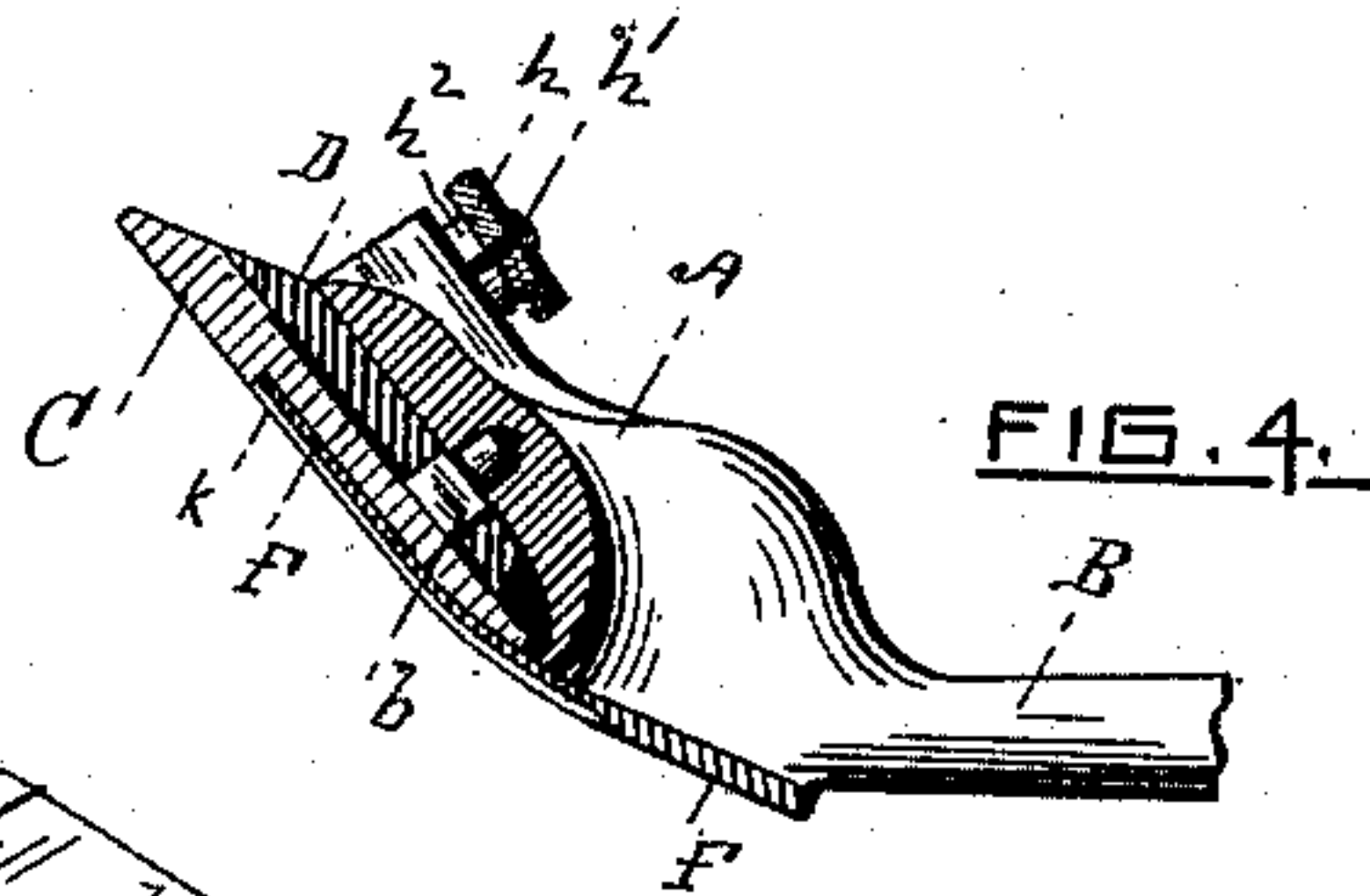
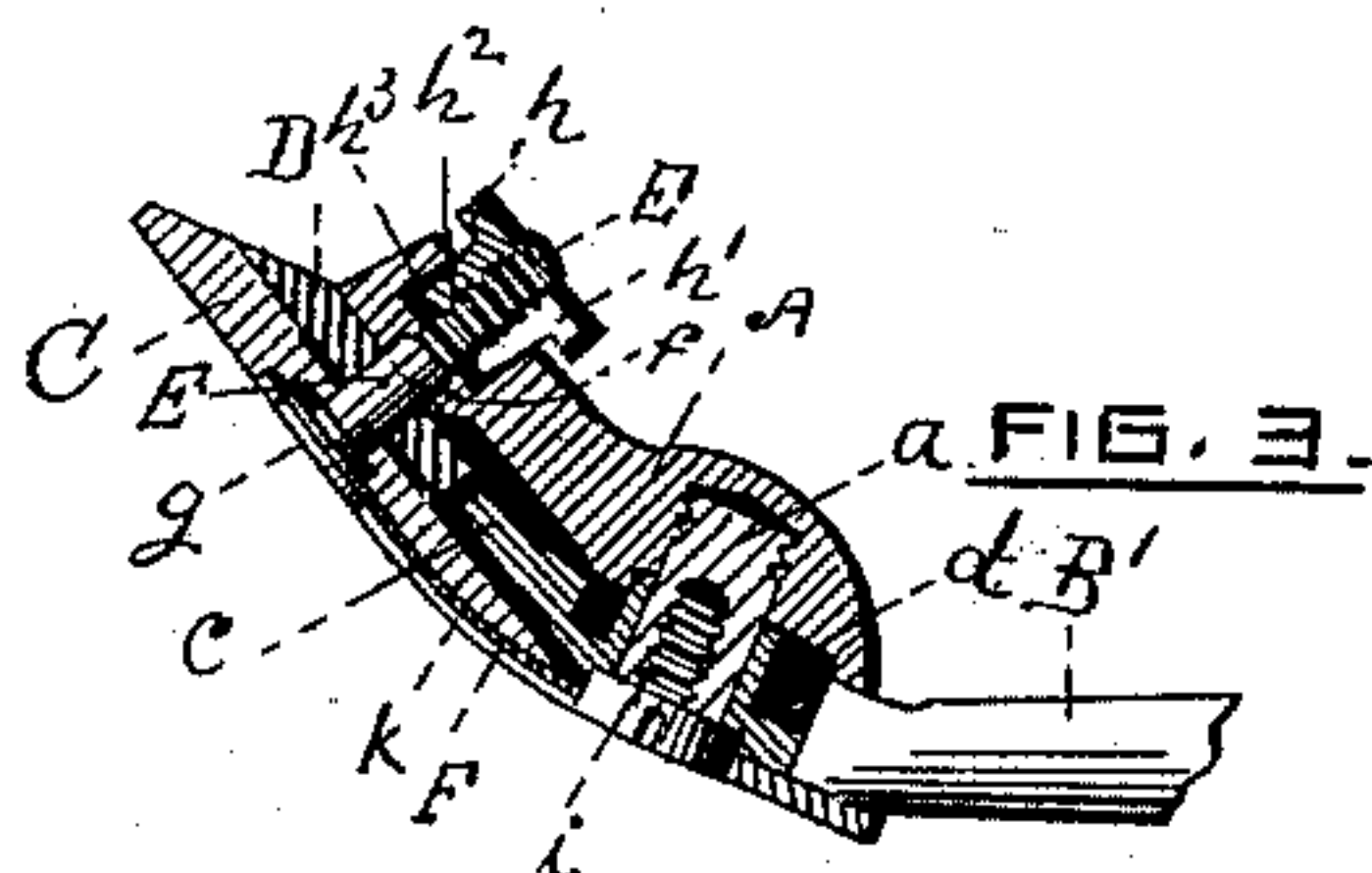
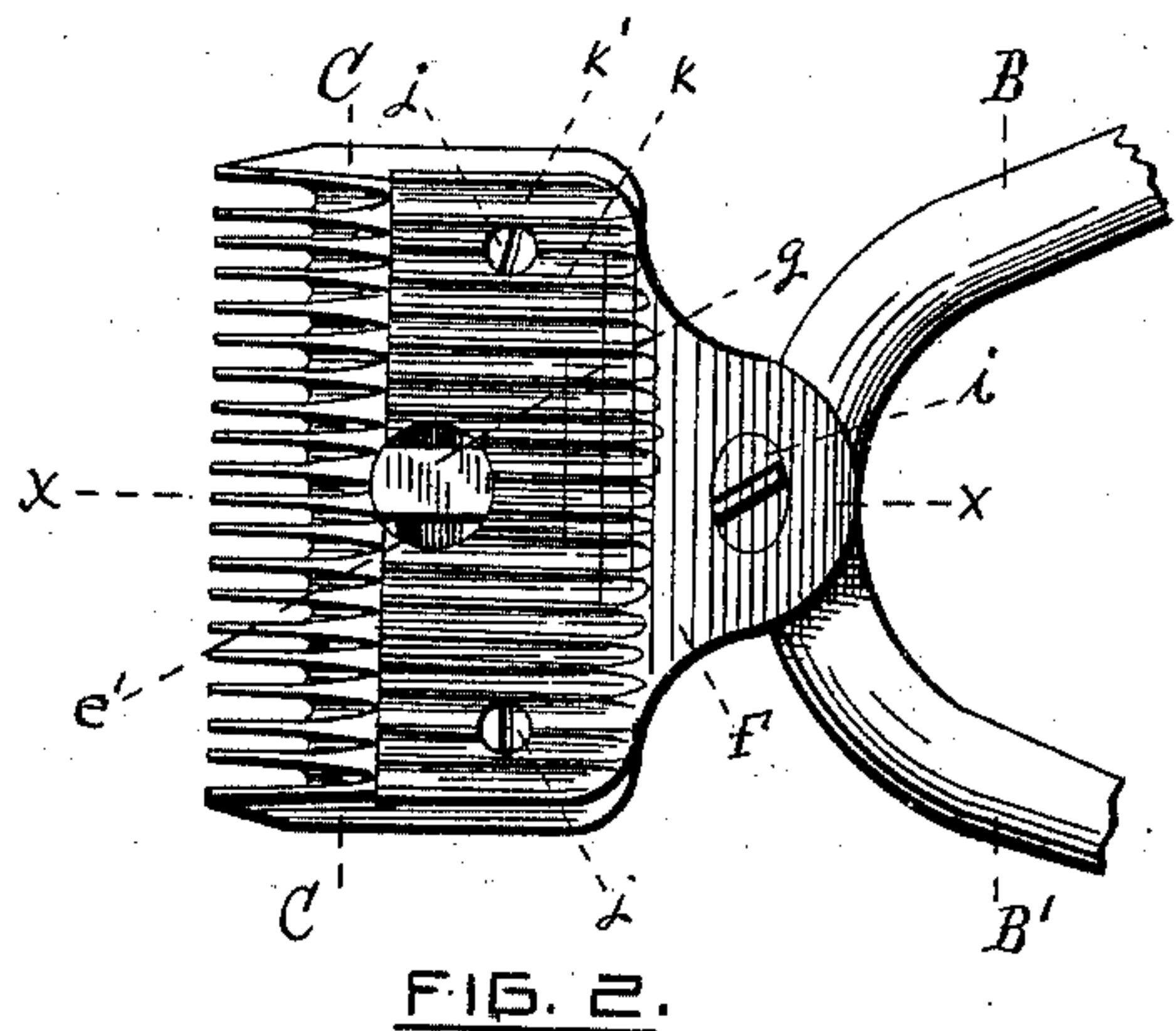
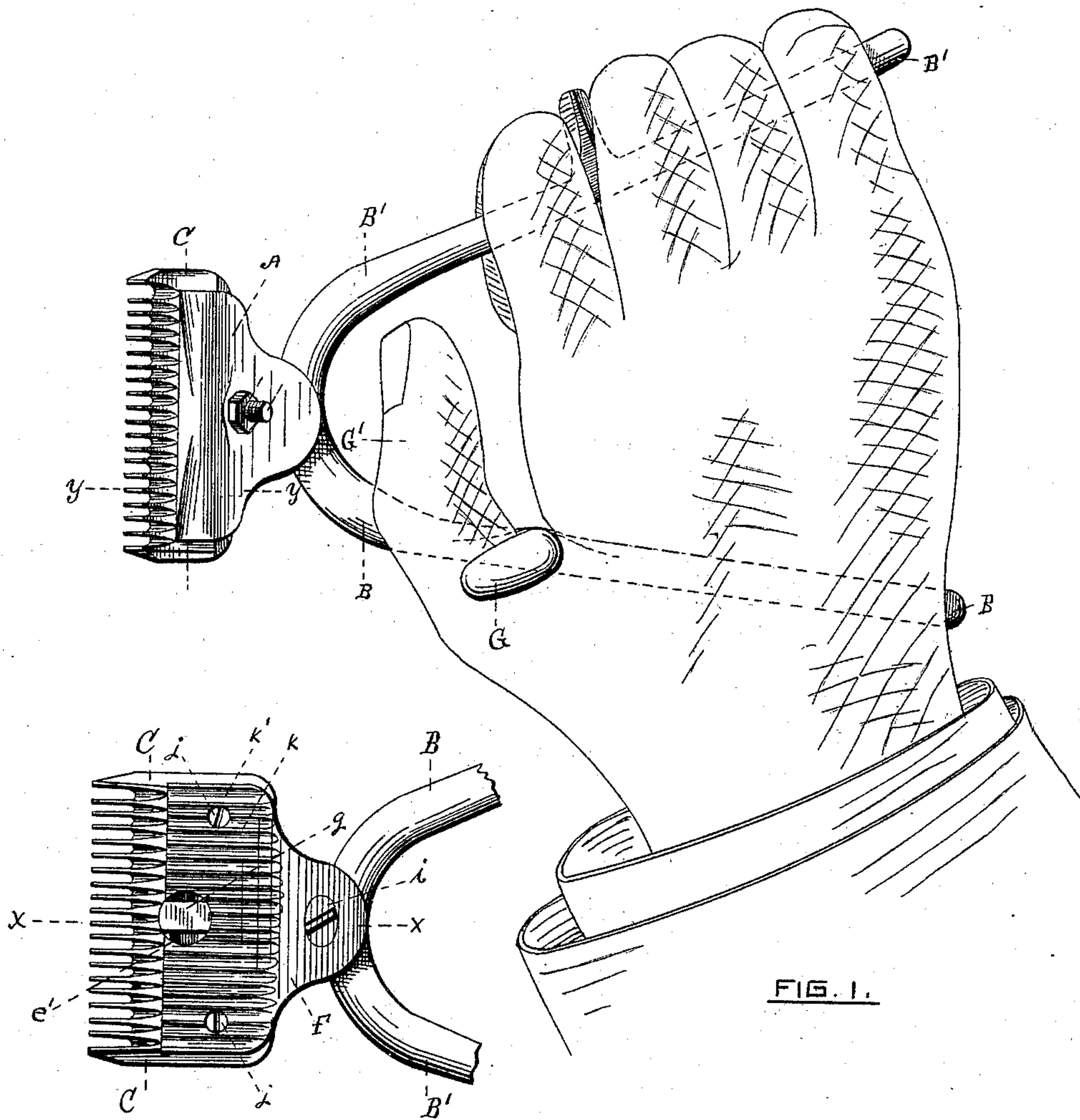


(No Model.)

G. H. COATES & E. M. LONG.
HAIR CLIPPING MACHINE.

No. 445,947.

Patented Feb. 3, 1891.



WITNESSES:

Rufus B. Fowler.
Henry Wood

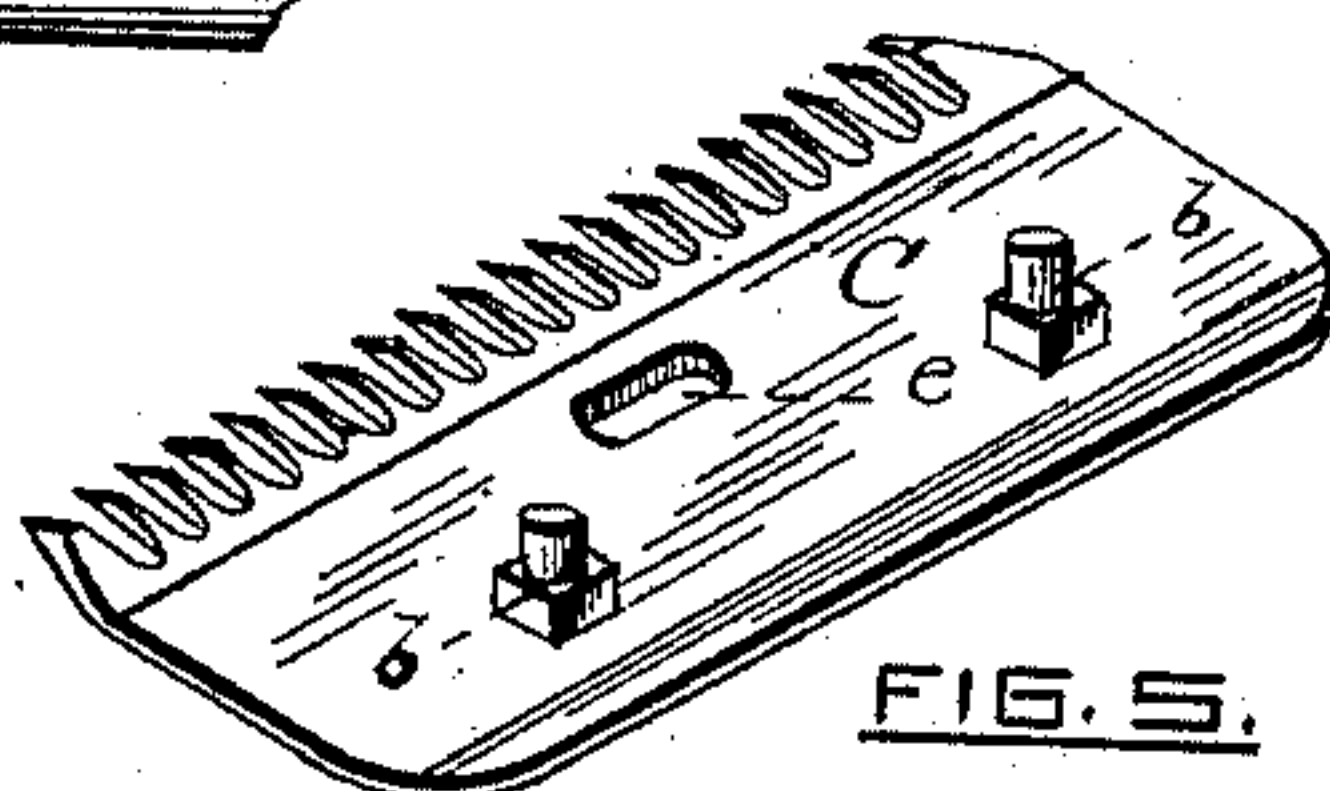


FIG. 5.

INVENTORS

Geo. H. Coates
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UNITED STATES PATENT OFFICE.

GEORGE H. COATES AND EDWARD M. LONG, OF WORCESTER, MASSACHUSETTS; SAID LONG ASSIGNOR TO SAID COATES.

HAIR-CLIPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 445,947, dated February 3, 1891.

Application filed October 11, 1886. Serial No. 215,832. (No model.)

To all whom it may concern:

Be it known that we, GEORGE H. COATES and EDWARD M. LONG, citizens of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented an Improvement in Hair-Clipping Machines, of which the following is a specification.

Our invention relates to that class of hair-clipping machines in which stationary and movable cutting-plates are employed; and it has for its objects to provide means for supporting the machine upon the surface to be clipped and in the form and arrangement of the operating or lever handle, whereby the movable cutting-plate is actuated in a plane at an acute angle with the pivot of the lever-handle, as hereinafter described.

The drawings hereunto annexed show the clipping-machine with the improvements forming the subject of our present invention.

Figure 1 is a top view showing the machine as held by the hand. Fig. 2 is a view of the bottom of the machine, which in the operation of cutting rests upon the surface to be clipped. Fig. 3 is a sectional view on line X X, Fig. 2. Fig. 4 is a sectional view on line Y Y, Fig. 1; and Fig. 5 is a detached and perspective view of the stationary cutting-plate.

Similar letters refer to like parts in the several figures.

The construction of our improved clipping-machine is similar in its essential features to those in general use; and it consists of a fixed handle with a stationary cutting-plate attached thereto, a reciprocating cutting-plate, and a pivoted or actuating handle.

In the drawings, A represents the head of the machine; B, the fixed handle; B', the actuating-handle, pivoted upon a stud *a*, which is screwed into the head A.

C is the stationary cutting-plate provided with studs *b b*, which project upward from the plate C and enter sockets in the head A, as shown in Fig. 4. The studs *b* are square next the plate C to enter slots in and form guides for the movable cutting-plate D, which is placed between the head A and the stationary cutting-plate C, and is moved by the arm *c* of the pivoted handle B', which enters a notch in the edge of the movable plate in

a manner which is common and well understood by all familiar with machines of this class.

In an annular chamber *d*, formed in the pivoted handle and concentric with the stud *a*, we place a spiral spring with one end attached to the head A, and the tension of the spring applied through the free end to the movable handle in a well-known and common manner of applying the force of a spiral spring, and therefore we have not deemed it necessary to show the spring in the drawings, it forming no part of our present invention. In the stationary cutting-plate C we form an elongated opening *e* with a circular recess *e'* on the under side of the plate, and coincident with the opening *e* we place a hole *f* in the head A to receive the screw-threaded bolt E, which passes through the head A and plate C and is provided with a thin "button-shaped head" *g*, which is passed through the opening *e* and by a quarter-turn of the bolt is brought into the circular recess and at right angles with the opening *e*. Upon the screw-threaded bolt E is a tapered nut *h*, cut apart on one side at *h'*, and having a tapered section *h²*, which enters a tapered chamber *h³* in the head A. By this means the plate C is drawn up toward the head, thereby clamping the movable plate D between them. The actuating-handle B' is secured in the stud *a* by a screw *i*, with a flanged head larger than the diameter of the stud *a*.

To the stationary plate C we attach by screws *j j* the bent plate F, extending rearward as far as is necessary to form a support for the machine in the operation of cutting. The plate F is made of some non-heat-conducting substance—such as vulcanized rubber, celluloid, or any analogous material—in order to obviate the sensation of cold incident to the use of a metallic plate for the bottom of the machine, and we limit the surface of the plate F in contact with the surface to be clipped by forming a succession of ridges *k* parallel with the line of motion of the machine as it is pushed along in the operation of cutting. These ridges *k* are formed by removing the material of the plate, as shown by the grooves *k'*.

Upon the fixed handle B we place a prong

G, extending upward, then forward and outward, so as to hook over the thumb G', which is brought over the handles, as shown in Fig. 1. By means of the prong G the machine is sustained by the thumb, the fingers extending over the movable handle, allowing the machine to be operated, by alternately closing and opening the fingers and bringing the movable handle against the palm of the hand, which receives the entire pressure of the fixed handle.

We do not confine ourselves to any special manner of attaching the plate F to the machine, as it may be fastened by the screw *i*, if desired. The fixed handle B is expanded to form the head A, beneath which we place the stud *a* to form a pivot for the movable handle B'. The cutting-plates C and D are placed at an acute angle with the pivot of the actuating-handle, and the arm *c* is also bent in front of the stud *a* to form an acute angle with the pivot of the handle B'. By this construction we are able to shorten the machine between the cutting-edges and the stud *a*, and also to secure the proper angle between the cutting-plates and the handles.

We are aware that comb-plates made of rubber have been used attached to the stationary cutting-plate; also that the stationary cutting-plates of clipping-machines have been grooved in order to lessen the surface in contact with the skin. We claim neither of these features broadly.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, with a stationary cutting-plate, reciprocating cutting-plate, a fixed handle to which said stationary cutting-plate is attached, and a pivoted handle by which said movable cutting-plate is operated, of a bottom supporting-plate attached to the rigid portion of the machine, said plate having its

under surface flush with the under surface of the stationary cutting-plate and extending rearward to form a support for the machine behind the surface of said stationary cutting-plate, substantially as described.

2. The combination, with stationary and movable cutting-plates and fixed and pivoted handles, of a bottom supporting-plate F, attached to the rigid portion of the machine with its under surface flush with the under surface of the stationary cutting-plate and extending rearward from said stationary cutting-plate to form a support for the machine in the operation of cutting, said supporting-plate being curved with its convex side downward to allow the machine to be rocked and the cutting-edges of the cutting-plates to be raised while engaged in the operation of cutting, substantially as described.

3. The combination, with the stationary and movable cutting-plates and fixed and pivoted handles, of a supporting bottom plate attached to the rigid portion of the machine with its under surface flush with the under surface of the stationary cutting-plate and extending rearward from the stationary cutting-plate to form a support for the machine in the operation of cutting, said supporting-plate being corrugated, substantially as described.

4. The combination, with stationary and movable cutting-plates and fixed and pivoted handles, of the arm *c*, placed at an acute angle with the pivot of the pivoted handle, whereby the movable cutting-plate is actuated in a plane at an acute angle with the pivot of the pivoted actuating-handle, substantially as described.

GEO. H. COATES.

EDWARD M. LONG.

Witnesses:

RUFUS B. FOWLER,

HENRY WOOD.