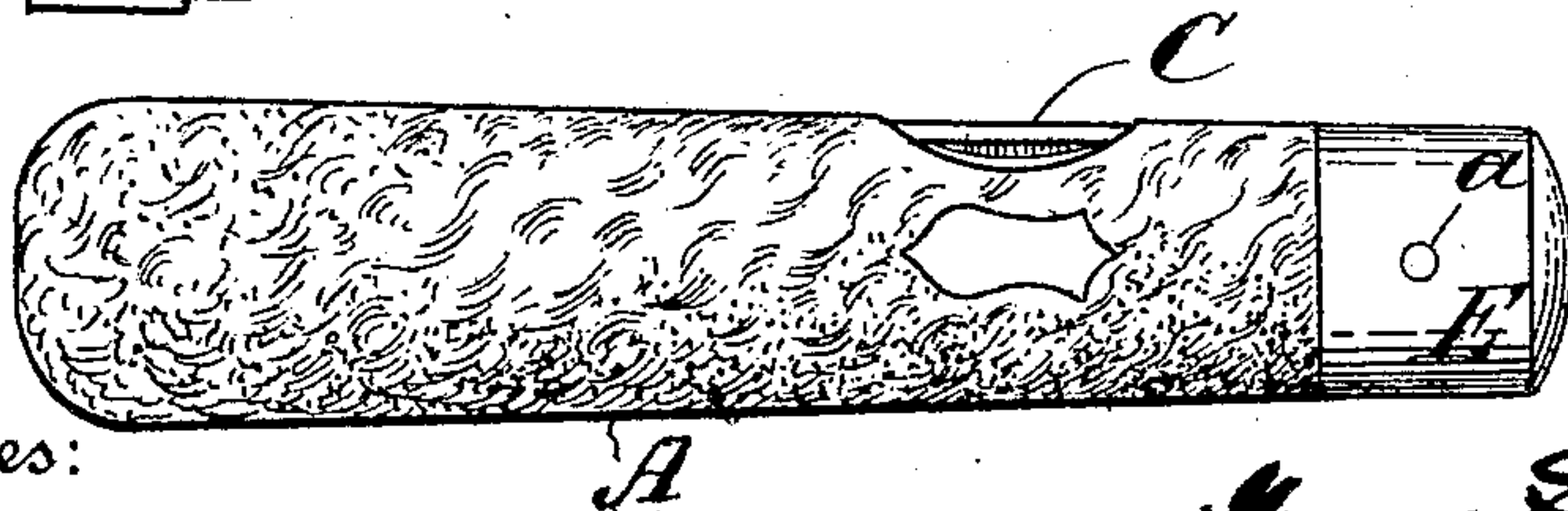
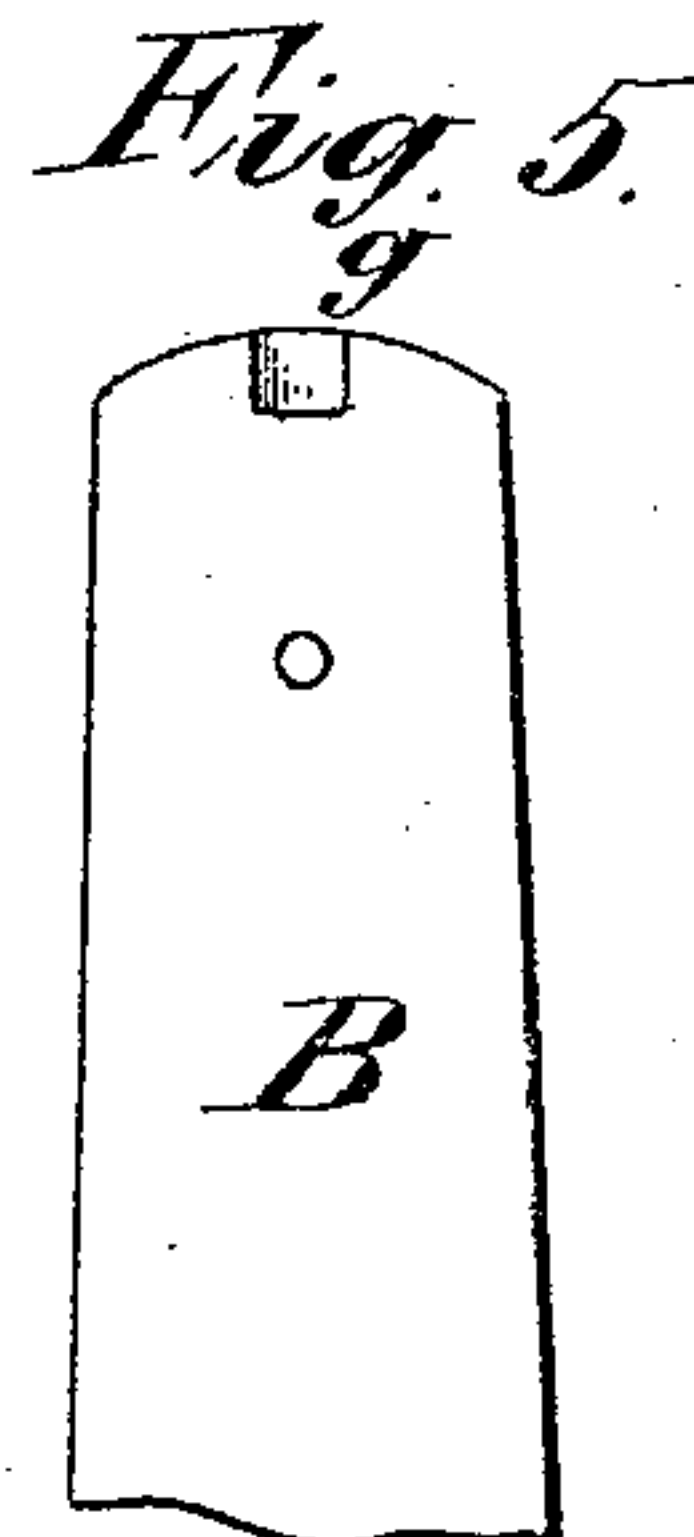
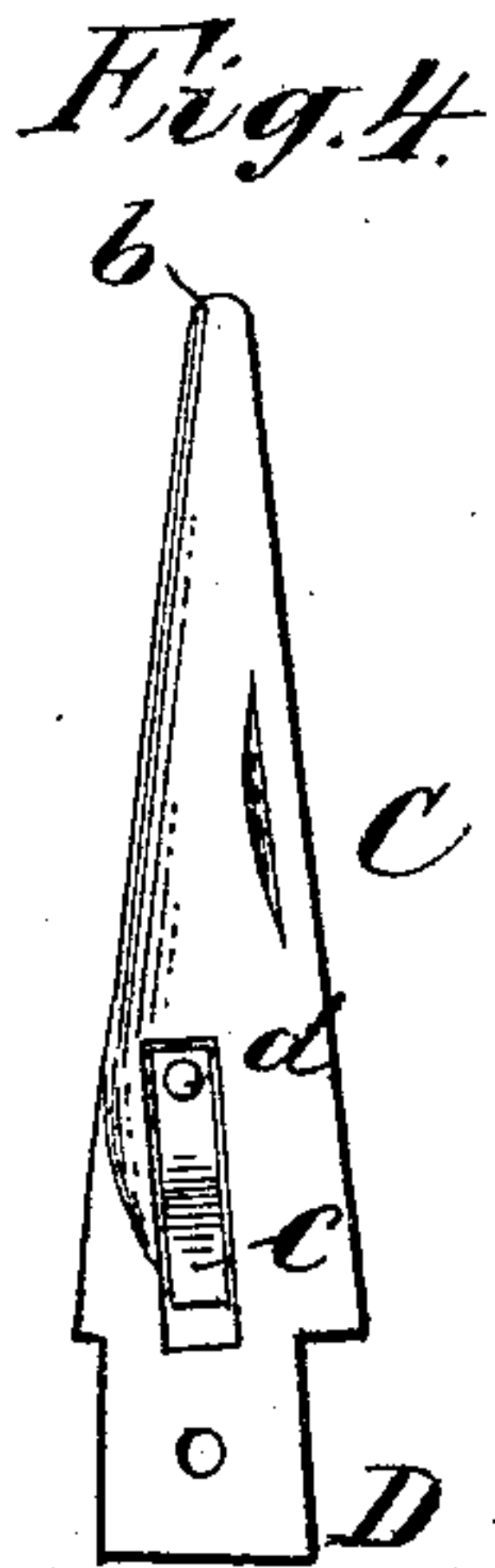
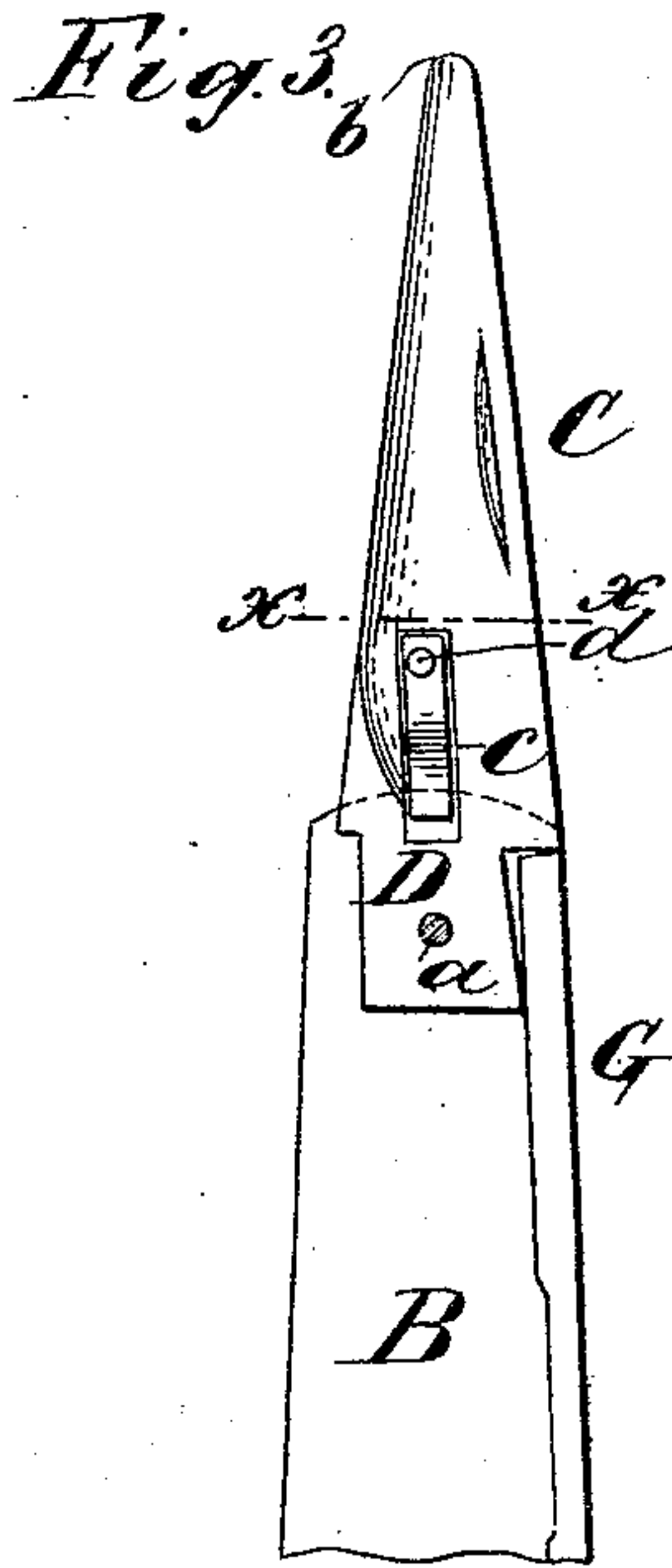
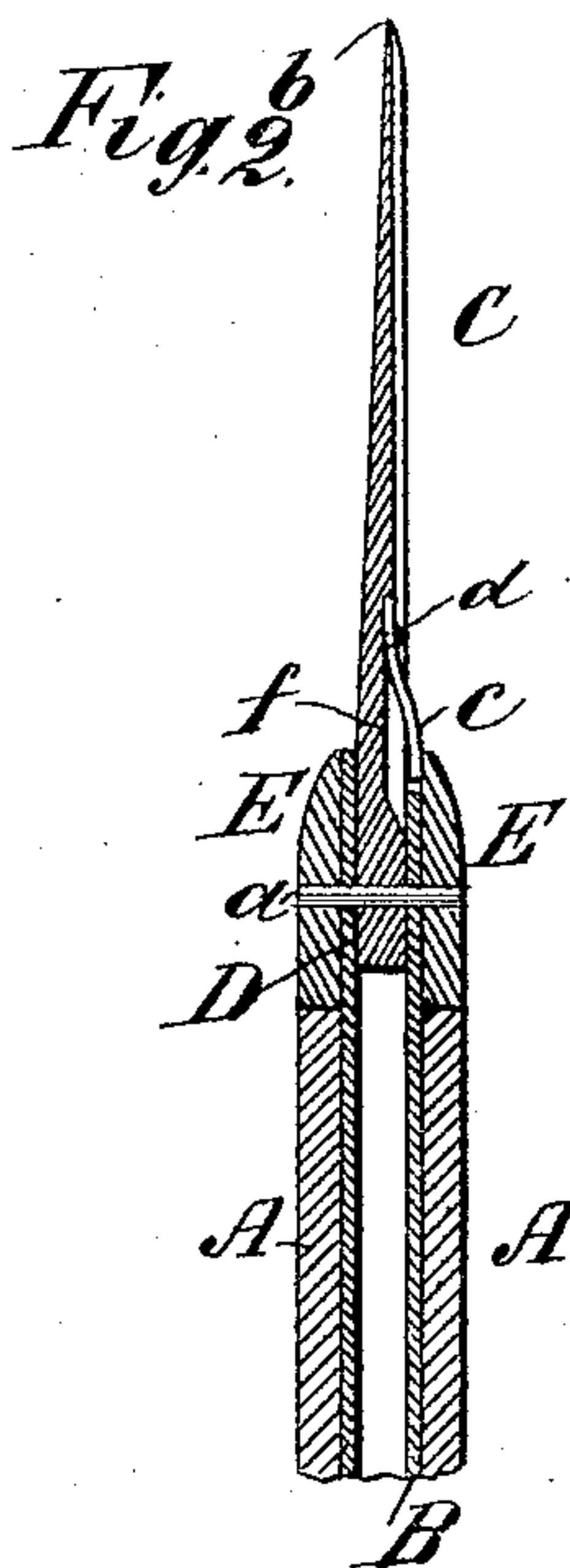
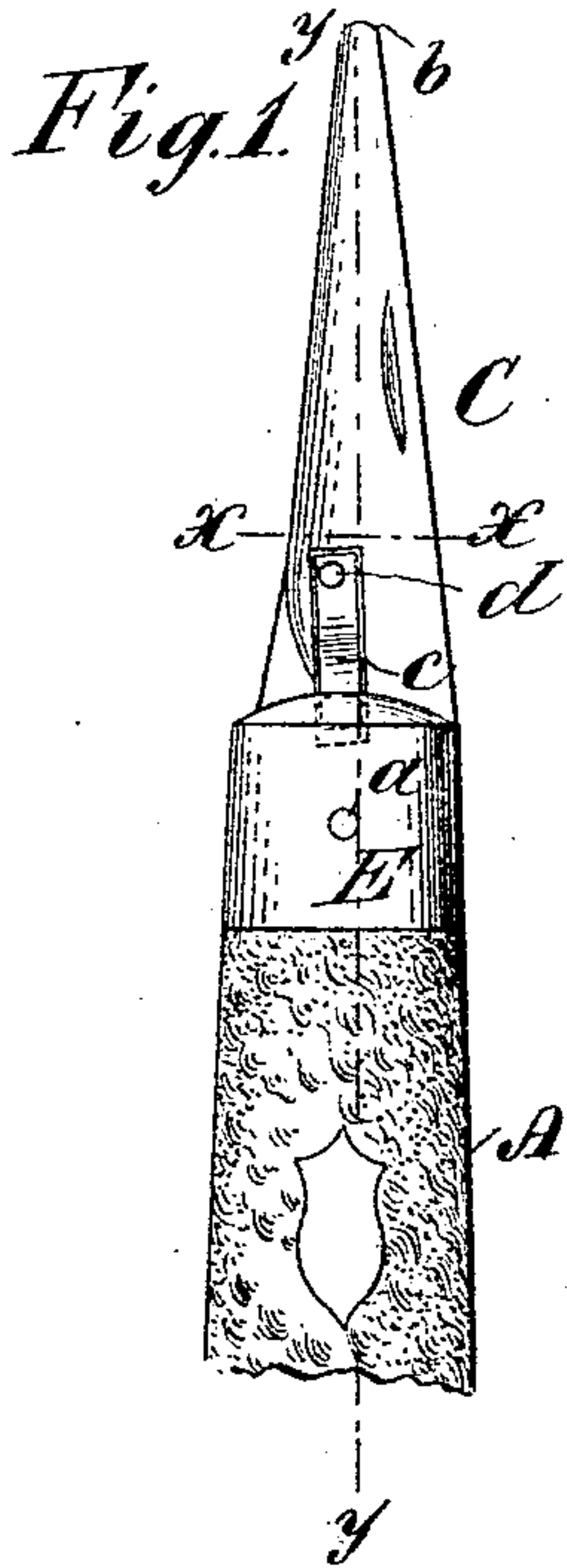


G. SCHRADE.  
PUNCH OR BORER FOR LEATHER AND SIMILAR SUBSTANCES.  
APPLICATION FILED APR. 8, 1910.

999,060.

Patented July 25, 1911.



Witnesses:  
F. W. Wiman  
Harry Lesser.

Inventor  
George Schrade  
By *Attorney*  
C. W. Mulcomson



# UNITED STATES PATENT OFFICE.

GEORGE SCHRADE, OF WALDEN, NEW YORK.

PUNCH OR BORER FOR LEATHER AND SIMILAR SUBSTANCES.

999,060.

Specification of Letters Patent. Patented July 25, 1911.

Application filed April 8, 1910. Serial No. 554,249.

*To all whom it may concern:*

Be it known that I, GEORGE SCHRADE, a citizen of the United States, residing at Walden, in the county of Orange and State of New York, have invented a new and Improved Punch or Borer for Leather and Similar Substances; and I hereby declare the following specification to be a full and clear description thereof, reference being had to the accompanying drawings.

My invention has two objects, one is to provide a tool which is easily carried and will successfully and neatly punch or cut a circular hole in leather straps or bands and the like; the other object is to have the cutting or punching blade firmly held in position as regards the handle, so danger to the hand of the operator may be avoided.

The various points of novelty will be more specifically set forth hereinafter.

In the drawings:—Figure 1 is a side view of the boring blade and the end of the handle. Fig. 2 is a section on line  $y \dots y$  of Fig. 1. Fig. 3 is the same as Fig. 1 with the cover removed. Fig. 4 is a detached view of the boring blade and tang. Fig. 5 is a view of the inside of the cover. Fig. 6 is a section through the boring blade on the line  $x \dots x$  of Figs. 1 and 3 enlarged. Fig. 7 is a front view of the auxiliary spring. Fig. 8 is a side view of the same.

The coverings or outside layers of the knife handle are represented by the letters A, A and the linings by B, B and C represents the boring blade. In tools of this class where a blade is used for boring leather or similar purposes great strain is placed on the parts where the tang is riveted to the end of the handle when work is being done. It is usual to have the ends of the handles of such knives reinforced with metal caps E, E which are firmly secured to each other by a rivet passing through them and the intervening tang of the boring blade. The strain at this point is considerably increased when the tool is being used for boring or cutting a round hole in leather.

In constructing my improved tool I avoid impairment of the stability of the blade and at the same time provide means for locking and firmly retaining the blade in its open position. In practice I have found that in order to do good work in boring a round hole in leather with a tool of this class, it is necessary to have the metal form a sharp edge or angle on both edges longitudinal of

the blade and that the cutting thrust of these angles should both face the same way, so that one edge is cutting, while the other is slipping when the tool is first twisted or revolved one way and then revolved in the opposite direction. It is for these purposes that my improvements in the style of blade have been made. In my device the blade or cutting tool terminates in a base or tang D which lies snugly against the metal linings B, B and is held in place by a rivet  $a$  which passes through the caps E, E, the linings and the tang, without leaving any space to catch dirt, weaken or loosen the fastenings. The blade tapers from the tang to its outer extremity and terminates in a rounded sharpened point  $e$ .

One side of the tapering blade or tool C is made convex as will be seen in Fig. 6, while the other side is concave. On one face of the blade the curvature extends across the entire width terminating in a thin sharp edge  $h$  where it meets the convex curvature of the opposite side. The other edge or back of the blade is made thick and stiff and is squared as shown in Fig. 6. The concave curvature of the blade meets this squared portion at  $b$  and produces along the back a sharp angular formation which makes a good cutting edge. By this new construction I give stiffness and strength to the blade and at the same time produce sharp cutting edges along both of its edges; the cutting edges both facing the same way, so that only one of the edges will operate to cut the leather or other material when the tool is being revolved in either direction.

G is the usual back spring to the knife.

In order to hold the boring tool in open position when in use, I employ a spring catch  $c$  secured to the blade portion at its exterior end by a rivet  $d$ . The blade is cut away or recessed at  $f$  for this purpose, so the spring and rivet will be housed in such depression when the blade is closed, while the loose end of the spring finds a socket in the inner face of the outer end of the cap, when the blade is open, which effectually locks the blade in an open position. For this purpose a recess  $g$  is cut out of the end of the lining on the side the auxiliary spring  $c$  is located. The loose end of the spring  $c$  tends to rise out of the depression  $f$  in the blade C by reason of its shape. The depression extends slightly under the lining where the blade enters the handle and when



the auxiliary spring *c* lines up with the recess *g* it enters therein as shown in Fig. 2 and firmly locks the blade in an open position. When it is desired to close the blade  
5 the free end of the spring *c* is depressed by the thumb, or finger into the depression *f* until it clears the opening *g* and slides over the face of the lining.

What I claim as my invention, is:

10 1. A tool comprising a handle and a blade, said blade being provided with a plate spring *c*, housed in a depression therein, one end of said spring being riveted to the blade at a point exterior of the handle  
15 rivet, the other end of said spring being free and extending into the handle and adapted to have the free end register with and engage in a recess in the lining of said handle substantially as shown and described.

20 2. A tool comprising a handle, and a

blade pivotally mounted therein to fold within the handle, said blade tapering from the tang to its outer extremity and terminating in a rounded point, said blade having a thickened flat back and formed concave upon  
25 one face and convex upon the opposite face, the concavity extending along and entirely across the face of the blade on one side and the concave and convex faces forming a sharp cutting surface along one edge and the  
30 concave face forming with the flat back a sharp angular cutting surface along the same, said cutting edges both facing in the same direction, the said blade tapering in  
35 thickness from the thickened flat back toward the opposite cutting edge.

GEORGE SCHRADE.

Witnesses:

CYRUS B. FOWLER,  
HASSIE A. TILLSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."