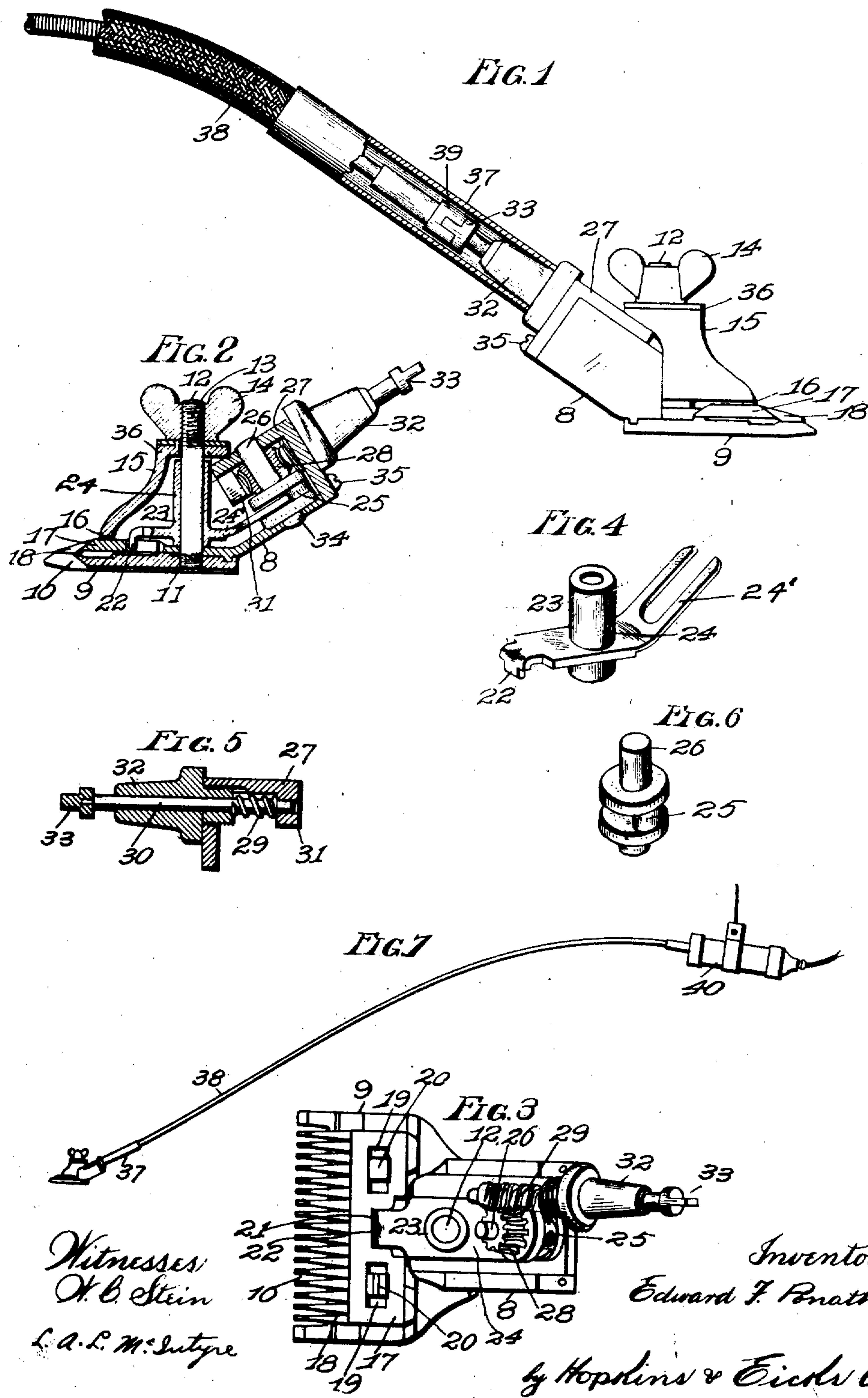


E. F. PONATH.
MOTOR DRIVEN HAIR CLIPPER.
APPLICATION FILED JAN. 13, 1910.

973,696.

Patented Oct. 25, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD F. PONATH, OF ST. LOUIS, MISSOURI.

MOTOR-DRIVEN HAIR-CLIPPER.

973,696.

Specification of Letters Patent.

Patented Oct. 25, 1910.

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To all whom it may concern:

Be it known that I, EDWARD F. PONATH, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Motor-Driven Hair-Clippers, of which the following is a specification.

This invention relates to improvements in motor-driven hair clippers and has for its object to provide a reciprocating blade operated by a rocking lever which, in turn, is manipulated by a worm driven by a flexible shaft connection with a motor.

A further object of my invention is to provide a clipper having a reciprocating blade so arranged as to be operated by a worm mechanism and having adjusting means by which the tension of the blade can be regulated and the entire clipper easily and readily manipulated, and its movement governed by a flexible connection.

In the drawings Figure 1 is a side elevation of my invention with a part of the sleeve or handle in section, showing the flexible shaft connection with the worm mechanism. Fig. 2 is a central sectional view of the clipper mechanism. Fig. 3 is a top plan view with the housing removed. Fig. 4 is a detail perspective view of the rocking lever. Fig. 5 is a detail sectional view of the worm shaft and its journal connection. Fig. 6 is a detail perspective view of the cam made use of in operating the rocking lever. Fig. 7 is a side view of the clipper, the flexible shaft and motor by which the same is driven.

In the construction of my invention I provide a frame 8 connected to a stationary guide cutter blade 9, the front end of said blade provided with serrations 10 of any suitable size so as to regulate the length of the cut desired.

In the blade 9 is provided a screw-threaded bore 11 in which is inserted a post 12, the upper end of said post provided with screw-threads 13 on which is mounted a nut 14. Over the post is placed a housing 15, the front portion thereof being suitably shaped and curved so as to provide a neat appearance, and its under edge 16 arranged to come in contact with the upper surface of the reciprocating blade 17. The front cutting surface of this blade is also provided with serrations 18 to correspond with those of the stationary blade. The said blade 17 is provided with a pair of elongated slots

19 which fit over lugs 20 formed on the stationary blade and act as guides to limit the reciprocatory movement.

In the reciprocating blade and between the two elongated slots is a recess 21 in which is seated a downwardly projecting tooth 22 of the rocking lever 23. The said lever is provided with an integral sleeve 24 which snugly fits over the post 12 and the bottom end of said sleeve is so arranged as to contact with the frame 8 and act as a bearing so as to prevent the tooth 22 from extending too far downwardly and contacting with the stationary blade 9. The said lever 23 is also provided with a bifurcated arm 24'. This arm being so bent as to be parallel with the frame 8, and in the bifurcation of said arm operates a cam 25. The said cam is supported on a trunnion 26 which extends through the frame and has bearing in a detachable casing 27. On the trunnion 26 is mounted a worm gear 28 which meshes with a worm 29 mounted on a shaft 30, the forward end of said shaft having a bearing in a downwardly projecting lug 31 forming a part of the casing 27, and the greater portion of the shaft 30 having bearing in a screw-threaded journal box 32 which projects outwardly from the casing 27, and on the end of said shaft 30 is formed a key 33.

The bottom end 34 of the trunnion 26 has a bearing in the frame 8 so as to provide rigidity to the revolving cam 25. The casing 27 is held in position against the frame 8 by means of the screws 35.

In order to provide for the proper adjustment of the reciprocating blade 17 the housing 15 is provided with a horizontal upper portion 36 and between the inner surface thereof and the top of the sleeve 24 is sufficient space to permit the housing to be forced downwardly by means of the nut 14, so that the bottom edge 16 of said housing may be brought in contact with the upper portion of the reciprocating blade, thus holding the same in close contact with the stationary blade.

Over the projecting journal bearing 32 is preferably placed a sleeve or handle 37. In this handle is inserted the flexible shaft 38, its contacting end provided with a socket 39 in which the key 33 of the shaft 30 is inserted, and held in position so that the worm mechanism can be rapidly rotated by the operation of the motor 40 to which the opposite end of the flexible shaft is connected.

In the drawings I show the frame projecting at an angle from the stationary blade. I do not desire to limit myself to this precise construction as the frame may be on a horizontal plane with the stationary blade, this being entirely dependent upon the arrangement of the clippers for the use to which it is adapted.

The essential feature of my invention is the manipulation of a reciprocating blade by a worm mechanism driven by a flexible shaft.

The operation of my invention is as follows. The device is first placed in position upon the flexible shaft by inserting the handle 37 over the shaft, permitting the key 33 to seat itself in the socket 39. As the motor 40 is placed in operation the shaft 30 is revolved and its worm 29, which meshes with the worm gear 28, is placed in operation and the cam 25, which is so arranged as to operate in the bifurcation of the rocking lever 23, locks the same and the tooth 22 of the rocking lever, which is seated in the elongated slot of the reciprocating cutter blade, will rapidly reciprocate the blade. When it is desired to provide more tension upon the reciprocating blade, the operator by manipulating the thumb-nut 14 will cause the housing 15 to press downwardly and contact with the upper surface of the reciprocating blade. This feature has a tendency to create more friction against the contacting surface of the blades and bring the cutting edges more closely together.

Having thus fully described my invention,

what I claim as new and desire to have secured to me by the grant of Letters Patent, is:

A motor-driven hair clipper comprising a stationary guide cutter blade; a frame mounted on the cutter blade and diverging therefrom on an angle; a post supported in the frame and stationary cutter blade; a casing secured to the frame; a trunnion mounted in the casing and frame; a worm gear mounted on the trunnion; a cam formed on the trunnion and located beneath the worm gear; a worm supported in the casing and meshing with the worm gear; a bifurcated arm pivotally mounted on the post, its one end contacting with the cam and operated thereby; a reciprocating cutter blade mounted on the stationary cutter blade and provided with a recess in which one end of the bifurcated arm contacts for operating the reciprocating blade by the movement of the cam; a housing supported on the post and contacting with the reciprocating blade; and a set nut located on the post above the housing so as to regulate the tension of the reciprocating blade, substantially as specified.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

EDWARD F. PONATH.

Witnesses:

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