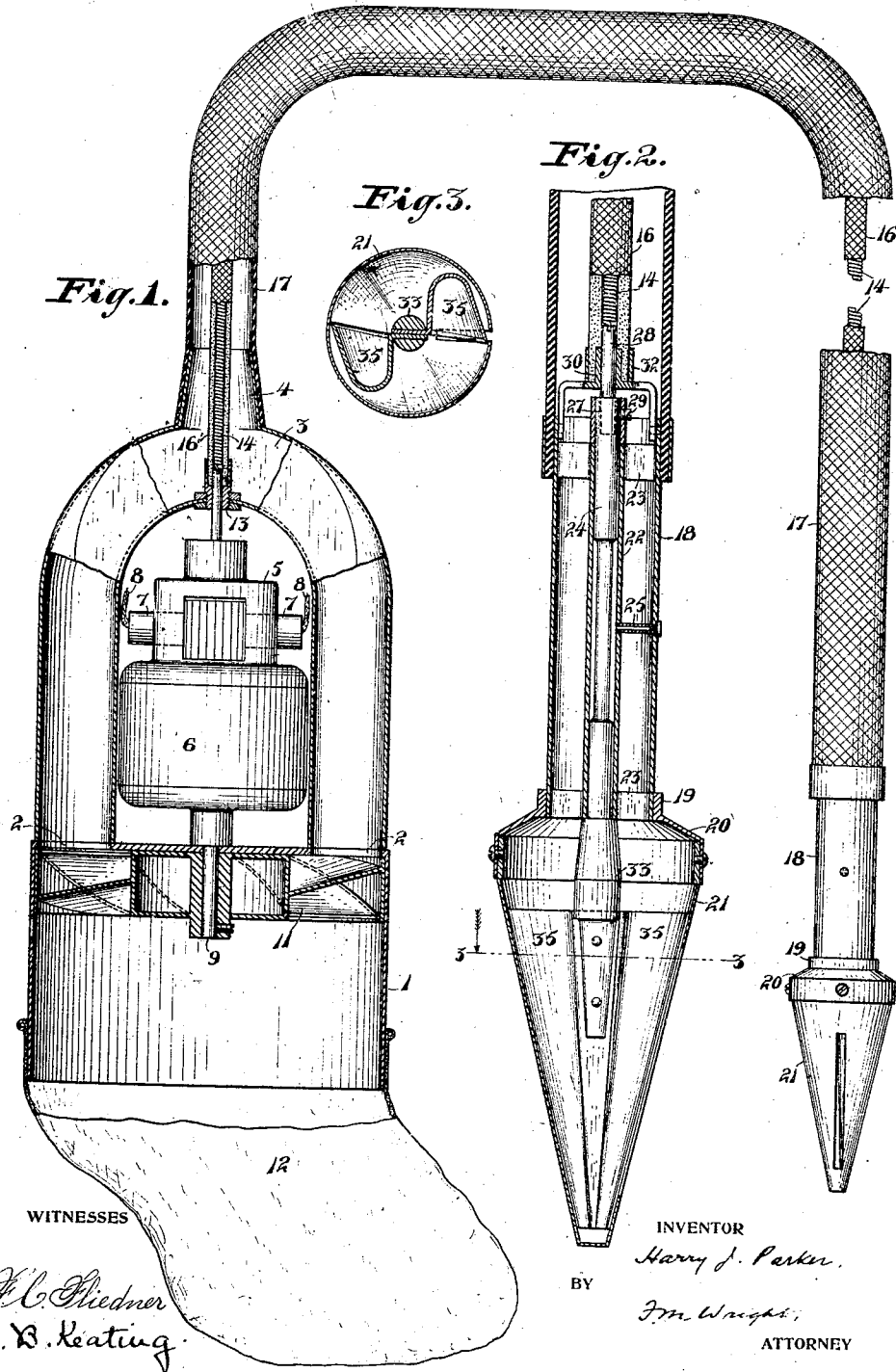


1,079,799.

Patented Nov. 25, 1913.



UNITED STATES PATENT OFFICE.

HARRY J. PARKER, OF SAN FRANCISCO, CALIFORNIA.

ROTARY CUTTER.

1,079,799.

Specification of Letters Patent.

Patented Nov. 25, 1913.

Application filed July 29, 1912. Serial No. 712,181.

To all whom it may concern:

Be it known that I, HARRY J. PARKER, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Rotary Cutters, of which the following is a specification.

My invention relates to a device for cutting fibrous material, and removing the cuttings thus obtained. It is especially well adapted for use as a hair cutter, and I shall hereinafter describe it with reference to this use.

In the accompanying drawing, Figure 1 is a broken sectional view of my improved device, parts also being shown in side elevation; Fig. 2 is an enlarged sectional view of the cutting portion of the device; Fig. 3 is a transverse section on the line 3—3 of Fig. 2.

Referring to the drawing, 1 indicates a cylinder, open at its lower end, and closed at its upper end except for two diametrically opposite holes 2, which connect respectively with the ends of a yoke-shaped conduit 3, supported upon the top of said cylinder, and from the middle portion of which conduit extends upwardly a tube 4. Supported upon said cylinder top is the casing 5 of an electric motor 6, having terminals 7 for attachment thereto of conductors 8. The shaft 9 of said motor extends vertically downward through the top of the cylinder, and there is secured to the lower end of said shaft below said top, a suction fan 11, adapted to rotate within the cylinder, the cylinder extending below said fan, so that around said lower portion can be attached a bag 12 for receiving the clippings of hair, or the like, cut by the device. The other end of said motor shaft 9 extends vertically upward through a bearing 13 in the middle portion of the inner wall of the conduit, and is connected to a flexible shaft 14, which is confined within a flexible casing 16, one end of which is secured to said bearing 13, and which extends within a flexible tube 17, and the lower end of which is connected to said tube 4. The other end of said flexible tube 17 is fitted around a cylindrical sleeve 18, an end of which is secured to a collar 19, of an expanded head 20, to which head is secured a conical or tapering cutter casing 21. Within said sleeve 18 is a narrow concentric tube 22 supported in the sleeve 18 by spider arms 23, and forming a bearing for a shaft 24. A tube 25 leads

from said bearing 22 through the sleeve 18, for the purpose of supplying grease to lubricate said bearing. The rear end of the shaft 24 is formed with a socket 27, adapted to receive one end of a short shaft 28 secured therein by means of a set screw 29 and attached to the flexible shaft 14 and which rotates in a bearing 30 supported on the sleeve 18 on which arm is also supported a sleeve 32 in which is secured the forward end of the flexible casing 16. The front end of the shaft 24 is secured to a hub 33, carrying two blades 35, each extending diametrically through said hub, then bent outside said hub at right angles in a plane surface, and then being curved around and extending in a plane forming an acute angle with its former plane. The outer portion of each blade tapers gradually to the outer or forward end, and the outer edge of each blade lies close to the inner surface of the conical casing, so that said blades, in the rotation of the shaft, describe a cone only slightly less than the cone of said cutter casing. Said casing is formed with a slot in the direction of an element of the cone, and the outer edge of each blade is slightly oblique to the direction of said slot, so that each blade in its rotation makes a draw cut.

The following is the mode of operation of this device: Supposing that, for instance, a barber uses the device to cut hair, he raises the hair with the comb, just as when cutting with scissors, and applies the slotted portion of the cutter casing to the ends of the hair thus raised. The suction produced by the fan draws the ends of the hair through the slot, and then the cutter blades, in the revolution of the shaft, cut off the ends thus drawn inward through the slot. The ends of the hair are then immediately drawn by the suction fan through the tube 17 and into the yoke-shaped conduit 3 and through the fan and deposited in the bag 12 around the cylinder 1. By this means are avoided the labor of operating the scissors by hand, and of collecting and removing the ends of the hair which are cut off. The necessity is also avoided of spreading a cloth to catch the said ends of hair. Moreover, the cutting can be done in much less time.

While I have illustrated my invention as used for cutting hair, it is to be understood that the invention is not restricted to this use, but I claim the same for all uses on which it may be found applicable.

I claim:—

1. In combination, a conical casing having a slot, a rotary cutter in said casing, a flexible shaft connected at one end to said cutter in line with its axis of rotation, a flexible casing closely surrounding the shaft, a flexible tube surrounding the flexible casing and spaced therefrom and connected at one end to said conical casing in line with its axis, rotating means connected to the other end of said shaft, and vacuum producing means at the other end of said tube.
2. In combination with a cutter casing having a slot, a rotary cutter therewithin arranged to rotate in proximity to said slot, a flexible shaft operatively connected at one end to said cutter, bearings in which the ends of the flexible shaft rotate, a flexible casing closely surrounding said shaft, and connected with said bearings, a flexible tube surrounding said flexible casing and spaced therefrom and connected to said cutter casing, a motor operatively connected to the other end of said flexible shaft to impart rotation thereto, and vacuum producing

means communicating with the other end of said tube.

3. In combination, a conical casing having a slot directed in an element of the cone, a rotary cutter coaxially located in said casing having a cutting edge arranged to rotate in close proximity to the inner surface of said casing, but oblique to the elements of the casing, a flexible shaft connected at one end to said cutter in line with its axis of rotation, a flexible casing closely surrounding said shaft, a flexible tube surrounding the flexible casing and spaced therefrom and connected at one end to said conical casing in line with its axis, rotating means connected to the other end of said shaft, and a vacuum-producing means at the other end of said tube.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HARRY J. PARKER.

Witnesses:

FRANCIS M. WRIGHT,
D. B. RICHARDS.