw-threaded sockets, which are formed directly in the shoulder  $a^2$ , near the ends thereof, so that the adjusting-screws extend parallel with the clamping-screw. It is to be observed that the heads of the screws E are formed eccentrically upon the screw-threaded stems  $e$ , as is clearly shown in the detached view between Figs. 9 and 10, and that these heads lie within the recesses  $b'$ . The eccentric projection of the heads of the screws E is equal to the complete length of movement of the blade toward or from the shoulder  $a'$ , and therefore it will be seen that a half-revolution of one or both of the screws will move the blade fully toward or from the shoulder, while a less motion of one or both screws will correspondingly partially move the blade.

Instead of the screws E E studs J may be used of the same form, but not threaded, as shown in Fig. 18. The plain stems of these studs fitting snugly in their sockets in the body of the sharpener are retained therein and in any adjusted position by frictional contact.

In Figs. 11, 12, and 13 I have shown a still further modification of the adjusting mechanism. In this instance the recesses  $b'$ , which are shown in all of the preceding forms, are dispensed with, and in lieu thereof a groove F is formed in the shoulder  $a^2$ , said groove extending longitudinally of the shoulder from one end thereof to the other, or for a distance from each end sufficient for the engagement of the adjusting-screws therewith throughout the longitudinal movement of the blade. The adjusting-screws  $E'$  are used in this instance



in lieu of the screws D'. When the recesses  $b'$  are thus dispensed with, the adjusting-screws E' pass directly through openings in the blade, which may or may not be internally screw-threaded, as shown. The heads of these screws E' are not necessarily set concentrically upon the stems  $e'$  thereof, but the opposite ends  $e^2$  of said stems are formed eccentrically to the axis of the stems, and said eccentric ends  $e^2$  are inserted into the groove F. It will thus be seen that when the adjusting-screws E' are turned axially in one direction or the other their eccentric ends  $e^2$  will, by engaging the sides of the groove F, move the blade B toward or away from the shoulder  $a'$ . At the same time the screws E' will move freely in the groove F when the blade B is adjusted longitudinally.

By reference to Figs. 14 and 15 it will be seen that I have provided the body portion or holder A with a recess or cavity G, which is designed to receive chips which are severed from the pencil and sometimes lodge just beneath the edge of the blade or are caught on the said edge, and which, when occurring near the junction of the graphite with the wood portion of the pencil, quite often results in the point of the pencil being twisted off, owing to the weakness of the pencil at this portion.

As shown, this cavity is formed to open at the shoulder  $a^2$  near the smaller end of the bore  $a$  and beneath the blade B. Said cavity also opens into the bore  $a$ , as clearly shown in Fig. 15.

The cavity is not necessarily of any particular form or location, further than it be located so that a portion of it shall be opposite the position of the graphite core and the wood portion adjacent thereto of the pencil, when in operative position within the bore, and that any chips from the pencil which may accumulate therein may be readily jolted or blown out from said cavity.

As the pencil is turned within the socket  $a$  it sometimes happens that chips from the point of juncture of the wooden sheath with the graphite core of the pencil do not readily pass away over the top of the blade, but become caught on the blade or become wedged between the blade and the shoulder  $a^2$ , where they form a resistance to the pencil and keep the latter from getting to the cutting edge. I have provided the cavity G to obviate these difficulties. By the use of my invention it will be found that such chips cannot become caught as described, but fall into the cavity G and may be blown or jolted out of the cavity, either all at once or by several intermittent joltings or blowings. This cavity may be applied to any of the forms of the implement previously described.

In Fig. 6 I have shown a slit or notch H as formed longitudinally in one end of the holder A, this notch or slit being extended entirely across the holder. In Fig. 9 a similar notch or slit H' is shown, this slit differing from

the slit H only in extending obliquely to the length of the body A. When the blade of the implement has become dull, it is removed from the shoulder  $a^2$  and is inserted in the slit H or H', so as to protrude therefrom properly for sharpening, the body A thus serving as a holder. This slit, in either of its forms, may be applied to any of the implements above described.

The blade B shown in Fig. 16 is a preferable form, although a plain flat blade is illustrated in the other figures for convenience in drawing. This form of blade is cut away or thinned at  $b^2$ , for it is found in practice that although the body part of the blade is quite thin the part  $b^2$  may be relatively of less thickness and still present a sufficient cutting edge, while at the same time rendering the sharpening of the cutting edge much more convenient and expeditiously accomplished. It is obvious that instead of the two slots  $b'$  in Figs. 5, 8, and 17 I may employ a single slot  $b^3$ , Fig. 16, if desired, in which case the heads of the screws D' would only project into said slot  $b^3$  instead of projecting through the slots  $b'$ , as shown.

The purpose of making the shoulders  $a'$   $a^2$  of the holder somewhat longer than the blade B is to avoid the inconvenience in use and the liability to accident both to the blade and user of the implement if either end of the blade should project beyond the holder.

The screws in any form of the implement may either be knurled hand-screws or slotted screws, as preferred, and the cutting-blade may in any instance be provided with the construction B'. Such construction may be dispensed with, if preferred. In the form of device shown in Fig. 17 it will be observed that the screws I are not provided with the usual heads, but project partially through the slotted openings  $b'$  of the blade B, so that both sides of said slotted openings engage the positive ends of said screws. The threaded openings in the holder A are so made with reference to the shoulder  $a^2$  thereof as to permit a portion of the screws I to project beyond the surface of the shoulder  $a^2$  and thus engage the slotted openings in the blade. Access to the slot in the end of the screw I for the purpose of turning the same is here shown in the same manner as in Fig. 6. This form of screw has some advantages, as it may be very cheaply made.

It will be noted that the body portions of the several modifications of the device are slotted, as shown at K K, so as to intersect the sockets of the adjusting-screws. This is for the purpose of allowing a friction fit to be made upon the adjusting-screws, as said slots may readily be closed slightly, thus causing the screws to fit more tightly in their sockets when first assembling the device, or later should the screws wear loose from the adjustment of the same from time to time.

Having thus described my invention, what



I claim as new therein, and desire to secure by Letters Patent, is—

1. In a pencil-sharpener, a notch or slit in the body portion to retain the cutting-blade while said blade is being sharpened, substantially as set forth.

2. A cutting-blade for lead-pencil sharpeners having a cutting edge, a shank or body portion, and a relatively thin portion between the cutting edge and the body portion, said intermediate thin portion being substantially of uniform thickness, substantially as and for the purpose set forth.

3. A pencil-sharpener comprising a body portion having a tapered bore partially cut away, a cutting-blade removably secured to the body portion with its cutting edge adapted to engage a pencil when entered within said bore, said blade having an extension on the side opposite its cutting edge, and a notch or slit in the body portion adapted to retain said extension while the cutting edge is being sharpened, substantially as described.

4. The cutting-blade for lead-pencil sharpeners described, having a thick body portion and a relatively thin portion, the latter having a cutting edge along one of its margins,

grooves or apertures in said thick or body portion for the engagement of screws to effect a transverse adjustment of the blade, and an opening, as *b*, through said body portion, substantially as described.

5. The cutting-blade for lead-pencil sharpeners having a relatively thick shank or body portion provided on its under side with a longitudinal groove, and having between its cutting edge and said grooved body portion a relatively thin portion, substantially as described.

6. In a lead-pencil sharpener comprising a body portion cut away to form a seat, a cutting-blade on said seat and screws in said body portion for adjusting said blade entering sockets in the body portion, and slots, as *K*, in the body portion intersecting said sockets, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 16th day of August, A. D. 1895.

WILLIAM M. MOSELEY.

Witnesses:

TAYLOR E. BROWN,  
H. L. GIVEN.