

July 10, 1928.

1,676,858

H. G. FERBER ET AL

VACUUM CLEANER

Filed Sept. 25, 1926

2 Sheets-Sheet 1

FIG. 1.

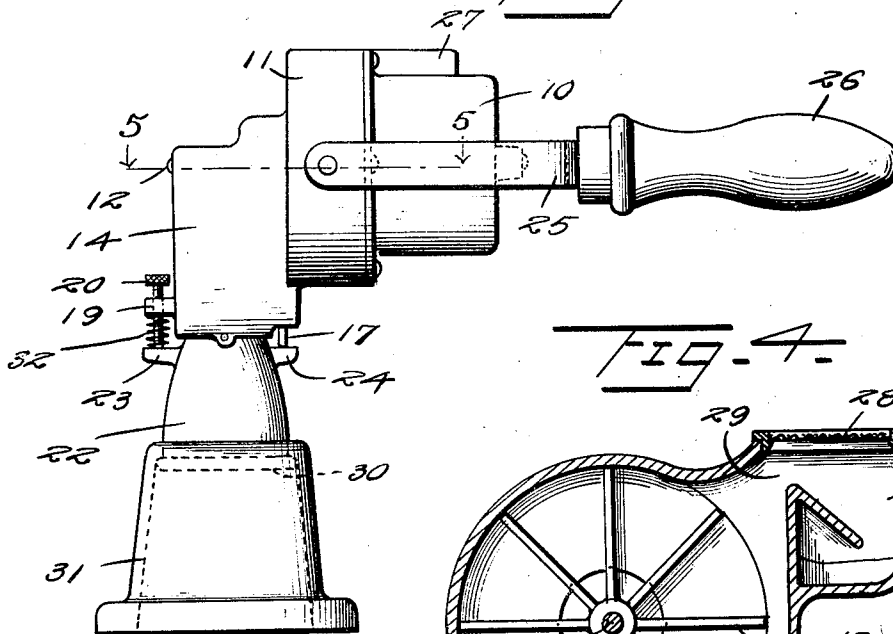


FIG. 4.

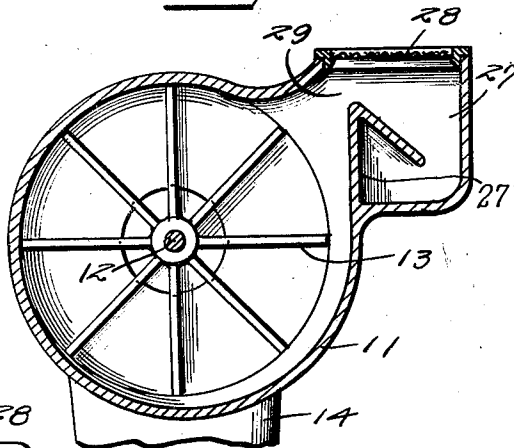
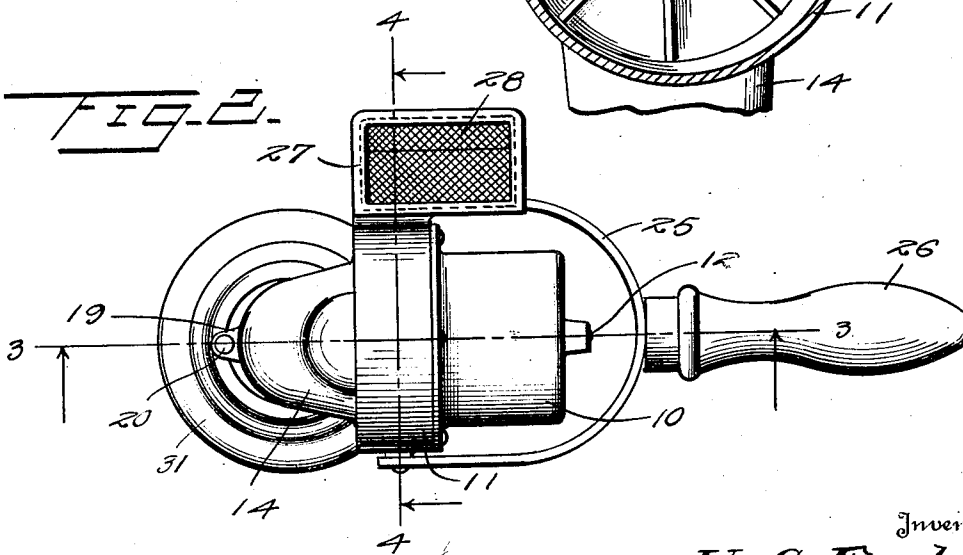


FIG. 2.



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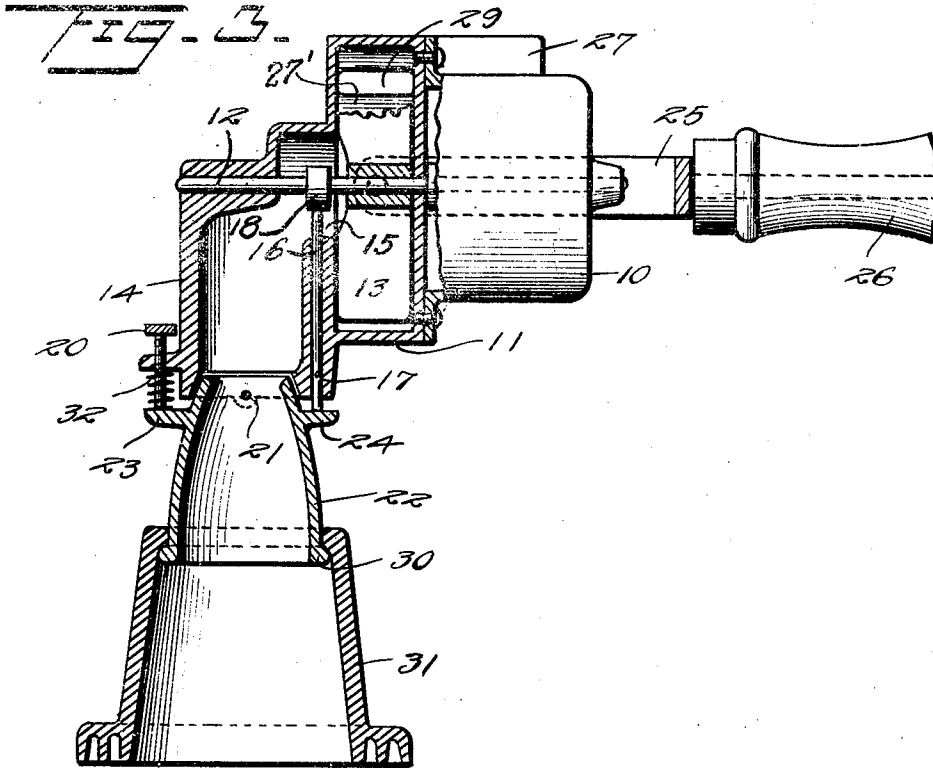
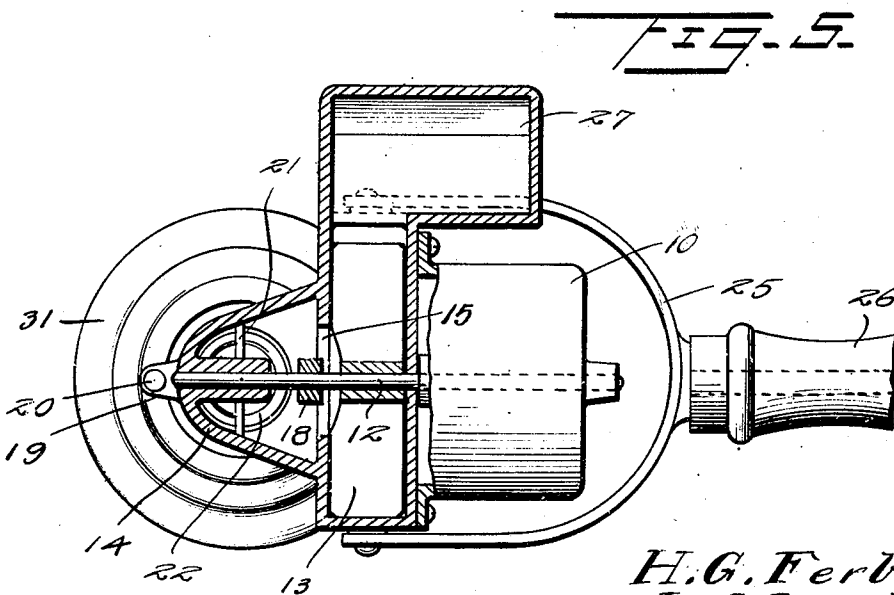
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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VACUUM CLEANER.

Application filed September 25, 1926. Serial No. 137,788.

This invention relates to new and useful improvements in cleaning devices, and particularly to vacuum cleaning devices.

The particular object of the invention is to provide a vacuum cleaning device especially adapted for cleaning dandruff from the human scalp.

Another object is to provide a device of this character by means of which the dandruff and hair are deposited in a chamber of the casing of the device, while the air is discharged from said casing.

Another object is to provide a device of this character which includes a vibrator for loosening the dandruff from the scalp, so that it may be more easily drawn into the dirt chamber of the casing of the device.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawing:

Figure 1 is a side elevation of a vacuum cleaner made in accordance with the present invention.

Figure 2 is a top plan view of the same.

Figure 3 is an enlarged vertical longitudinal sectional view on the line 3—3 of Figure 2.

Figure 4 is an enlarged vertical transverse sectional view on the line 4—4 of Figure 2.

Figure 5 is an enlarged horizontal sectional view on the line 5—5 of Figure 1.

Referring particularly to the accompanying drawings, 10 represents a motor casing, to which is attached the fan casing 11. The shaft 12, of the motor, extends through the fan casing, and has fixed thereon the suction fan 13. On the outer side of the fan casing there is formed a suction nozzle 14, which communicates with the fan casing by means of the passage 15. In the outer wall of the nozzle the end of the motor shaft 12 is journaled, as clearly seen in Figure 3. In the inner wall of the nozzle there is formed a vertical bore 16, in which is vertically slidable the vibrator rod 17, the upper end of which is actuated by the cam disk 18, fixed on the motor shaft 12, while the lower end extends beyond the nozzle. On the outer side of the lower end of the nozzle there is formed a boss 19 vertically through which is engaged a screw 20. Disposed transversely through the lower end of the nozzle is a pin or shaft 21, and supported thereon is the upper smaller end of the open-ended rock-

able member 22. The upper end of the member 22 is provided with oppositely extending lips or lugs 23 and 24, the former of which is engaged by the lower end of said screw 20, while the other one is engaged by the lower end of the said vibrator rod 17. Pivottally connected to the opposite sides of the fan casing are the arms of a yoke 25, said yoke being provided with a handle 26, which is grasped by the operator to manipulate the device over the scalp of the patient. Formed on one of the curved sides of the fan casing is a chamber 27, the upper portion of which is open and provided with a screen 28, said chamber opening directly into the fan casing to receive the dandruff and hair blown by the fan. In the chamber 27 there is arranged a baffle wall 27' beneath which the dandruff and hair is collected, as it falls back from the screen. The outlet 29, from the fan casing, is arranged between the top of the chamber 27 and the upper edge of the wall 27', so that the air delivered by the fan is blown directly against the lower face of the screen, thus causing the dandruff and hair to be deflected down into the chamber 27, while the air passes out through the screen. This screen is removable, to permit the collections, in the chamber, to be readily dumped therefrom. The lower end of the member 22 is formed with a peripheral bead 30, with which is adapted to be engaged the scalp contacting member 31, which is illustrated as being formed of a soft rubber and of bell-shape.

From the foregoing it will be seen that as the motor rotates the cam disk 18 will force the rod 17 down against the lug 24 of the cup 22, whereby to rock the same in the direction of the screw 20. The screw 20 is adjusted into such a position that when the cup is rocked by the rod 17, there will be a space between the lug 23 and the lower end of the screw, such space permitting a longer throw to the cup than the throw of the rod 17 and cam 18, due to the impetus imparted by said rod. By moving the screw upwardly or downwardly, the rocking movement of the cup may be varied in accordance with the requirements of the work being performed.

The vibrating means illustrated in the drawings is one embodiment of the present invention, and it will be understood that any other suitable means may be employed to accomplish this result, within the scope of the claims.

To maintain the cup 22 in such position that the lug 24 will, at all times engage with the adjacent end of the rod 17, a coil spring 32 encircles the portion of the screw 20 between the lug 19 and the lug 23. The spring thus forms a cushion, when the cup swings in one direction, and serves to return the cup to its engaged position with relation to the vibrator rod 17.

10 What is claimed is:

1. A device for treating the scalp comprising a casing having a motor and a fan therein, said fan being driven by the motor, a nozzle on the casing, a hollow rockable member having an end supported in the mouth of the nozzle, a scalp engaging implement on the outer end of the rockable member and movable therewith, means operable by the motor for rocking the member in one direction, means for limiting the rocking movement thereof in said direction, and means for rocking said member in the opposite direction.

2. A device for treating the scalp comprising a casing having a suction nozzle, a motor in the casing having a shaft carrying a fan, a hollow open-ended rockable member having one end supported in the mouth of said nozzle and the other end thereof projecting from said nozzle, a cam on the shaft, a reciprocable member actuated by the cam and operatively engaged with the nozzle supported end of the rockable member, adjustable means on the nozzle for engagement with the supported end of the member to limit movement thereof in one direction, and

means between the nozzle and said end of the member for yieldably urging said member in the opposite direction.

3. A device for treating the scalp comprising a casing having a suction nozzle, a motor in the casing, a fan driven by the motor, a hollow open-ended rockable member having one end pivotally supported in the mouth of the nozzle and the other end thereof projecting beyond said nozzle, means operable by the motor and engaged with the pivoted end of the rockable member at one side of the pivot thereof for rocking said member in one direction, and means engaged with the other side of said pivoted end of the rockable member for rocking the latter in the opposite direction.

4. A device for treating the scalp comprising a casing provided with a suction nozzle and a motor driven fan having a shaft, an open-ended rockable member having one end pivotally supported in the mouth of said nozzle and the other end thereof projecting beyond said nozzle, means operable by the fan shaft for rocking the member in one direction, spring means for rocking the member in the opposite direction, and means carried by the nozzle and associated with the spring for limiting the movement of the member in the first-named direction.

In testimony whereof, we affix our signatures.

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