

C. SHURTLEFF.  
PNEUMATIC CLIPPER.  
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937,334.

Patented Oct. 19, 1909.

Fig. 1.

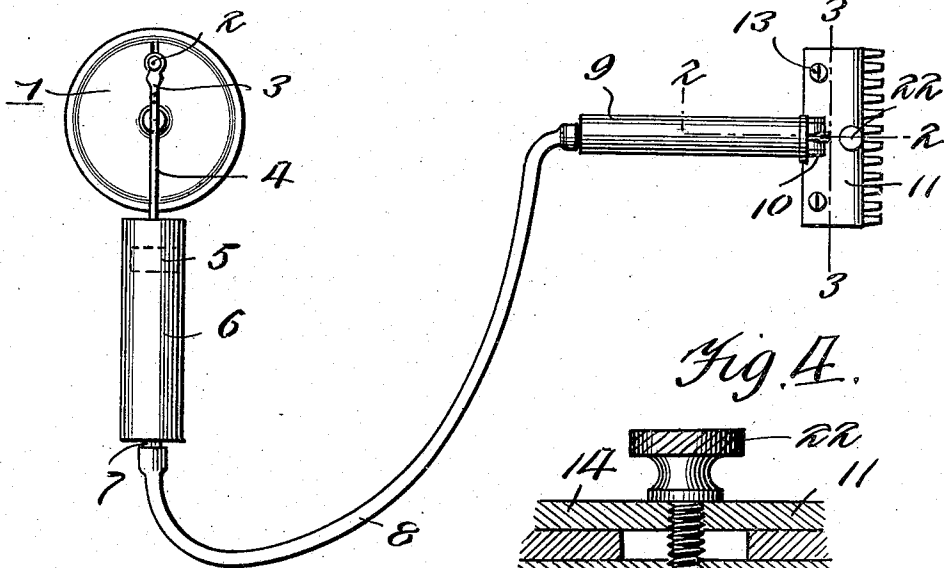


Fig. 4.

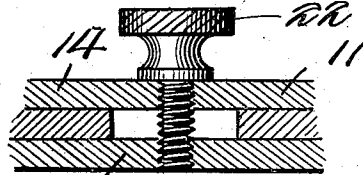


Fig. 2.

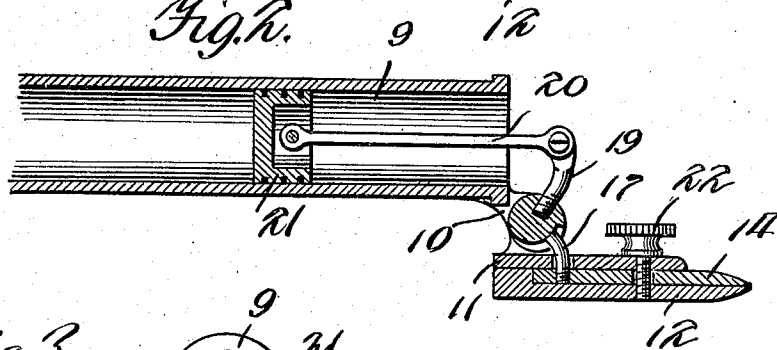
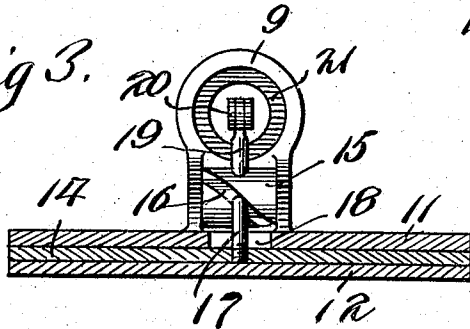


Fig. 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## PNEUMATIC CLIPPER.

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Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, CHARLES SHURTLEFF, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Pneumatic Clippers, of which the following is a specification.

This invention relates to fluid operating hair clippers, and the object of the invention is to provide an extremely simple, cheap and effective device of this character as will hereinafter be more fully described and claimed.

In the accompanying drawing there has been illustrated a simple and preferred embodiment of the invention, but it is to be understood that I do not limit myself to the precise structural details therein exhibited but that minor changes, within the scope of the appended claims, may be resorted to if desired.

In the drawing, Figure 1 is a side elevation of a device constructed in accordance with the present invention. Fig. 2 is a longitudinal sectional view upon the line 2—2 of Fig. 1, taken upon an enlarged scale. Fig. 3 is a transverse sectional view upon the line 3—3 of Fig. 1, also taken upon an enlarged scale. Fig. 4 is a transverse sectional view upon the line *x—x* of Fig. 1.

The numeral 1 designates a crank wheel adapted to be operated by any suitable motive power. The wheel 1 is provided with the usual wrist pin 2 having the link 3 to which is pivotally connected a plunger rod 4, having its free end connected with the piston 5, indicated by the dotted lines in Fig. 1 of the drawing. This piston 5 is adapted to be reciprocated within a suitable chamber 6, and the lower closed face of the chamber has a suitable nipple 7 to which is connected a flexible pipe 8. This pipe 8 may be of any desired length and is adapted to have its opposite end connected with a nipple provided in the outer face of the cylindrical handle member 9 of the clipper. The cylindrical handle 9 has its outer open mouth provided with a pair of downwardly extending spaced ears 10, to which is secured, or integrally formed if desired with the top plate 11 of the clipper. The top plate 11 is provided with the lower or clipper plate 12 securely connected thereto through the medium of the threaded elements 13, and interposed between the top plate 11 and clipper plate 12 is the reciprocatory cutter

bar 14. The clipper bars 12 and 14 are each provided with the usual sharpened teeth and the bar 14 is adapted to be reciprocated upon the clipper bar or plate 12 in a manner now to be described.

Trunnioned between the ears 10 is a roller 15 having an inclined slot or groove 16. The clipper bar 14 is provided with an upstanding stud or finger 17 projecting through a suitable opening 18 formed longitudinally in the top plate 11 and having an offset or inclined upper portion adapted to engage within the groove 16. The roller 15 is provided with an upstanding finger 19 which is pivotally connected with a plunger rod 20 having its opposite end secured to a plunger 21 positioned within the cylindrical handle 9.

From the above description, taken in connection with the accompanying drawing, it will be noted that as the piston 5 is forced downwardly within the cylinder 6 air will be forced through the flexible pipe 8 against the plunger 21 within the cylindrical handle 9, thus causing the plunger to move outwardly and to oscillate the roller 15, which, through the medium of the inclined groove 16, will cause the finger 17 to travel in one direction, thus causing the teeth of the cutter bar to pass over the teeth of the clipper plate. Upon the return stroke of the plunger 5 the atmospheric pressure will cause the plunger 21 to return to its initial position, thus oscillating the roller 15 in an opposite direction and through the medium of the finger 17 cause the cutting fingers of the cutter plate to also move in an opposite direction.

In order to retain the reciprocatory clipper plate or bar 14 in proper adjusted position between the plates 11 and 12, I have provided the said cutter bar with a suitable longitudinal slot, and the plates 11 and 12 with threaded openings arranged in a plane with the said slot. These openings are adapted for the reception of a threaded member 22 whereby the plates may be readily adjusted.

Having thus fully described the invention what is claimed as new is:

1. In combination with a motive power, a piston chamber, a piston within the chamber reciprocated by the motive power, a clipper, a hollow handle connected with the clipper, a flexible tube connecting the handle with the piston chamber, a rod connected with the piston of the handle, ears upon the handle,

a roller provided with an inclined groove trunnioned between the ears, a connection between the roller and the rod, a reciprocatory cutter bar for the clipper, and a finger  
5 upon the cutter bar engaging the inclined slot of the roller whereby the said cutter bar is reciprocated as the roller is partially rotated through the reciprocation of the piston within the handle.

10 2. In a device of the character described, a cylindrical handle having one of its ends provided with spaced ears, a plate connected with and extending transversely of the ears, a clipper plate secured to the first plate, a  
15 clipper bar between the plates, adjustable means for securing the cutter bar between

the plates, a roller having an inclined groove trunnioned between the ears of the handle, a finger connected with the cutter bar and engaging the groove of the roller, a piston 20 within the cylindrical handle, a piston rod for the piston, a finger connected with the roller and pivotally secured to the piston rod, and means for reciprocating the piston to partially rotate the roller to impart a recip- 25 rocatory movement to the cutter bar.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES SHURTLEFF.

Witnesses:

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WILLIAM A. CAPRON.