

No. 726,014.

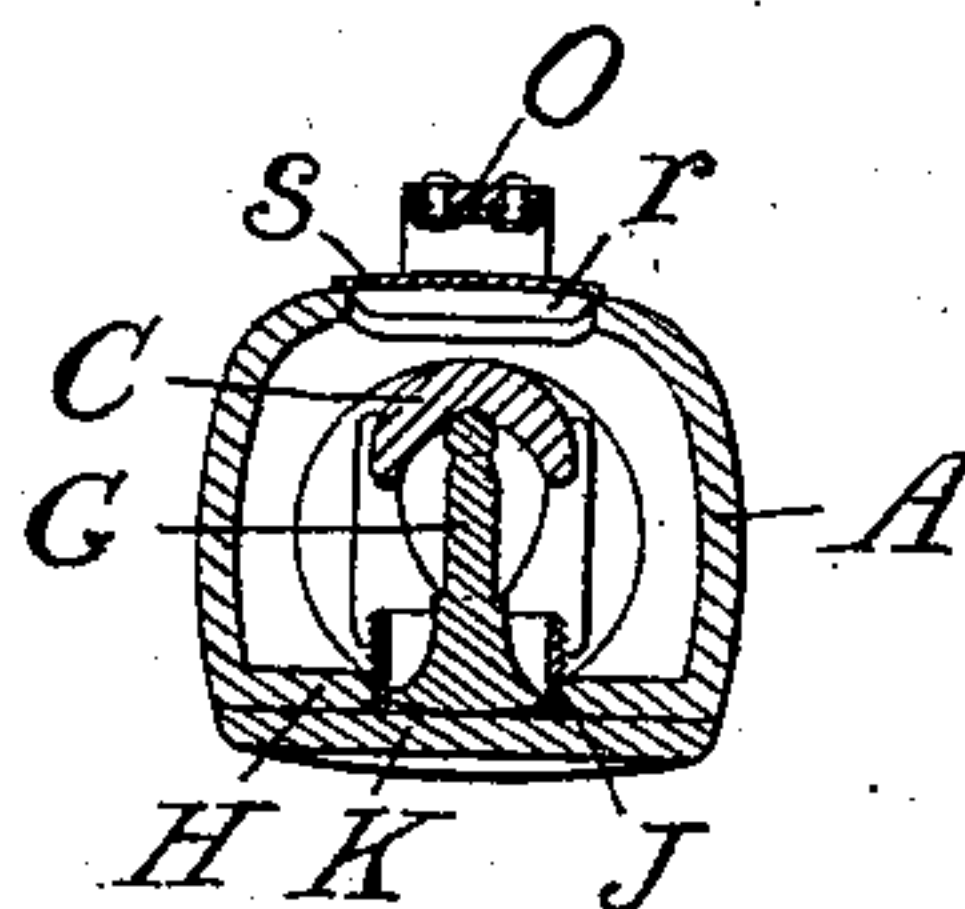
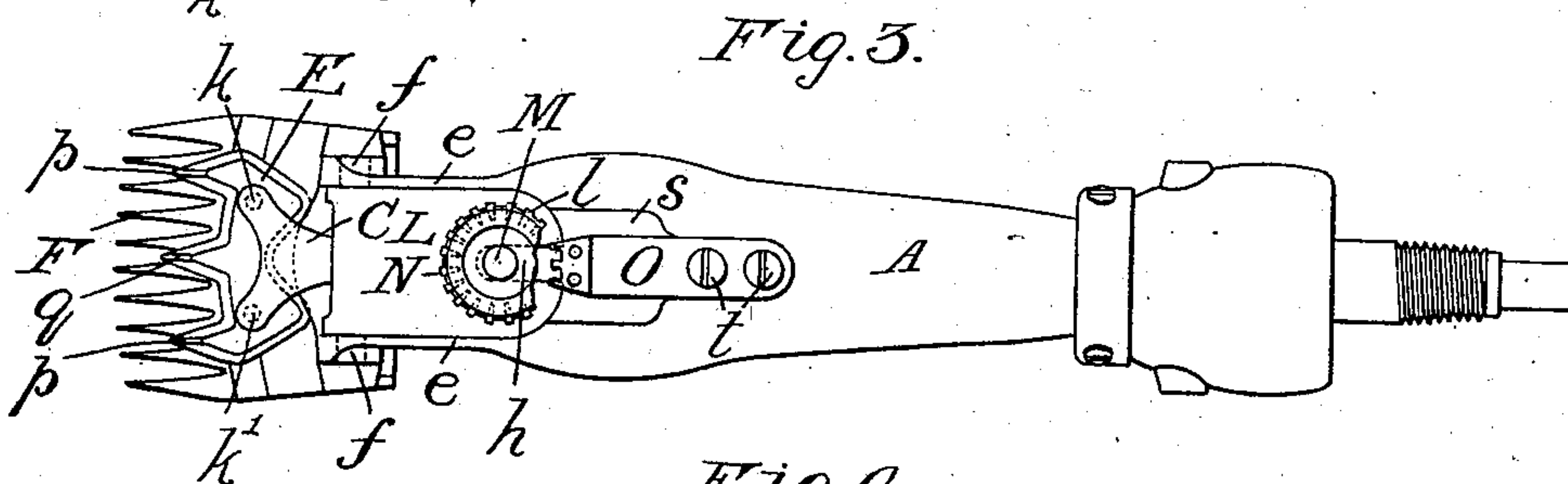
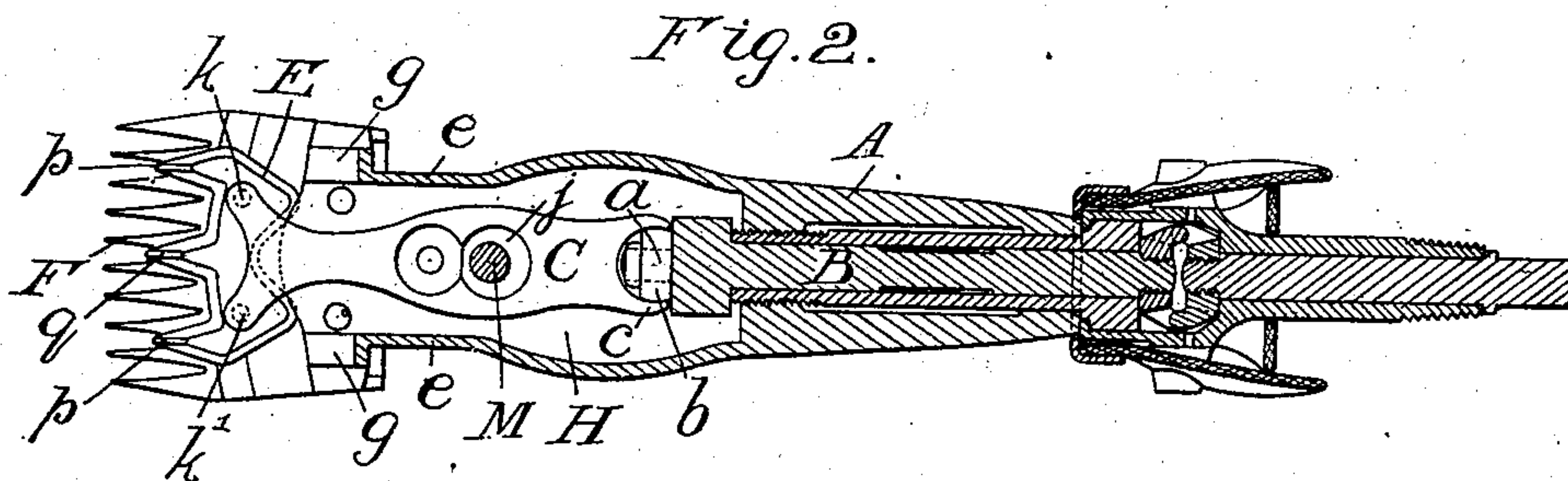
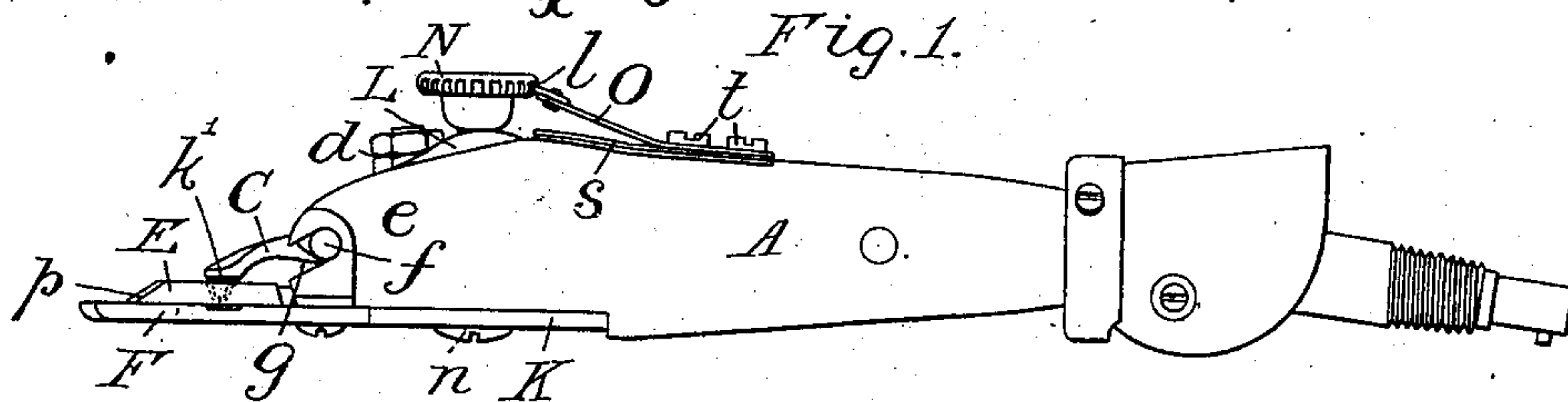
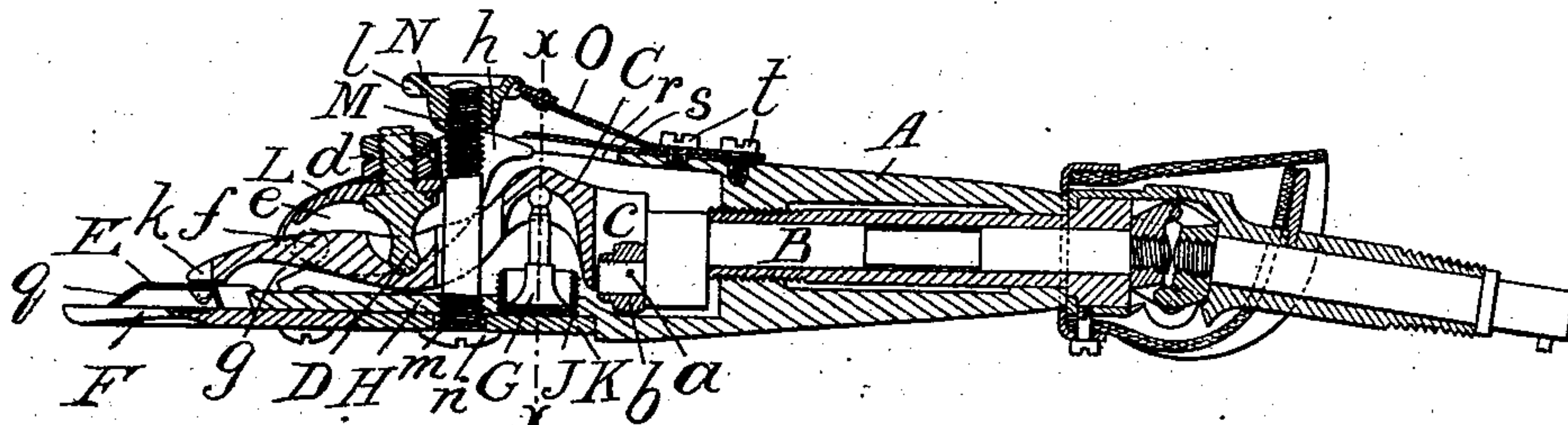
PATENTED APR. 21, 1903.

H. AUSTIN.

MACHINE FOR CUTTING OR SHEARING HAIR OR WOOL.

APPLICATION FILED JULY 23, 1902.

NO MODEL.



Witnesses:

Peter A. Ross.

William J. Firth.

Fig. 5.

Inventor
Herbert Austin
by Henry Connell
Attorney

UNITED STATES PATENT OFFICE.

HERBERT AUSTIN, OF ERDINGTON, ENGLAND.

MACHINE FOR CUTTING OR SHEARING HAIR OR WOOL.

SPECIFICATION forming part of Letters Patent No. 726,014, dated April 21, 1903.

Application filed July 23, 1902. Serial No. 116,601. (No model.)

To all whom it may concern:

Be it known that I, HERBERT AUSTIN, engineer, a subject of the King of Great Britain, residing at Erdington, near Birmingham, England, have invented certain new and useful Improvements in Machines for Cutting or Shearing Hair or Wool, of which the following is a specification.

This invention relates chiefly to the type of machines for cutting or shearing hair or wool in which a sidewise-vibrating lever carried within a suitable case, which may be held by the hand, is mechanically operated at its rear end to reciprocate the cutter; but the invention is in part applicable also to machines for the like purpose which are operated by hand.

The invention has for its objects in regard to a mechanically-operated machine improvements in construction which facilitate the manufacture of the case, improved means of carrying the reeling support frequently used under the hinder end of the sidewise-vibrating lever, and an improved method of carrying the bearing by means of which the forward end of the lever is pressed down upon the cutter and of adjusting the pressure whereby the sidewise-vibrating lever may be more readily removed from the case than heretofore; and the invention has the object in regard both to mechanically-operated and hand-operated machines to improve the means for equalizing the pressure of the fork ends of the sidewise-vibrating lever upon the several teeth of the cutter.

The invention is illustrated by the drawings herewith, of which—

Figure 1 is a longitudinal sectional elevation through a mechanically-operated machine embodying my improvements. Fig. 2 is a side elevation of such machine. Fig. 3 is a sectional plan of the machine, taken as to one portion along the longitudinal axes of the spindles and as to the other portion immediately above the sidewise-vibrating lever, showing such lever in plan view, with the parts above removed and the sides of the case in section. Fig. 4 is a plan view of the machine, and Fig. 5 is a transverse section taken on line *xx* of Fig. 1 looking in a backward direction.

A is the case of the machine, within which is journaled the spindle B, which is driven at

its hinder end, as usual, through the medium of flexible gear, which allows the machine to be moved about while in operation without moving the motor from which the power is derived.

C is the sidewise vibrating lever, which is operated, as is usual, by the forward end of the spindle B, such as through the medium of a crank-pin *a*, which operates a slider *b* within a vertical guide *c*, formed in the hinder end of the lever. The lever vibrates sidewise about the axis of a stud D, by which downward pressure is brought upon the lever to press its forward or forked end upon the cutter E to press the cutter with required force upon the comb F. The hinder end of the lever C is supported by a reeling pillar G, such as has previously been employed for the purpose, the upper end of which is preferably ball-shaped and bears within a cup formed in the under side of the lever and the lower end of which forms a portion of a sphere which is struck from the center of the ball, as in the case of the rocking pillar previously used for the like purpose. The under side of the forward end of the case is formed quite flat, as shown by Figs. 1, 2, and 5, and a circular hole is formed through the bottom of such portion of the case to receive a short length of tube J, which surrounds the lower end of the reeling pillar G. A flat steel plate K is screwed to the under side of the flat portion of the case and forms the bottom of the circular hole through the bottom H of the case, which receives the tube J and lower end of the reeling pillar G and provides the surface upon which such pillar rolls. This formation of the bottom of the case greatly facilitates its manufacture, and the utilization of a flat plate K, fixed thereto, to form the bearing-surface for the bottom of the reeling pillar, constitutes a very simple method of providing a surface for the purpose which shall be true with the comb, as the comb F also is screwed up, as is usual, against the under side of the bottom H of the case. It is preferred that the surfaces of the under side of the case against which the plate K and the comb are respectively fixed shall be in the same plane as shown for convenience in manufacture.

The stud D, about the axis of which the le-

ver C vibrates sidewise, terminates, as is usual with such fulcrums, in a ball end, which bears within a cup formed in the lever. This stud is fixed, by means of lock-nuts *d*, within a cover L, which closes in the upper portion of the forward end of the case A. This cover L fits snugly between the forward ends of the two sides *e* of the case and is provided at its forward end with sidewise-projecting pivot-pins *f*, which are passed into slots *g*, formed in from the front ends of the sides *e* of the case. A slot *h* (shown in section by Fig. 1 and by broken lines in Fig. 4) is formed in from the hinder end of the cover L, through the top thereof, and a pin M is carried up from the bottom H of the case through an opening *j*, formed through the lever C, which allows the lever to vibrate notwithstanding such pin. The cover may be turned up upon the axis of its pivot-pins *f* out of the case or may be turned down within the case into the position in which it is shown in the drawings, with the ball end of the stud D bearing within the cup formed in the upper face of the lever. When the cover L is down within the case, as shown, the pin M passes up through the slot *h* of the cover, and then a nut N is screwed upon the upper end of the pin M, and thus brought to bear with sufficient force upon the cover to cause the desired pressure of the forward or forked end *k k'* of the lever C upon the cutter E. The pressure of the cutter E upon the comb F may thus be adjusted by the nut N through the medium of the cover L and stud D. The nut N may be prevented from turning accidentally in any convenient manner, such as in a manner which has been heretofore practiced for a similar purpose, which comprises a spring O, fixed at its hinder end by means of set-screws *t* to the top of the case A and having a toothed forward end which engages with teeth formed at the under side of an outward rim or flange *l* of the nut, the spring being disengaged from the nut, when the nut is to be turned by pressing the forward end of the spring downward. A portion of the nut N is shown as broken away in Fig. 4 to expose the forward end of the spring. The open formation of the forward end of the case with the faces of its sides parallel at such end also greatly facilitates the manufacture of the case.

The lever C may be removed by merely previously removing the cutter E, cover L, and pin M; but as it is undesirable to disturb the pin M an opening is formed in from the forward end of the portion of the top of the case which is immediately to the rear of the cover L to admit of the lever C being removed without removing the pin M. This opening *r* is normally covered by a plate *s*, which is fixed by the set-screws *t*, which are used also to fix the spring O, and in removing the plate *s* the spring also must of course be removed. The pin M is preferably utilized also, as shown, to fix the plate K to the under side of

the case, having for such purpose a threaded portion *m* of enlarged diameter, which is screwed into the bottom of the case, and a head *n*, which bears up against the under side of the plate K.

The means by which according to this invention the pressure of a sidewise-vibrating lever, whether of a mechanically or of a hand operated machine for cutting or shearing hair or wool, is equalized upon the teeth of the cutter consist in forming the cutter, as is common, with three teeth *p q p* and forming the end of the lever bifurcated or with two prongs *k k'* only and causing the bearing portion *k* or *k'* of each fork or member of the bifurcation to bear at a point which is at or about one-third of the distance from the center of an outer tooth *p* toward the center of the middle tooth *q* of the cutter.

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

1. In a mechanically-operated machine for cutting or shearing hair or wool, a case to be grasped by the operator, a sidewise-vibrating lever within the case, suitable mechanism for vibrating such lever, a cutter connected with the forward end of such lever, a comb upon which the cutter slides, a fulcrum about the axis of which the lever vibrates, a reeling pillar which supports the hinder end of the lever, a flat portion of the lower side of the case, a hole formed therethrough to receive the lower end of the reeling pillar, and a plate fixed against the flat under surface of the case and forming the bottom of the said hole through the lower side of the case and providing the surface on which the reeling pillar rolls, substantially as set forth.

2. In a mechanically-operated machine for cutting or shearing hair or wool, a case to be grasped by the operator, a sidewise-vibrating lever within the case, suitable mechanism for vibrating such lever, a cutter connected with the forward end of such lever, a flat portion of the lower side of the case, a comb fixed to the flat under surface of the case and upon which the cutter slides, a fulcrum about the axis of which the lever vibrates, a reeling pillar which supports the hinder end of the lever, a hole formed through the flat portion of the lower side of the case to receive the lower end of the reeling pillar, and a plate fixed against the flat under surface of the case and forming the bottom of the said hole through the lower side of the case and providing the surface on which the reeling pillar rolls, substantially as set forth.

3. In a mechanically-operated machine for cutting or shearing hair or wool, a case to be grasped by the operator, said case having an open, upper forward end, a sidewise-vibrating lever within said case, mechanism for vibrating said lever, a cutter connected to and operated by the forward end of said lever, a comb upon which the cutter slides, a movable cover for the open end of the case, a fulcrum-

stud carried by said cover and bearing on said lever, the latter vibrating about said stud as a fulcrum, and means for depressing said cover and fulcrum-stud to adjust the pressure of the forward end of the lever upon the cutter, substantially as set forth.

4. In a mechanically-operated machine for cutting or shearing hair or wool, a case to be grasped by the operator, a sidewise-vibrating lever within the case, suitable mechanism for vibrating such lever, a cutter connected with the forward end of such lever, a comb upon which the cutter slides, a fulcrum about which the lever vibrates, an open upper forward end of the case, notches *g* in the forward ends of the sides of the case, a removable cover *L* having pivot-pins *f* which engage with the notches *g*, a presser between such cover and the lever, and means by which the cover may be pressed down to adjust, through the medium of such presser, the pressure of the forward end of the lever upon the cutter, substantially as set forth.

5. In a mechanically-operated machine for cutting or shearing hair or wool, a case to be grasped by the operator, a sidewise-vibrating lever within the case, suitable mechanism for vibrating such lever, a cutter connected with the forward end of such lever, a comb upon which the cutter slides, a fulcrum about which the lever vibrates, an open upper forward end of the case, a removable cover to such

open portion, a presser between such cover and the lever, a vertical pin which passes up through the case and through the cover, and a nut screwed upon such pin through the medium of which the cover may be pressed down to adjust the pressure of the forward end of the lever upon the cutter, substantially as set forth.

6. In a machine for the purpose specified, a case to be grasped by the operator, said case having an open, upper forward end, a sidewise-vibrating lever within said case, mechanism for vibrating said lever, a cutter connected to the forward end of said lever, a comb upon which the said cutter slides, a movable cover which closes the open, forward end of the case, a fulcrum-stud carried by said cover and bearing upon said lever, the latter vibrating about said fulcrum-stud, and means for regulating the pressure of the lever upon the cutter through the said fulcrum-stud, said means comprising a screw device which bears on and depresses said cover and holds it depressed, substantially as set forth.

In witness whereof I have hereunto signed my name, this 11th day of July, 1902, in the presence of two subscribing witnesses.

HERBERT AUSTIN.

Witnesses:

ROBERT G. GROVES,
THOMAS MARSTON.