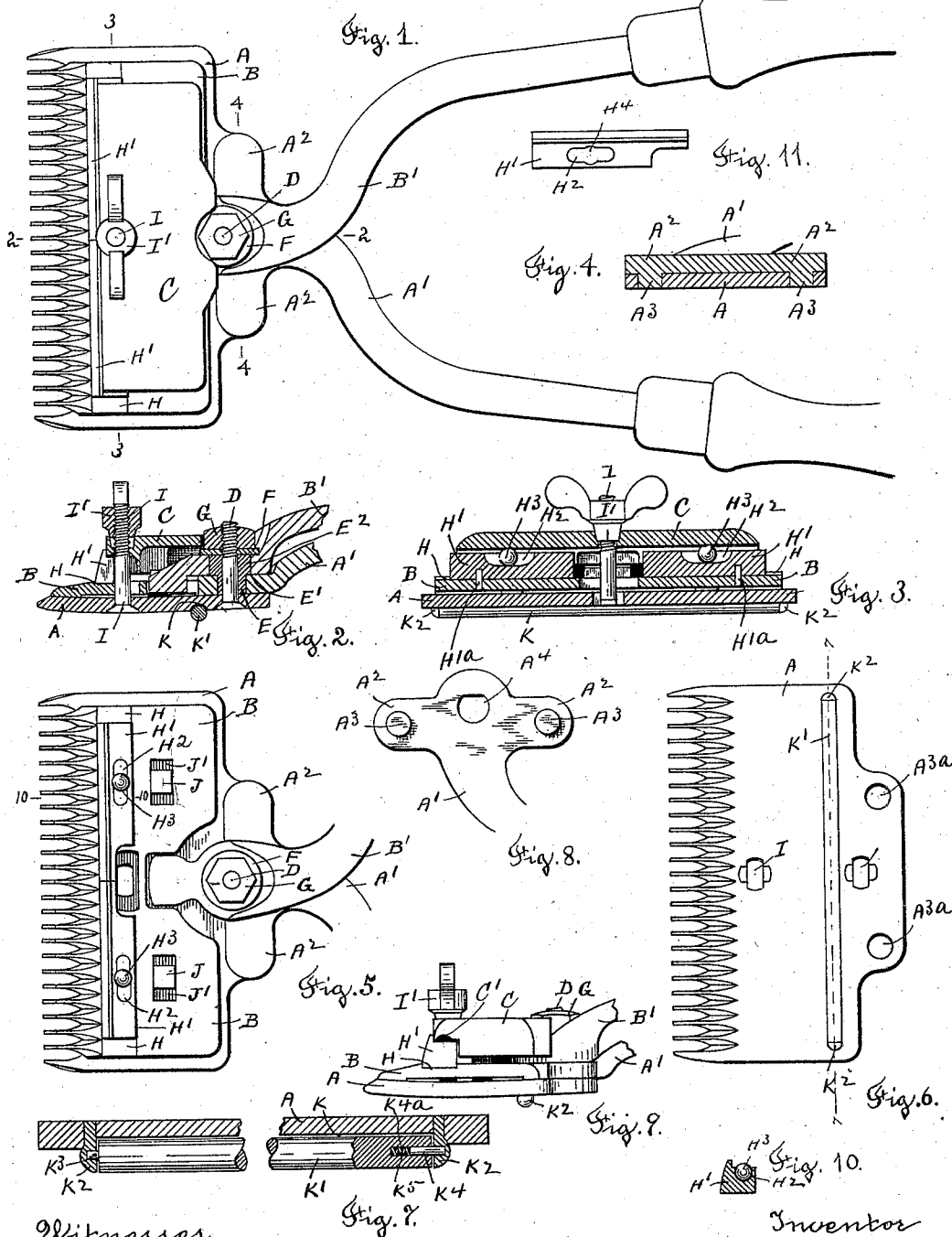


(No Model.)

G. H. COATES.
HAIR CLIPPER.

No. 576,301.

Patented Feb. 2, 1897.



Witnesses
A. C. Whiting
C. M. Kistner

Inventor
George H. Coates.
By his Attorney
Rufus B. Fowler,

UNITED STATES PATENT OFFICE.

GEORGE H. COATES, OF WORCESTER, MASSACHUSETTS.

HAIR-CLIPPER.

SPECIFICATION forming part of Letters Patent No. 576,301, dated February 2, 1897.

Application filed May 10, 1895. Serial No. 548,815. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. COATES, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Hair-Clippers, of which the following is a specification, reference being had to the accompanying drawings, forming a part of the same, and in which—

Figure 1 represents a top view of a hair-clipper embodying my invention. Fig. 2 is a central sectional view on line 2 2, Fig. 1. Fig. 3 is a sectional view on line 3 3, Fig. 1. Fig. 4 is a sectional view of the bottom plate and fixed handle on line 4 4, Fig. 1. Fig. 5 is a top view of the cutting-plates, the head having been removed. Fig. 6 is a bottom view of the lower or bottom cutting-plate. Fig. 7 is a sectional view, on a larger scale, of the bottom cutting-plate, taken on line 7 7, Fig. 6. Fig. 8 represents the under side of a portion of the fixed handle. Fig. 9 is an end view of the clipper, the handles having been removed. Fig. 10 is a transverse sectional view of one of the pressure-bars H' , taken on line 10, Fig. 5; and Fig. 11 is a top view of one of the pressure-bars, showing one of the recesses H^2 with the ball H^3 removed.

Similar letters refer to similar parts in the different figures.

My present invention relates to certain improvements in hair-clippers which are provided with stationary and movable cutting-plates and stationary and movable handles, by which the machine is held and operated, and a pressure device by which the opposing surfaces of the stationary and movable cutting-plates are held in contact.

The purpose of my invention is to simplify the construction, reduce the cost, and increase the efficiency of the machine; and these objects are accomplished by means of the construction as hereinafter described, and represented in the accompanying drawings.

Referring to the accompanying drawings, A denotes the stationary cutting-plate, and A' the stationary handle attached thereto.

B denotes the movable cutting-plate, B' the movable handle, and C the pressure-plate.

The stationary handle A' is provided with projecting wings A^2 A^2 , having spurs A^3 A^3 ,

Figs. 4 and 8, upon the under side, entering holes A^{3a} A^{3a} in the stationary plate A, which serve to hold the stationary handle from rotation about the bolt D, by which the stationary cutting-plate A and stationary handle A' are united. The stationary handle A' is provided with a segmental hole A^4 , larger than the bolt D, to receive a sleeve E, having a shoulder overlapping the upper surface of the stationary handle A'.

The sleeve E extends above the stationary handle to form a bearing at E^2 for the movable handle B'. The movable handle is held in place by a washer F, resting against the end of the sleeve E, and a nut G, carried by the screw-threaded end of the bolt D, thereby clamping the stationary cutting-plate and the stationary and movable handles together.

The movable cutting-plate is provided with a longitudinal channel H on its upper surface, in which are placed the pressure-bars H' H' , held from longitudinal movement by pins H^a , entering the movable plate B, provided with elongated recesses H^2 H^2 to receive the balls H^3 H^3 . The recesses H^2 H^2 are long enough to permit the balls H^3 H^3 to roll back and forth as they are moved by the reciprocating movement of the movable cutting-plate.

The recesses H^2 are slightly deeper than half the diameter of the balls H^3 , with their sides curved to correspond with the curvature of the balls H^3 , so the opening between the opposite sides will be less than the diameter of the balls, in order to prevent the balls from dropping out of the recesses when the head has been removed. The central portion of each recess is enlarged, as at H^4 , Fig. 11, to admit the balls H^3 .

The pressure-plate C rests upon the balls H^3 H^3 and is provided with a longitudinal groove C', Fig. 9, along which the balls H^3 roll as the movable plate is reciprocated, forming a guideway for the movable plate. The pressure-plate C and stationary cutting-plate A are clamped together by the tightening-bolt I and nut I', thereby holding the opposing surfaces of the movable and stationary cutting-plates in contact.

J J are studs held in the stationary cutting-plate and entering slots J' J' in the movable cutting-plate, serving as guides for the movable cutting-plate and also as stops to limit

its reciprocating motion. The stationary cutting-plate is provided with a recess K on its under side to receive a friction-roll K', which is journaled in the studs K² K². One end of the friction-roll K' is provided with a gudgeon K³ and the opposite end is provided with a concentric hole K^{4a} to receive a sliding pin K⁴, forming a gudgeon for the opposite end of the roll, said pin being pressed outward by a spiral spring K⁵, in order to allow the roll to be inserted between the studs K² K².

I am aware that it is not new to attach the stationary handle to the stationary cutting-plate and to pivot the movable handle upon a boss above the stationary handle, but by means of the sleeve E, formed in a separate piece, I am enabled to attach the several parts together by means of the single bolt D.

I am also aware that it is not new to provide the stationary cutting-plate with a friction-roll, and I do not herein claim such.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of a stationary cutting-plate provided with holes to receive the spurs of a stationary handle, a stationary handle provided with wings A² A² and spurs A³ A³ entering the holes in said stationary cutting-plate, said handle having a segmental hole A⁴, sleeve E having one end fitting said segmental hole and provided with a shoulder E' bearing against the upper side of said stationary handle, a movable handle journaled on the upper end of said sleeve, a washer resting upon the upper end of said sleeve, a bolt D passing through said sleeve and said stationary cutting-plate and a nut G carried by said bolt, whereby said stationary cutting-plate and said stationary handle are held together and said movable handle is retained in place, substantially as described.

Dated this 5th day of December, 1894.

GEORGE H. COATES.

Witnesses:

EMMA KESTER,
RUFUS B. FOWLER.