April 16, 1935. D. WEBBER 1,998,062

PERMANENT WAVING DEVICE

Filed April 24, 1934

Fig. 1.

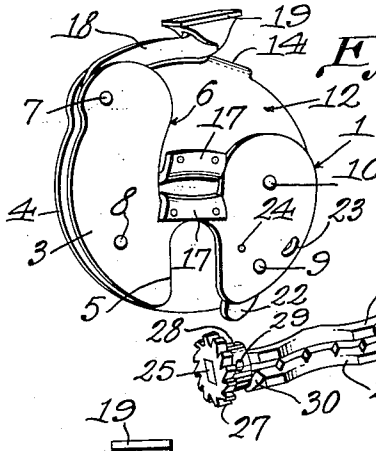


Fig. 2.

Fig. 3.

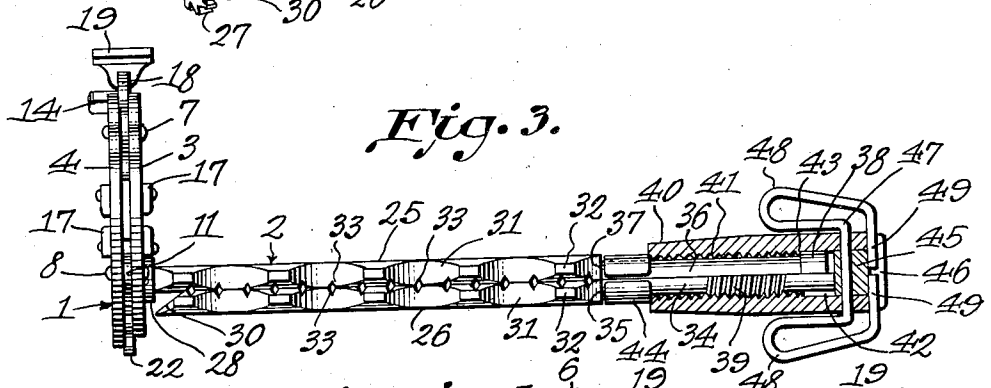


Fig. 4.

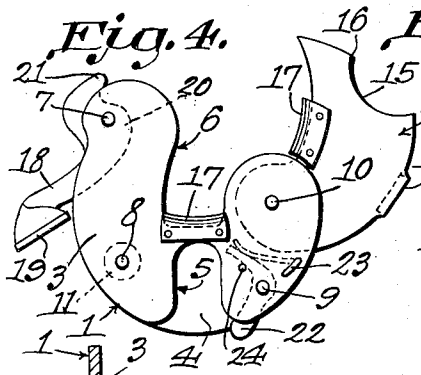


Fig. 5.

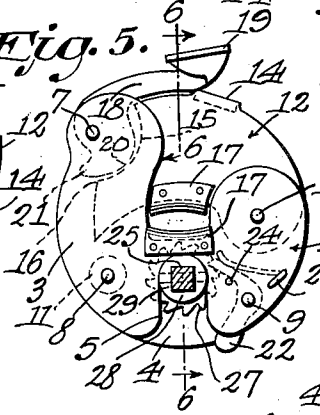


Fig. 6.

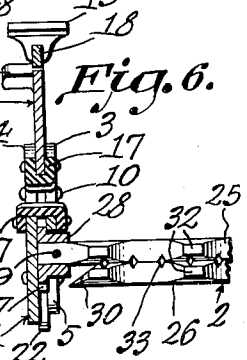
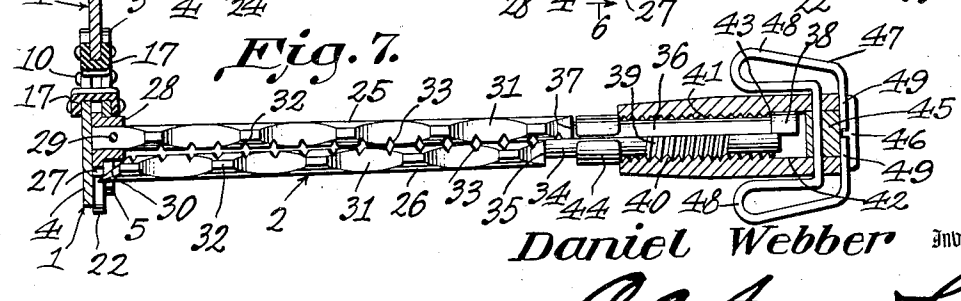


Fig. 7.



Daniel Webber Inventor

By Cashow & Co.

Attorneys.

Patented Apr. 16, 1935

1,998,062

UNITED STATES PATENT OFFICE

1,998,062

PERMANENT WAVING DEVICE

Daniel Webber, Grafton, N. Dak.

Application April 24, 1934, Serial No. 722,192

5 Claims. (Cl. 132—33)

This invention aims to provide a novel means for waving human hair. Another object of the invention is to provide novel means for operatively connecting the shaft with the foot of the device, for rotation. A further object of the invention is to provide novel means for producing relative longitudinal movement between the members of the shaft, and for producing relative transverse movement between the members of the shaft, to tighten the hair.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawing:

Fig. 1 is a perspective showing the foot of a device constructed in accordance with the invention;

Fig. 2 is a perspective of the shaft;

Fig. 3 is a side elevation with the shaft assembled with the foot, parts being in section;

Fig. 4 is an elevation of the foot, the clamp being opened;

Fig. 5 is a sectional view showing the shaft and the foot in assembled relation, most parts being in elevation;

Fig. 6 is a section on the line 6—6 of Fig. 5;

Fig. 7 is a section on the line 6—6 of Fig. 5, parts being broken away, and portions of the device being shifted from the positions depicted in Fig. 3.

The device forming the subject-matter of this application comprises a foot 1, shown in Figs. 1, 4 and 5, and a shaft 2, shown in Fig. 2. The foot 1 and the shaft 2 appear in assembled relation in Figs. 3, 6 and 7.

The foot 1 is made up of two plates 3 and 4, which, generally stated, are U-shaped in outline, as Fig. 4 will show. The difference between the plates 3 and 4 is that the plate 3 has a notch or seat 5 in one edge. Oposite to the notch 5, the foot 1 has an opening 6 in its edge, due to the approximate U-shape of the plates 3 and 4. The plates 3 and 4 are held assembled by securing elements 7, 8, 9 and 10, and they are held spaced a little way apart by a washer 11 on the securing element 8.

A clamp 12 extends between the plates 3 and 4 and is mounted to swing on the securing element 10. On its outer edge, the clamp 12 has a projection 14, by which the clamp can be manipulated. Near to its free end and on its outer edge, the clamp 12 has a recess 15, forming a shoulder 16. Secured to the inner edge of the clamp 12, and to the foot 1 at the base of the opening 6, are cooperating friction jaws 17. They may be made of rubber.

A latch lever 18 extends between the plates 3 and 4 and is mounted to swing on the securing element 7. The latch lever 18 has a transverse finger piece 19 at one end, a rounded body portion at the place where the latch lever is mounted on the securing element 7, and a projecting nose 21 at its opposite end.

An L-shaped pawl 22 is disposed for the most part between the plates 3 and 4 and is mounted to swing on the securing element 9. The inner end of the pawl 22 is swung toward the notch 5 in the plate 3 by a spring 23 which is anchored at one end in the plate 3. The movement of the inner end of the pawl 22 toward the notch 5, under the impulse of the spring 23, is limited by a stop-pin 24 which connects the plates 3 and 4. One end of the pawl 22 projects outwardly beyond the edge of the foot 1.

The shaft 2 comprises a fixed member or rod 25, and a longitudinally movable member or rod 26, located side by side. On the inner end of the fixed member 25, a ratchet wheel 27 is mounted. The ratchet wheel 27 has a hub 28. A securing device 29 connects the hub 28 of the ratchet wheel 27 with the fixed member 25 of the shaft 2. The inner end of the movable member 26 of the shaft 2 has an inclined cam surface 30, which cooperates with the hub 28 of the ratchet wheel 26, and with the ratchet wheel (Fig. 7), in a way to be pointed out hereinafter.

In both outer edges of the members 25 and 26 of the shaft 2 there are recesses 31, forming short transverse projections 32. In the inner surfaces of the members 25 and 26 of the shaft 2 there are transverse grooves 33.

The movable member 26 of the shaft 2 terminates in a stem 34, forming a shoulder 35 on the member 26. The fixed member 25 of the shaft 2 terminates in a stem 36, forming a shoulder 37 on the member 25. The stems 34 and 36 are semi-circular in cross section. On its outer end, the stem 36 of the shaft member 25 has a transverse, outwardly-projecting head 38, which is semi-circular in cross section. The stem 34 of the shaft member 26 has threads 39 throughout a portion of its length, but the stem 36 of the shaft member 25 is plain.

The numeral 40 marks a tubular actuating member, in which the stem 36 of the shaft member 25, and the stem 34 of the shaft member 26 are received. Throughout a portion of its length, the actuating member 40 has internal threads 41, engaged with the threads 39 of the stem 34

of the shaft member 26. The actuating member 40 has a smooth-walled chamber 42 near to its outer end, which accommodates the head 38 on the stem 36. The threads 41 of the member 40 form, in effect, a shoulder 43 at the inner end of the chamber 42. The head 38 of the stem 36 is engaged with the shoulder 43. A collar 44 surrounds the stems 36 and 34, between the inner end of the actuating member 40 and the shoulder 37 of the shaft part 25. Owing to the construction shown at 36—43—44—37, the shaft part 25 does not move lengthwise of the actuating member 40, and on that account, the shaft part 25 may be referred to as being fixed. The stem 34 of the shaft part 26 can, however, move lengthwise of the actuating member 40, when the actuating member is rotated.

The outer end of the actuating member 40 is closed by a screw 45. The actuating member 40 has a transverse slot 46 in its outer end. A securing element 47 is extended through the member 40 and through the screw 45, and holds the screw in place. Outwardly of the actuating member 40, the securing element 47 is formed into loop-shaped handles 48 which extend longitudinally of the actuating member 40, toward the foot 1, when the device is assembled, as in Fig. 7. The ends 49 of the handles 48 are extended inwardly, and are received in the slot 46 of the actuating member 40.

In practical operation, the clamp 12 of the foot 1 may be assumed to be in the open position of Fig. 4. A strand or wisp of the hair that is to be treated is introduced into the opening 6 of the foot 1. The clamp 12 is closed. The latch lever 18 is swung to the right in Fig. 4. The nose 21 of the latch lever engages the shoulder 16 of the clamp 12, and the clamp is pressed tightly to the closed position of Fig. 5, the body portion 20 of the latch lever 18 entering the recess 15 of the clamp 12. The strand of hair now is gripped firmly by the resilient jaws 17, the foot 1 being disposed close to the scalp of the person whose hair is being treated.

The recesses 31 of the shaft members 25 and 26 are in alignment, and the projections 32 are in alignment also, as shown in Fig. 2. The shaft 2 is disposed close to the foot 1. The hair is wound about the shaft 2, in the recesses 31, and is tied to the collar 44. The hub 28 of the ratchet wheel 27 on the shaft member 25 is entered in the notch or seat 5 of the plate 3 of the foot 1, as shown in Fig. 5, the ratchet wheel 27 being disposed between the plates 3 and 4 of the foot 1, in engagement with the pawl 22. Since the ratchet wheel 27 is received between the plates 3 and 4 of the foot 1, the ratchet wheel holds the shaft 2 on the foot 1, for rotation.

The shaft 2 is rotated to wind the hair tightly about the shaft, the pawl 22 and the ratchet wheel 27 holding the shaft against retrograde rotation. The actuating member 40 is rotated by means of the handles 48. The threads 39 and 41 cause the shaft member 26 to move longitudinally of the shaft member 25, until the recesses 31 and the projections 32 of the shaft member 26 are out of alignment with the corresponding parts of the shaft member 25, as shown in Fig. 7. This tightens the hair on the shaft 2. As the shaft member 26 moves longitudinally to the position of Fig. 7, the cam surface 30 of the shaft member 26 engages the hub 28 of the ratchet wheel 27, and the ratchet wheel 27, through the notch 5 of Fig. 4. By this operation, the shaft member 26 is sprung outwardly a little from the shaft member 25, and the hair is tightened still further.

By reversing the general operation hereinbefore described, the hair is freed from the shaft 2. The pawl 22 is swung by the operator, to free the hold of the inner end of the pawl on the ratchet wheel 27, whereupon the ratchet wheel and its hub may be slid out through the notch 5, the parts being then in the position shown in Figs. 1 and 2. The grooves 33 in the shaft members 25 and 26 permit a free flow of steam through the shaft 2, from side to side.

Having thus described the invention, what is claimed is:

1. A device of the class described, comprising a foot embodying spaced members, one of which is provided in its edge with a seat, a pawl mounted between said members, means carried by the foot for gripping a lock of hair, a separable shaft, about which the lock of hair may be wound, and a ratchet wheel on the shaft, the shaft being insertable into the seat, the ratchet wheel entering between said members, into engagement with the pawl, and the ratchet wheel then holding the shaft assembled with the foot, for rotation, but against endwise withdrawal from the foot.

2. A device of the class described, constructed as set forth in claim 1, and wherein the shaft is made up of two members, one of which carries the ratchet wheel, and is therefore fixed against longitudinal movement with respect to the foot, the other of the shaft members having movement with respect to the fixed shaft member, and means for moving said other of the shaft members longitudinally of the fixed shaft member.

3. A device of the class described, constructed as set forth in claim 1, and wherein the shaft is made up of two members, one of which carries the ratchet wheel, and is therefore fixed against longitudinal movement with respect to the foot, the other of the shaft members having longitudinal movement with respect to the fixed shaft member, and means for moving said other of the shaft members longitudinally of the fixed shaft member, and means for springing the shaft members apart transversely, when said other of the shaft members is moved longitudinally of the fixed shaft member.

4. A device of the class described, constructed as set forth in claim 1, and wherein the shaft is made up of two members, one of which carries the ratchet wheel and is therefore fixed against longitudinal movement with respect to the foot, the other of the shaft members having longitudinal movement with respect to the fixed shaft member, and means for moving said other of the shaft members longitudinally of the fixed shaft member, the said other of the shaft members having an inclined surface which, cooperating with the ratchet wheel, springs the shaft members apart transversely, when said other of the shaft members is moved longitudinally of the fixed shaft member.

5. A device of the class described, comprising a foot having means for gripping a lock of hair, a shaft about which the lock of hair may be wound, the shaft comprising a first member journaled in the foot, and a second member movable longitudinally of the first shaft member, and means for moving the second shaft member longitudinally of the first shaft member, the shaft members being provided on their inner surfaces with transverse grooves for the passage of steam or the like.

DANIEL WEBBER.