

PATENT SPECIFICATION

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DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Improvements in or relating to Openers for Hair Grips.

We, REXALL DRUG AND CHEMICAL COMPANY, a Corporation organised and existing under the Laws of the State of Delaware, United States of America, of 8480 Beverly Boulevard, Los Angeles 54, State of California, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to openers for hair grips of the kind (commonly known as kirby-grips) comprising a strip of resilient material bent at 180° to form two substantially parallel legs of unequal length, the shorter leg being crimped along a portion of its length, the two legs being in contact adjacent their ends and there being separated at an acute angle to provide a flared mouth.

The invention provides an opener for hair grips of the kind described which opener is of rigid material and comprises two surfaces meeting at one edge, the included angle between the two surfaces being an acute angle greater than the angle between the ends of the legs of a hair grip to be opened, one surface being a plane surface and the other surface being a concavely curved surface curving away from the one surface the curved surface having a second edge parallel to the said one edge between the surfaces whereby the legs of a hair grip will be forced apart as the mouth of the grip is pushed over the intersection with the shorter leg engaging the curved surface and the said second edge is engageable with the crimped portion of the shorter leg to retain the grip on the opener.

[Price 4s. 6d.]

Preferably the said second edge is formed by a strip of elastomeric material.

There may be a rib or ribs on the plane surface and running parallel to the said one edge whereby the longer leg of a hair grip is engageable with the rib or ribs and it is preferred that there is a stop rail parallel to the plane surface and spaced away therefrom to provide a narrow slot between the plane surface and the rail to receive the longer leg of a hair grip.

A preferred embodiment comprises an inverted channel of rigid material, the top of the channel (i.e. the channel base) being curved and curving upwardly to meet one side to provide the said one edge, the said second edge being provided by the junction of the top with the side opposite the said one side.

The invention further provides an opener as described above in combination with a dispenser for hair grips, the opener and the dispenser being mounted on a unitary base and the dispenser comprising a container for hair grips, and means for causing the bent end of a hair grip to project from the container.

A specific example of an opener according to the invention in combination with a dispenser will now be described with reference to the accompanying drawings in which:—

Figure 1 is a side view of the opener and, in section, of the dispenser;

Figure 2 is an enlarged cross-sectional view of the opener taken along line 11—11 of Figure 1; and

Figure 3 is an elevational view of a hair grip.

Referring to Figure 1, the opener 10 is illustrated mounted on a flat base or

mounting plate 11. The opener 10 comprises a block 12 of material providing a plane surface 14. The block 12 is made from a rigid material such as plastic, and the surface 14 is perpendicular to the upper surface 15 of the mounting plate 11.

The block 12 provides a curved surface 16 intersecting the first surface 14 at an edge 17. The surface 16 curves concavely away from edge 17 to a second edge 19 spaced away from the edge 17. The second edge 19 lies parallel to the surface 14. A portion 18 of the surface 16 adjacent to the edge 19 lies substantially perpendicular to the plane surface 14.

The included angle between the surface 14 and the surface 16 is an acute angle.

To facilitate further description of the opener 10, reference is made to a hair grip 20 illustrated in Figure 3. The hair grip is made from a strip of material, usually metal, having suitable resilient characteristics. The strip is formed into a U-shape having a pair of parallel legs 21 and 22 joined by a bent end 23. The shorter leg 21 is crimped with a portion 25 immediately adjacent the free or cantilevered end 26 thereof extending away from the end portion 27 of the longer leg 22. The ends 26 and 28 of legs 21 and 22 are normally covered with a cushion 30 of rubber or plastic material to blunt the respective ends of the legs of the hair grip 20.

As illustrated in Figure 3, the end portions 25 and 27 of legs 21 and 22, respectively, lie at an acute angle relative to one another and they diverge relative to each other toward the ends 26 and 28 of the respective legs to form a mouth. The acute angle included between the plane surface 14 and the curved surface 16 at the edge 17 is of a larger magnitude than the angle between the end portions 25 and 27 of the hair grip 20.

In operation of the opener 10, a hair grip 20 is initially positioned in engagement with the block 10 so that the end 26 of the leg 21 engages the concave surface 16 while the end 28 of the leg 22 engages the plane surface 14. The user of the hair grip then pushes the bent end 23 of the grip 20 towards the edge 17. This causes the leg end 26 to move along the surface 16 away from the edge 17 as the straight leg 22 of the grip 20 moves downwardly along the surface 14. The grip 20 continues to be pushed onto the block 12 until the end 26 of the crimped leg 21 passes over the second edge 19 of the surface 16. At this point the edge 19 engages with the crimped portion 32 of the shorter leg 21. Usually the edge 19 engages with the portion 32 closest to the end 25 of the leg 21 since the portion 18 of the surface 16 adjacent edge 19 lies sub-

stantially perpendicular to surface 14. This engagement is sufficient to cause frictional grip between leg 21 and edge 19. This grip, and also the frictional engagement between the leg 22 and the surface 14, is sufficient to maintain the hair grip 20 upon the block 12 in an open position.

To increase the frictional engagement between the leg 22 and the plane surface 14 raised ribs 35 are provided on the surface 14. These ribs 35 are disposed parallel to the edge 17. Engagement between the bulb or cushioned bead 30 of leg 22 with one of the ribs 35 increases the frictional engagement between the hair grip and the block and thereby further serves to retain the grip 20 upon the block 12. Furthermore, the opener 10 includes an insert 36 of soft plastic or rubber mounted so as to provide the second edge 19 of the surface 16. The insert 36 deforms when engaged with the portion 32 and provides an increased frictional grip on the hair grip 20.

A rail 40 is formed as an extension of the curved surface 16. The rail 40 is spaced from the edge 17 to provide an opening 41. As illustrated in Figure 2, the rail 40 is convexly curved. The rail 40 is provided by a horizontal web or rib 42 mounted between a pair of brackets 43 extending from the block 12. The rail 40 helps to locate the end 28 of the longer leg 22 of the grip 20 relative to the edge 17 and to the plane surface 14 of block 12. The width of opening 41 along the surface 16 is insufficient to permit both ends 26 and 28 of the grip 20 to pass therethrough. This results in the end 26 being engaged with surface 16 for movement towards the edge 19.

To further facilitate proper orientation of the hair grip 20 relative to the block 12, a rib 45 is formed on the block 12 along each of the opposed edges of the surface 16. Each rib extends from the edge 19 to the remote limit of the rail 40. The ribs 45 are parallel to one another.

As illustrated in Figure 2, there is an internal cavity 46 in the block 12. The block 12 is mounted on the base 11 by a mounting block 47 secured to the upper surface 15 of the base 11 and engaged with in the cavity 46.

A dispenser 50 for hair grips is mounted on the base 11 adjacent the opener 10. The dispenser 50 comprises a pair of relatively reciprocable sleeves 51 and 52. The sleeve 51 is mounted on the upper surface 15 of the base 11 and provides an axial bore 53. The upper end 54 of the sleeve 51 provides an annular flange 55.

The upper reciprocatory sleeve 52 provides a hair grip container and has an

external diameter smaller than the internal diameter of the flange 55. The cylinder 52 has an outer peripheral flange 57 adjacent its lower end engaged within the bore 53 of the sleeve 51 and engageable against the flange 55. The lower end of the sleeve 52 is closed by a concave bottom part 58. An aperture 59 is formed centrally of the bottom 58. A cap 61 is engaged with the upper end 62 of the sleeve 52. The cap 61 has a concave recess 63 in its under surface 64. An aperture 65 is formed axially of the cap 61 and communicates with the uppermost limit of the recess 64.

A rod 68 is mounted coaxially with cylinders 51 and 52 and is secured in a rigid manner relative to the mounting base 11. The rod 68 projects through the aperture 59 in the bottom 58 of the cylinder 52. The rod 68 has a concave recess formed in its upper end. A coil spring is mounted within the bore 53 of the cylinder 51 and bears against the lower side of the sleeve 52 to urge sleeve 52 upwardly of the cylinder 51 so that the flanges 57 and 55 are normally engaged.

A cavity 75 is provided within the upper reciprocatory cylinder 52. This cavity 75 has opposed concave ends. The cap 61 is removable from the sleeve 52 so that hair grips 20 may be placed within the cavity 75. The hair grips 20 are disposed in the cavity 75 with their bent ends 23 oriented upwardly of the cylinder 52.

To operate the dispenser 50, the upper cylinder 52 is depressed downwardly against the action of the spring 70 so that the rod 68 moves upwardly through aperture 59. As the rod 68 emerges through the aperture 59 it randomly selects one of the lower ends 28 of a grip 20, forcing that particular grip upwardly relative to the cavity 75. The concave shape of the recess 64 in the cap 61 forces the bent end 23 of the selected hair grip towards the aperture 65. As the depression of the cylinder 52 relative to the sleeve 51 continues, the upper end of the selected hair grip emerges through the aperture 65 to be grasped by the operator of the dispenser. The rod 68 and the spring 70 are operatively connected to the receptacle 52 to project the bent end 23 of a selected grip 20 from the container upon each operation of the dispenser 50.

In conjunction with the opener 10, the dispenser 50 has particular utility since the dispenser may be operated with only one hand. This novel combination of apparatus allows a woman arranging her hair to keep one hand on her hair while her free hand operates the dispenser 50. With her free hand she can then take the selected hair grip emerging from dispenser 50 and open it using the opener 10.

As may be seen from the foregoing description, the invention provides apparatus for quick and simple selection of a hair grip from a supply of hair grips and for effective and simple opening of the hair grip. The apparatus further provides a means whereby the hair grips, after having been opened, may be retained in an open condition.

WHAT WE CLAIM IS:—

1. An opener for hair grips of the kind herein described which opener is of rigid material and comprises two surfaces meeting at one edge, the included angle between the two surfaces being an acute angle greater than the angle between the ends of the legs of a hair grip to be opened, one surface being a plane surface and the other surface being a concavely curved surface curving away from the one surface the curved surface having a second edge parallel to the said one edge between the surfaces whereby the legs of a hair grip will be forced apart as the mouth of the grip is pushed over the intersection with the shorter leg engaging the curved surface and the said second edge is engageable with the crimped portion of the shorter leg to retain the grip on the opener.
2. An opener as claimed in Claim 1 in which the said second edge is formed by a strip of elastomeric material.
3. An opener as claimed in Claim 1 or Claim 2 in which there is a rib or ribs on the plane surface and running parallel to the said one edge whereby the longer leg of a hair grip is engageable with the rib or ribs.
4. An opener as claimed in any of Claims 1 to 3 and including a stop rail parallel to the plane surface and spaced away therefrom to provide a narrow slot between the plane surface and the rail to receive the longer leg of a hair grip.
5. An opener as claimed in any of the preceding claims and comprising an inverted channel of rigid material, the top of the channel (i.e. the channel base) being curved and curving upwardly to meet one side to provide the said one edge, the said second edge being provided by the junction of the top with the side opposite the said one side.
6. An opener as claimed in any of the preceding claims in combination with a dispenser for hair grips, the opener and the dispenser being mounted on a unitary base and the dispenser comprising a container for hair grips and means for causing the bent end of a hair grip to project from the container.

external diameter smaller than the internal diameter of the flange 55. The cylinder 52 has an outer peripheral flange 57 adjacent its lower end engaged within the bore 53 of the sleeve 51 and engageable against the flange 55. The lower end of the sleeve 52 is closed by a concave bottom part 58. An aperture 59 is formed centrally of the bottom 58. A cap 61 is engaged with the upper end 62 of the sleeve 52. The cap 61 has a concave recess 63 in its under surface 64. An aperture 65 is formed axially of the cap 61 and communicates with the uppermost limit of the recess 64.

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2. An opener as claimed in Claim 1 in which the said second edge is formed by a strip of elastomeric material.

3. An opener as claimed in Claim 1 or Claim 2 in which there is a rib or ribs on the plane surface and running parallel to the said one edge whereby the longer leg of a hair grip is engageable with the rib or ribs.

4. An opener as claimed in any of Claims 1 to 3 and including a stop rail parallel to the plane surface and spaced away therefrom to provide a narrow slot between the plane surface and the rail to receive the longer leg of a hair grip.

5. An opener as claimed in any of the preceding claims and comprising an inverted channel of rigid material, the top of the channel (i.e. the channel base) being curved and curving upwardly to meet one side to provide the said one edge, the said second edge being provided by the junction of the top with the side opposite the said one side.

6. An opener as claimed in any of the preceding claims in combination with a dispenser for hair grips, the opener and the dispenser being mounted on a unitary base and the dispenser comprising a container for hair grips and means for causing the bent end of a hair grip to project from the container.



7. An opener for hair grips and substantially as herein described with reference to and as shown in Figures 1 and 2 of the accompanying drawings.
- 5 8. The combination of an opener for hair grips and a dispenser for hair grips substantially as herein described with

reference to and as shown in Figures 1 and 2 of the accompanying drawings.

BOULT, WADE & TENNANT,
111 & 112 Hatton Garden,
London, E.C.1,
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