Dec. 19, 1933. E. O. FREDERICS 1,940,451

HAIR WAVING CLIP

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Fig. 1.

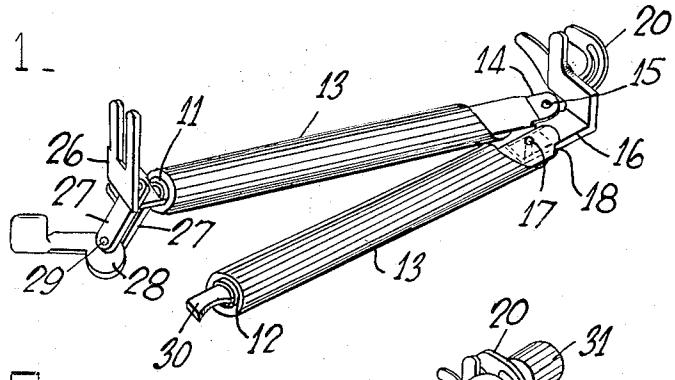


Fig. 2.

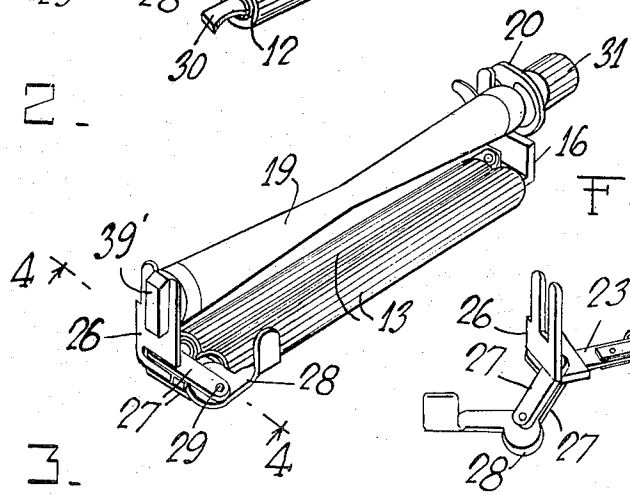


Fig. 3.

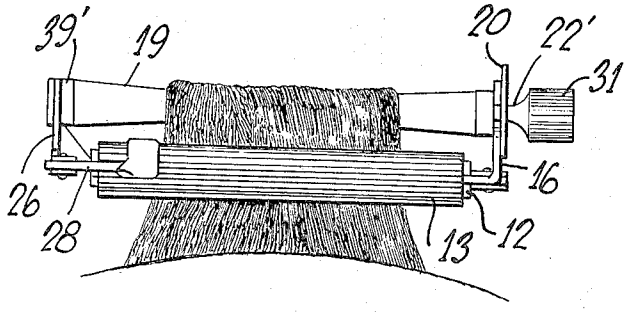
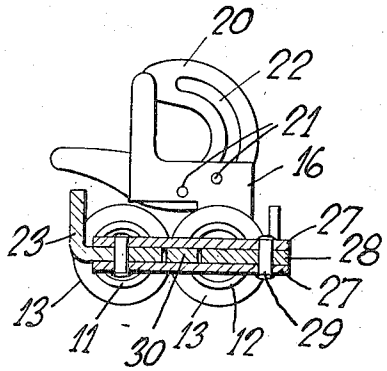


Fig. 4a

Fig. 4



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Fig. 5

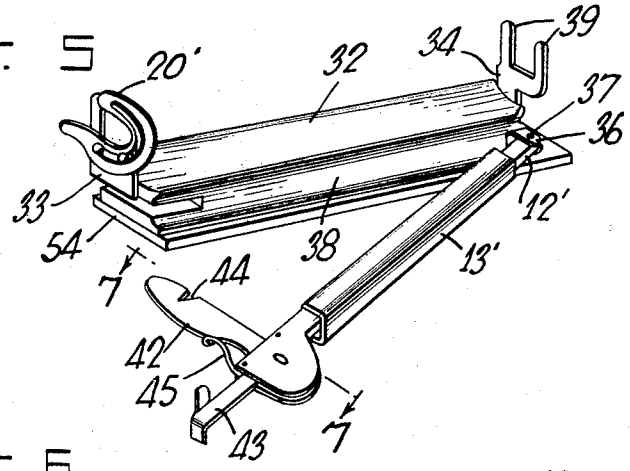


Fig. 6

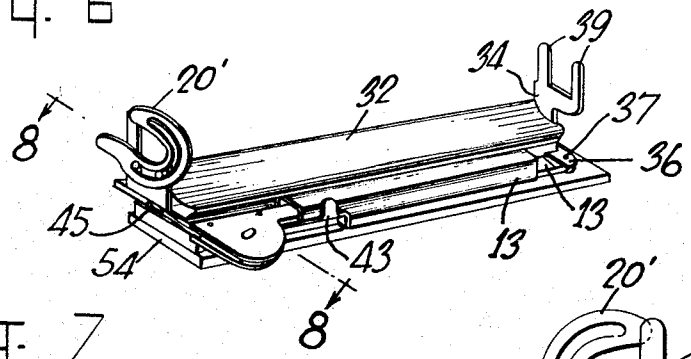


Fig. 7

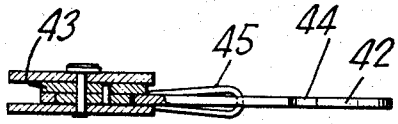


Fig. 8

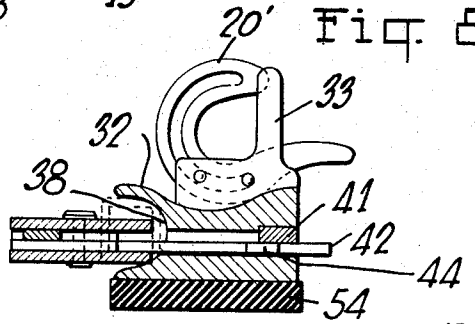


Fig. 9

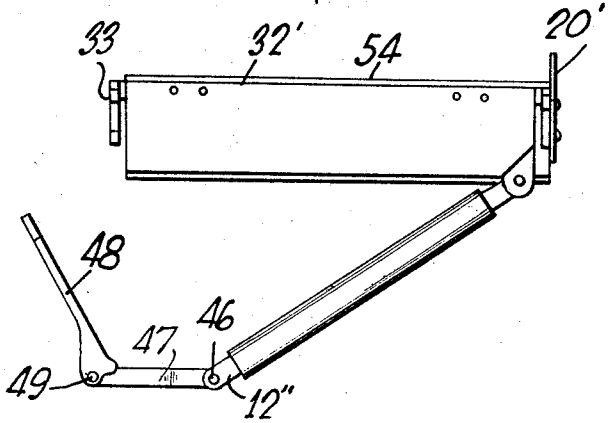
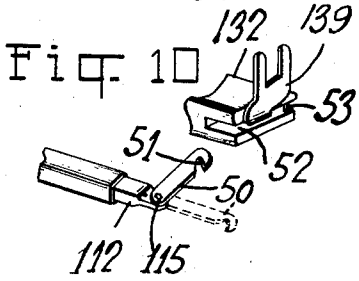


Fig. 10



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1,940,451

HAIR WAVING CLIP

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Application February 19, 1930. Serial No. 429,480

30 Claims. (Cl. 132—36.1)

This invention relates to devices serving to clamp the hair and protect the scalp during hair waving operations, and to correlated inventions and discoveries appertaining thereto.

In general, it is the object of the invention to provide a device of the character described which will efficiently accomplish the purpose for which it is intended, which may be readily and economically manufactured and assembled, and which may be manipulated with extreme ease.

Another object of the invention is to provide an improved protector clip which will hold the hair taut while the same is wound upon a curler and while it is undergoing treatment.

Another object of this invention is to provide an improved protector clip which combines simplicity of construction, lightness and strength of structure and ease of operation, and which has such a design that many more of the clips may be used simultaneously upon the head than has been possible heretofore.

Another object of this invention is to provide an improved protector clip which lies closer to the scalp than heretofore without loss of protecting qualities and is adapted thereby to aid in the curling of tresses near the roots of the hair.

Another object of the invention is to provide an improved protector clip which will substantially eliminate any possibility of injury to the scalp of the subject during a hair waving operation.

Another object of the invention is to provide a protector clip provided with improved insulating means.

Another object of this invention is to provide an improved protector clip, the body of which is made of a material which acts as a heat insulator between the heating unit and the scalp.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts, which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of the protector clip embodying the invention and illustrates the same in open position;

Fig. 2 is a perspective view of the protector clip shown in Fig. 1 in closed position with a curler mounted thereon;

Fig. 3 is a side elevation of the protector clip shown in Fig. 1 closed about a tress of hair which is wound around a curler mounted on said clip;

Fig. 4 is an enlarged elevation taken along the line 4—4 of Fig. 2, but not showing a curler in place;

Fig. 4*a* is a perspective view partly in section of a detail of the protector clip shown in Fig. 1;

Fig. 5 is a perspective view of a modified form of the protector clip shown in Fig. 1 showing the same in open position;

Fig. 6 is a perspective view of the protector clip shown in Fig. 5, in closed position;

Fig. 7 is a detail in elevation of the locking element along the line 7—7 of Fig. 5;

Fig. 8 is an end elevation of the slide latch and clamp taken on the line 8—8 of Fig. 6;

Fig. 9 is a plan view of the protector clip shown in Fig. 1 showing a modification of the clamping device; and

Fig. 10 is a perspective view of a modified form of the hinging device of the protector clip shown in Fig. 5, and that portion of the main member to which it is attached.

In permanent waving operations, and particularly in winding tresses of hair on a curling device by the croquignole method of winding, in which laterally spread tresses of hair are wound upon themselves on a curling device, it is desirable that the hair be held taut during the winding operation so as to be uniformly spread and properly wound, and that the scalp of the subject be securely protected against burning or other injury when heat is applied to the wound hair. Because of the many operations involved in waving a head of hair and because of the annoyance to which the subject is subjected by delays of the operator, it is also desirable that devices used in the waving operations be of such nature that they can be manipulated with the greatest possible ease.

The invention is accordingly exemplified in protector clips which will easily and securely clamp the hair, which will fully protect the scalp during operation, and which can be put in place, tightened and released with utmost ease.

The exemplification disclosed in Figs. 1, 2, 3, 4 and 4*a* shows a clip comprising a pair of hingedly connected tubular arms 11 and 12 of suitable material, such as aluminum, designated the hinge tube and the catch tube respectively. The tubes 11 and 12 are covered with suitable insu-

lating means such as slide fitting corrugated rubber tubes 13. The slide fitting of these rubber tubes enables them to be turned about the aluminum tubes, changing the point of contact, thereby prolonging their life. The rubber tubes 13 serve as cushion members for the hair and at the same time serve to insulate the heater and the metal parts of the clip from the scalp of the subject. One member 14 of the hinge between the arms is formed by pinching one end of the tube 11 and inserting therethrough a hinge rivet 15. The other member of said hinge is a lug projecting laterally from an aluminum strip 16 which is inserted into the tube 12 and is secured thereto as by a rivet 17, and which is kept from turning as by means of a slot 18 in the end of the tube 12. Strip 16 is bent so as to project upwards in the form of an L to hold the curler 19 in place.

Slide latch 20 is a thin curved strip preferably composed of aluminum. Pins 21 on the horizontal part of the L-shaped upright project through a slot 22 in the slide latch 20 and support it. When said slide latch is in upright position the curler stem 22' may be dropped into the latch. The latch is then rotated, the pins guiding the slot motion, with the result that the prongs of the latch which is now horizontal are both in contact with the upright and the curler stem is locked in place securely.

A strip 23 of suitable material, such as aluminum, is inserted into the other end of the tube 11 and held in place by two snap springs 24 secured to said strip as by a rivet. Said springs snap over a pin 25 riveted through the tube. A shoulder on the strip fits into a slot in the tube and keeps the strip from turning. The strip is made removable so that the rubber tubing may be easily replaced. The strip 23 is bent so as to project upwards in the form of a bracket 26 to hold the curler 19 in place. An eccentric locking device is composed of two links 27 hinged to curler bracket 26 by a pin and to an eccentric lever 28 by a pin 29. The links 27 are adapted to straddle a catch 30 on the free end of tube 12. When the lever arm is swung around, the cam portion turning in a concave recess in the catch 30, the tubes are drawn together. The pin 29 is slightly off center so as to give cam action and bring the lever just enough past dead center to assure a final tightening. The catch 30 is held in tube 12 by a rivet and a shoulder on the catch fitting a slot in tube 12 keeps the catch from rotating.

As exemplified the forked end of the curler bracket 26 cooperates with the attaching block of the curler 19 to resist rotation, whereas the curler 19 is adapted to be rotated when desired in one direction by means of a knob 31. A type of curler well adapted for use in connection with the present invention is exemplified in my copending application Serial No. 311,894, filed October 12, 1928.

It will thus be seen that a clamp is provided which is well adapted to hold the curling device which can be put in place by one simple movement of the operator, which can be tightened by a second simple movement, and which is arranged to effectively protect the scalp.

The form of clip exemplified in Figs. 5, 6, 7 and 8 comprises a molded strip 32 of insulating material, preferably of bakelite, and strips 33 and 34 of suitable material, such as steel, molded into the ends of said strip 32, bent so as to project upwards to hold a curler in place. Strip 34 has a hinge piece 36 projecting horizontally toward and beyond the side of strip 32. To hinge piece 36 is hinged, as by a pin 37, a horizontally movable arm 12' adapted to function similarly to arm 12 in Figs. 1, 2, and 3, surrounded by suitable insulating means such as a slide fitting corrugated rubber cylindrical sleeve 13' which fits into a longitudinal channel 38 on one side of strip 32. In operation the tresses of hair to be waved are slipped between the molded strip 32 and the rubber sleeve 13' which acts as a cushion member for the hair. The tresses are now adapted to be wound on a curler supported in a manner similar to that shown in Fig. 3. The upright part of strip 34 is in the form of a bracket having prongs 39 into which fits the attaching block 39' of such a curler, and the L-shaped upright portion of strip 33 and a slide latch 20' (similar to that described above) are adapted to support a curler stem 22'.

For the purpose of holding the molded strip and arm together when the protector clip is in a closed position, any automatic releasable means may be used. A form well adapted for use in connection with the present invention is exemplified in my copending application Ser. No. 323,057, filed December 1, 1928. For example the molded strip 32 may be provided with a lug or catch 41 and the arm 12' is provided with a locking element 42 which is pivoted upon an eccentric lever 43, and which is notched at 44 to receive the lug 41 and is pressed inwardly by a spring 45. Counter-clockwise motion of eccentric lever 43 clamps the locking element. Another form of locking means is shown in Fig. 9. Attached by pin 46 to the free end of arm 12'' is a link 47 to which link in turn is attached a cam lever 48 by pin 49. In the closed position of the arm 12'' the link 43 fits into a groove in the end of the molded strip 32' and a clockwise motion of the cam lever 48 brings the molded strip 32' and arm 12'' into snug contact.

In Fig. 10 there is exemplified a modified form of means for releasably fastening the free arms of the clip one to another. In the exemplified form this means consists of a link 50 notched at 51 and hinged by a pin 115, in the present instance, to an arm 112 similar to the arm 12'. The link 50 is adapted to be inserted in a groove 52, molded in the present instance into an arm 132 similar to the arm 32, and bridged by a post 53 into which the notch 51 is adapted to be slipped. The arm 132 carries a bracket 139 similar to the bracket 39.

In order to effectively insulate the clamp and the heater held thereby from the scalp of the subject, one or more heat insulating strips, composed for example of fibre or cork, may be fastened to the bottom of the molded strip 32. In the present instance an insulating strip 54 composed of a molded cork composition is secured at the bottom of the arm.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a protector clip for use in hair waving operation, the combination of a pair of hingedly connected arms, means to support a curling rod

on said arms, cushion members adapted to be pressed against each other when the arms are moved in closed position and adapted to insulate the scalp from the heat of the operation, means automatically and releasably to secure said arms in closed position, and means associated with said securing means for drawing said arms closely together.

2. In a protector clip for use in hair waving operation, a pair of arms and means for pivotally connecting said arms and supporting one end of a curling rod, said means comprising the flattened end of one of said arms, a rivet therethrough, a metallic member hinged by said rivet and fixedly inserted into the other of said arms and bent vertically in the form of a supporting bracket, and a pin through said other arm and said metallic member.

3. In a protector clip for use in hair waving operation, the combination of a pair of hingedly connected arms, means to support a curling rod on said arms, cushion members adapted to be pressed against each other when the arms are moved in closed position and adapted to insulate the scalp from the heat of the operation comprising slidable corrugated rubber tubes, means automatically and releasably to secure said arms in closed position, and means associated with said securing means for drawing said arms closely together.

4. In a protector clip for use in hair waving operation, the combination of a pair of hingedly connected arms, means to support a curling rod on said arms, cushion members adapted to be pressed against each other when the arms are moved in closed position and adapted to insulate the scalp from the heat of the operation, means automatically and releasably to secure said arms in closed position comprising a catch and a spring, and means associated with said securing means for drawing said arms closely together.

5. In a protector clip for use in hair waving operation, the combination of a pair of hingedly connected arms, means to support a curling rod on said arms, means associated with said supporting means to lock said curling rod in place, cushion members adapted to be pressed against each other when the arms are moved in closed position and adapted to insulate the scalp from the heat of the operation, means automatically and releasably to secure said arms in closed position, and means associated with said securing means for drawing said arms closely together.

6. In a protector clip for use in hair waving operation, the combination of a pair of hingedly connected arms, means to support a curling rod on said arms, means automatically and releasably to secure said arms in closed position, and means associated with said securing means for drawing said arms closely together, a cushion member on one of said arms adapted to be pressed against the other said arm when the arms are moved into closed position, the other of said arms having an insulating strip secured to its under side.

7. In a protector clip for use in hair waving operation, the combination of a main member molded from heat insulating material, means to support a curling rod on said main member, an arm permanently hinged to and disposed to lie along a groove in the side of said main member, a cushion member surrounding said arm adapted to be pressed against said main member when the arm is moved into closed position, means automatically and releasably to secure said main member and said arm in closed position, means associated with said securing means for drawing said arm and said main member closer together, and an insulating strip secured to the underside of said main member.

8. In a protector clip for use in hair waving operation, the combination of a main member molded from bakelite, means to support a curling rod on said member, an arm permanently hinged to and disposed to lie along a groove in the side of said main member, a cushion member surrounding said arm adapted to be pressed against said main member when the arm is moved into closed position, means automatically and releasably to secure said main member and said arm in closed position, means associated with said securing means for drawing said arm and said main member closer together, and an insulating strip secured to the underside of said main member.

9. In a protector clip for use in hair waving operation, the combination of a main member molded from heat insulating material, means to support a curling rod on said main member, means associated with said supporting means to lock said curling rod in place, an arm permanently hinged to and disposed to lie along a groove in the side of said main member, a cushion member surrounding said arm adapted to be pressed against said main member when the arm is moved into closed position, means automatically and releasably to secure said main member and said arm in closed position, means associated with said securing means for drawing said arm and said main member closer together, and an insulating strip secured to the underside of said main member.

10. In a protector clip for use in hair waving operation, the combination of a main member molded from heat insulating material, means to support a curling rod on said main member, means comprising a slide latch and pins associated with said supporting means to lock said curling rod in place, an arm permanently hinged to and disposed to lie along a groove in the side of said main member, a cushion member surrounding said arm adapted to be pressed against said main member when the arm is moved into closed position, means automatically and releasably to secure said main member and said arm in closed position, means associated with said securing means for drawing said arm and said main member closer together, and an insulating strip secured to the underside of said main member.

11. In a protector clip for use in hair waving operation, the combination of a main member molded from heat insulating material, means to support a curling rod on said main member, an arm disposed to lie along a groove in the side of said main member, and attachable thereto by a linking device, a cushion member surrounding said arm adapted to be pressed against said main member when the arm is moved into closed position, means automatically and releasably to secure said main member and said arm in closed position, means associated with said securing means for drawing said arm and said main member closer together, and an insulating strip secured to the underside of said main member.

12. In a protector clip for use in hair waving operation, the combination of a main member, an arm permanently hinged thereto and adapt-

ed to be pressed against said main member, means to support a curling rod on said main member, said means comprising an upright bracket, a vertical upright, a recessed member, pins passing through said vertical upright and through a curved slot in said recessed member and supporting said recessed member, said recessed member adapted to be rotated upon said pins so that the ends of said member come in contact with said upright, locking said curling rod in place.

13. In a protector clip for use in hair waving operation, means to support a curling rod, said means comprising an upright bracket to support one end of said rod and a device to support the other end of said rod, said device comprising a vertical upright with lateral projection, a recessed member, pins passing through said upright and through a curved slot in said member and supporting said member, said member being adapted to be rotated upon said pins so that the ends of said member come in contact with said upright, locking said rod in place.

14. In a protector clip for use in hair waving operation, means to support a curling rod, said means comprising an upright bracket to support one end of said rod and a device to support the other end of said rod, said device comprising a base, a recessed member, pins passing through said base and through a curved slot in said member and supporting said member, said member adapted to be rotated upon said pins so that the ends of said member come in contact with said base, locking said rod in place.

15. In a protector clip for use in hair-waving operation, the combination of a pair of hingedly connected arms, means to support a curling rod on said arms comprising brackets, one of said means being attached to one of said arms by a snap spring, one of said brackets being provided with a slide latch, cushion members adapted to be pressed against each other when the arms are moved in closed position and adapted to insulate the scalp from the heat of the operation, means automatically and releasably to secure said arms in closed position, and means with said securing means for drawing said arms closely together.

16. In a protector clip for use in hair waving operations, a pair of arms and means for pivotally connecting said arms and supporting one end of a curling rod, said means comprising the flattened end of one of said arms, a rivet therethrough, a metallic member hinged by said rivet and fixedly inserted into the other of said arms and bent vertically in the form of a supporting bracket, a pin through said other arm and said metallic member, means automatically and releasably to secure said arms in closed position, said securing means comprising a catch and a spring, and means associated with said securing means for drawing said arms closely together.

17. In a protector clip utilizable in hair waving operations, a pair of arms, means at one end of the arms for hingedly connecting the same, means at the other end of one arm for holding said arms in clamped relationship, said holding means having a dimension larger than the arm, a removable covering for said arm, and means for removably connecting said holding means with said arm to permit the removal of the covering from said arm.

18. In a protector clip utilizable in hair waving operations, a pair of arms, a removable covering for each arm, means at one end of the arms for hingedly connecting the same, and co-operating members disposed at the other end of the arms for securing said arms in closed position, one of said co-operating members being sufficiently small to permit the removal of the covering of its arm, and the other of said co-operating members being removable from its arm to permit the removal of the covering therefrom.

19. In a protector clip utilizable in hair-waving operations, a pair of arms, a resilient heat-insulating covering for each arm, means at one end of the arms for hingedly connecting the same, a recessed member at the free end of one arm arranged to permit the removal of the covering therefrom, an element at the free end of the other arm carrying means adapted to co-operate with said recessed member to hold the arms in closed position, and means to hold said carrying element removably in said other arm to permit the removal of the covering from said other arm.

20. In a protector clip utilizable in hair waving operations, a pair of arms, a resilient heat insulating covering for each arm, means at one end of the arms for hingedly connecting the same, a supporting bracket for a curling rod carried by said means, a member at the free end of one arm arranged to permit removal of the covering therefrom, an element at the free end of the other arm carrying another supporting bracket for the curling rod and also carrying means adapted to cooperate with the member at the free end of the other arm to hold the arms in closed position, and means to hold said carrying element removably in said other arm to permit the removal of the covering from said other arm.

21. Hair-waving apparatus, comprising a curling rod having a flat-sided element at one end thereof and an annular recess adjacent its other end, the flat-sided element and the body of the rod being mounted for relative rotation, and a protector clip carrying supporting brackets for said curling rod, one of said brackets being adapted to co-operate with said flat-sided element to hold the same against rotation, and the other of said brackets being adapted to receive said annular recess and including a movable element adapted releasably to hold the curling rod in place.

22. In a protector clip utilizable in hair waving operations, a pair of arms, a connecting member at one end of said clip carried by one arm and pivotally connected to the other arm, a curler-holding bracket carried by said connecting member, means providing another curler-holding bracket at the other end of said clip, one of said brackets including a movable element adaptable releasably to hold a curling rod in place, and means to secure said arms in closed position.

23. In a protector clip utilizable in hair waving operations, a pair of arms, a pair of supporting brackets for a curling rod, one of said brackets being supported on one arm and the other of said brackets being supported on the other arm, and means to secure said arms in closed position.

24. In a projector clip utilizable in hair waving operations, a pair of arms, a pair of supporting brackets for a curling rod, one of said brackets being supported on one arm and the other of said brackets being supported on the

other arm, and means to secure said arms in closed position, one of said supporting brackets being arranged to releasably enclose a portion of the curling rod.

25. In a protector clip utilizable in hair waving operations, a pair of longitudinally-extending arms having metallic elements at each end thereof, the respective metallic elements at one end of the arms being hingedly connected and one of said elements being bent to provide a supporting bracket, the metallic elements at the other end of the arms being provided with means to lock said arms in closed position, and one of the latter elements being bent to provide another supporting bracket.

26. In a protector clip utilizable in hair waving operations, a pair of arms, an element at the end of one arm bent to provide a supporting bracket, an element on the other end of said arm formed with a recess, an element on one end of the other arm hingedly connected with said bent element, an element on the other end of said other arm, means on the last-mentioned element carrying a cam member adapted to co-operate with said recess to lock said arms in closed position, said last-mentioned element being likewise bent to provide an additional bracket.

27. In a protector clip utilizable in hair waving operations, a pair of arms, heat-insulating material over each arm, a connecting member at one end of said clip carried by one arm and pivotally secured to the other arm, a curler-holding bracket carried by said connecting member, means providing another curler-holding bracket at the other end of said clip, and means to secure said arms in closed position.

28. In a protector clip utilizable in hair waving operations, a main member of channel shape adapted to receive a winding of hair on a curler, an arm hingedly secured at one end of said member, and adapted to co-operate therewith to clamp a longitudinally-extended tress of hair, and a resilient catch at the other end of said arm.

29. In a protector clip utilizable in hair waving operations, a main member of channel shape adapted to receive a winding of hair on a curler, an arm hingedly secured at one end of said member, said main member having a longitudinal recess at its inner edge and said arm being adapted to fit within said recess, and a resilient catch at the other end of said arm for holding the arm within said recess.

30. In a protector clip utilizable in hair waving operations, a main member of channel shape adapted to receive a winding of hair on a curler, an arm hingedly secured at one end of said member, and adapted to co-operate therewith to clamp a longitudinally-extended tress of hair, and a resilient catch at the other end of said arm, said catch comprising a spring-pressed latch member.

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