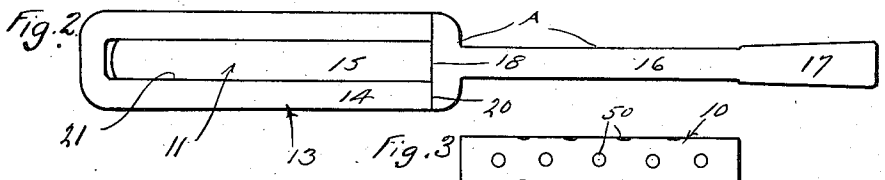
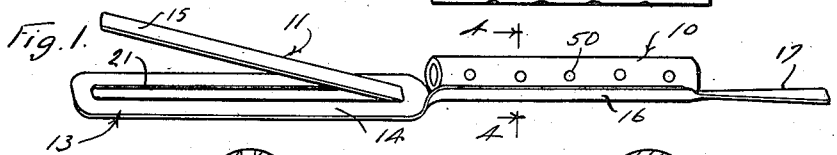
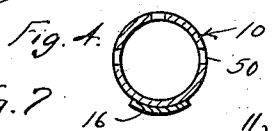
Nov. 13, 1945. W. H. MAXWELL 2,388,791

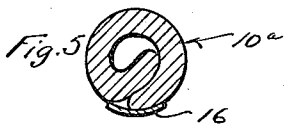
HAIR CURLER

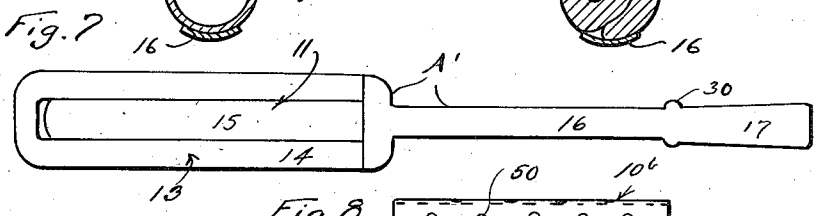
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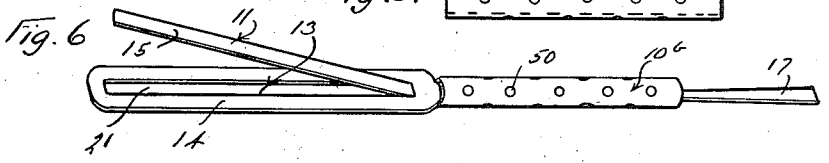


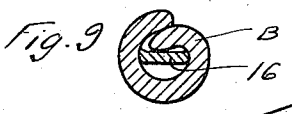


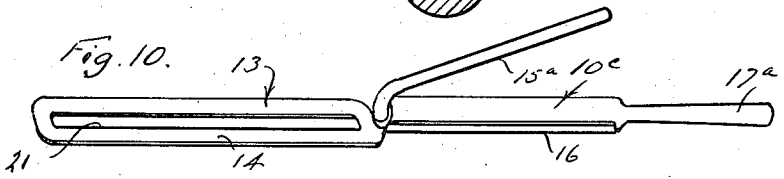


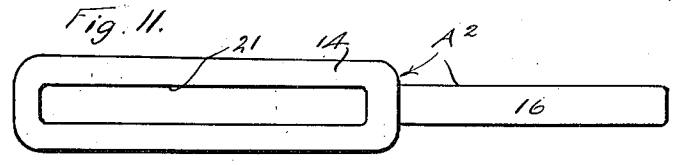


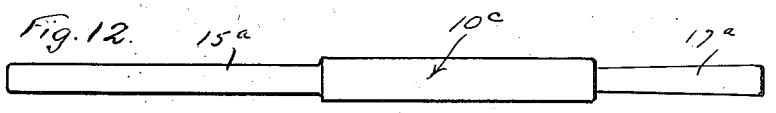












Inventor

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HAIR CURLER

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Fig. 13

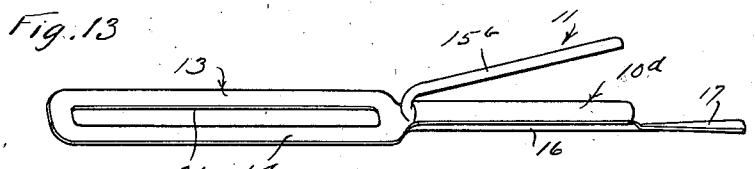


Fig. 14.

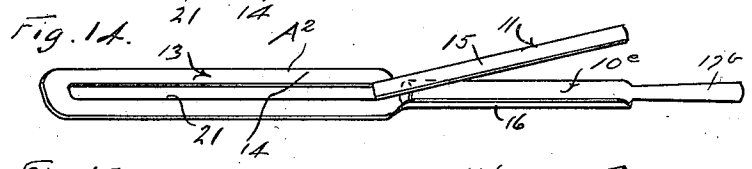


Fig. 15

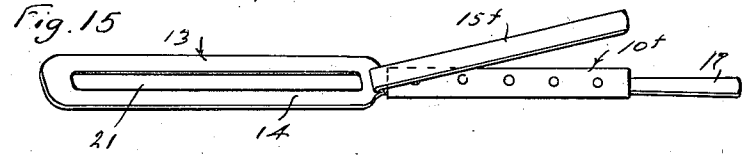


Fig. 16

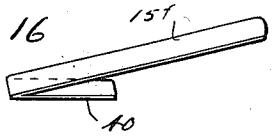


Fig. 17.

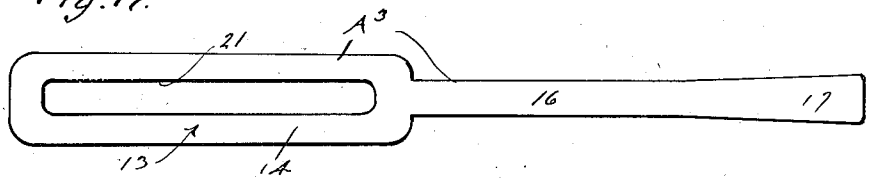


Fig. 18

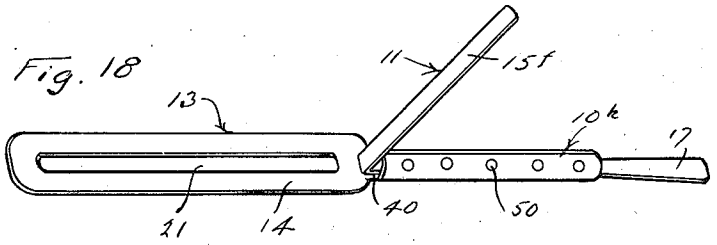
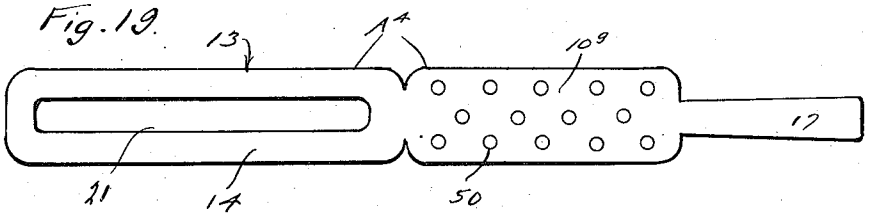


Fig. 19.



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UNITED STATES PATENT OFFICE

2,388,791

HAIR CURLER

William H. Maxwell, Los Angeles, Calif.

Application August 12, 1943, Serial No. 498,340

10 Claims. (Cl. 132—41)

This invention has to do with a hair curler and it is a general object of my invention to provide novel and practical features of construction useful in that type of curler wherein there is a spindle on which the hair is wound, a retainer for holding the hair during initial application of hair to the spindle, and a fastener for retaining the hair on the spindle.

It is a general object of my present invention to provide a curler of the character referred to made essentially of paper, or the like, and in which the spindle element which is the principal part on which the hair is wound, comprises or includes an added element which gives its characteristics desired in this element of the structure. By my present invention I provide a blank of paper which includes certain elements of the structure and to which a part or parts may be applied to form or act as an elongate spindle to receive the hair.

In forming a curler of sheet material such as paper the spindle portion of the device unless specially constructed presents edges or corners forming kinks in the hair rather than a desired curl. In my co-pending application filed on even date herewith, entitled "Hair curlers," Serial No. 498,341, I have provided a construction whereby a desirable and advantageous spindle construction may be formed of paper or from the sheet of material out of which the device is formed. In this present application I disclose a form of construction by which I employ an added element or an additional part in the formation of the spindle. By my present invention I may obtain a contrast of materials either as to quality or character of material, which is difficult or impractical to obtain in other constructions.

Another object of my invention is to provide an assembled construction wherein the device is formed of several parts which are secured together and act to hold one another in the final device. In this respect my present invention is distinguished from the device which is the subject of my said copending application which device is particularly suited for construction from a single integral body of material.

The various objects and features of my invention will be fully understood from the following detailed description of typical preferred forms and applications of my invention, throughout which description reference is made to the accompanying drawings, in which:

Fig. 1 is a perspective view of a hair curler embodying the construction which is the subject of my present invention. Fig. 2 is a plan view of the blank of sheet material employed in forming the device shown in Fig. 1. Fig. 3 is a side elevation of the spindle element applied to the blank shown in Fig. 2 to form the final construction. Fig. 4 is an enlarged transverse sectional view taken substantially as indicated by line 4—4 on Fig. 1, showing one form of construction. Fig. 5 is a transverse sectional view similar to Fig. 4, showing another form of construction. Fig. 6 is a view similar to Fig. 1 showing a different form of construction wherein the spindle forming element is applied around the blank instead of to it. Fig. 7 is a view similar to Fig. 2 of the blank used in the device shown in Fig. 6. Fig. 8 is a side elevation of a part that may be employed for the spindle shown in Fig. 6. Fig. 9 is an enlarged detailed sectional view of a form of spindle that can be used in connection with the blank shown in Fig. 7. Fig. 10 is a view similar to Fig. 1 showing another form of construction wherein the retainer and the tab of the fastener are formed integral with the element applied to the blank to form the spindle. Fig. 11 is a plan view of the blank used in the device of Fig. 10. Fig. 12 is a plan view of the spindle forming element, retainer and tab employed in the device of Fig. 10. Fig. 13 is a view similar to Fig. 10 wherein the tab is formed integral with the blank rather than with the spindle forming element. Fig. 14 is a view similar to Fig. 10 wherein the retainer is formed integral with the blank instead of with the spindle forming element. Fig. 15 is a view similar to Fig. 6 wherein the retainer is a separate part joined to the spindle rather than being formed integral with the blank. Fig. 16 is a view of the retainer used in the device of Fig. 15. Fig. 17 is a plan view of the blank employed in the device of Fig. 15. Fig. 18 is a view similar to Fig. 15, showing a construction wherein the spindle is integral with the blank and the retainer is a separate part connected to the spindle, and Fig. 19 is a view of the blank employed in the device shown in Fig. 18.

The device of the present invention includes, generally, a principal part which I will call the spindle 10, a retainer 11 for retaining hair on the spindle 10 during initial winding of hair thereon, and fastening means 13 operable to fasten hair in rolled condition on the spindle.

My present invention contemplates, broadly, the manufacture of a curler of a type referred to by assembling various parts together and in its preferred form it contemplates the manufacture of the device from a blank A of sheet material such as paper, or the like, and the element 10 which forms the spindle.

In the form of the invention illustrated in Figs. 1 to 5, inclusive, the blank A includes, generally, an arm 14 forming the principal part of the latch means 13, and arm-like part 15 forming the retainer 11, an extension 16 for connection with the spindle 10, and a tab 17 forming a part of the fastening means 13. The blank A, may be

stamped or otherwise formed from a single sheet of material preferably paper, or the like. The arm 15 of the means 11 is integrally joined with the blank along the hinge line 18 which allows the retainer arm 15 to be swung relative to the other parts of the device. The arm 14 is adapted to be hinged along a hinge line 20 to be swung over the roll of hair applied to the spindle 10.

An opening 21 is provided in the arm 14 to receive the tab 17 and in the preferred form of the invention the opening 21 is in the form of a central longitudinal slot provided in the arm 14, the construction being such that the arm 15 is formed by the material removed in the formation of the slot in the arm 14.

The extension 16 of the blank A extends continuously or is integral with the other parts above described and projects from a point near the hinge lines 18 and 20. The extension 16 is in the form of an elongate strip of material designed for attachment to or connection with the spindle 10. The extension 16 is preferably made to correspond in length to the spindle 10.

The tab 17 projects from or continues beyond the outer end of the extension 16 and is preferably formed integral therewith as shown in Fig. 2.

In accordance with my invention the spindle part 10 is a separate part, that is, an element separate from the blank A above described, and is combined with the blank A to form the finished curler. The spindle as shown in Fig. 4 may be an elongate body of material round in cross section, suitably secured to the extension 16.

In practice I may employ a wide variety of materials or constructions in the formation of the spindle 10. For instance, if it is desired that the spindle be solid or substantially so it may be formed of a body of fibrous material such as felt or the like, or it may be molded from a suitable material or composition. If it is desired that this spindle be hollow or tubular it may be cast or otherwise made in that form or it may be rolled from a sheet of material as shown in Fig. 4. If the spindle is hollow I prefer to provide vent openings 50 in it as shown in the drawings.

In accordance with my invention the extension 16 and the spindle 10 are secured together and in the case being described the extension 16 is curved in cross section to conform to the exterior of the spindle and is secured thereto by a suitable adhesive. By making the spindle 10 round or substantially round, as shown in Figs. 4 and 5, the finished construction provided by the invention is substantially round and is of a shape to advantageously carry the roll of hair.

In the form of the invention shown in Fig. 5 the spindle member 10^a is formed of a sheet of material wrapped or wound to be substantially round in cross section and when thus formed it is applied to the extension 16 so the two are permanently joined together. The construction shown in Fig. 5 lends itself to the use of a material such as leather, or the like, in the formation of the spindle. Leather possesses characteristics making it suitable for use in devices of the character under consideration.

It is preferred, in practice, to form the spindle of a material and to construct it so that it is substantially round in cross section and has a certain amount of rigidity and yet at the same time is conformable or flexible enough to allow it to bend or flex somewhat as pressure is applied, as in the case when the weight of the user's head comes upon it during sleep.

In the form of the invention illustrated in Figs. 6, 7, 8 and 9, the blank A' is substantially the same as that shown in Fig. 2, except that the extension 16 is rather narrow and a suitable head or enlargement is provided at 30 where the extension 16 joins the tab 17. In this form of the invention the spindle 10^b, instead of being applied to the extension 16 so that the extension is at the exterior of the spindle, is arranged around the extension 16, as clearly shown in Figs. 6 and 9. In carrying out this form of the invention the spindle 10^b may be made in the form of a tube such as is shown in Fig. 8 or it may be formed from blank B of sheet material such as paper, felt, leather, or other suitable material and the blank B may be wrapped around the spindle 16 as shown in Fig. 9. A suitable adhesive may be applied to the structure just described to form a permanent structure. In this case the enlargement 30 where the extension joins the tab may be employed to locate the spindle member on the extension and to prevent its displacement longitudinally therefrom.

In the form of the invention shown in Figs. 10 to 12, inclusive, the spindle member 10^c has a part projecting from its inner end to form the arm 15^a of the retainer and has a part 17^a projecting from its outer end to form the tab of the fastening means. In this case the blank A^2 may be the same as that shown in Fig. 2 or as that shown in Fig. 7, except that it has no tab 17.

The spindle part 10^c with its arm 15^a and tab 17^a may be a molded element or it may be formed of sheet material, in which case the round spindle part may be formed by suitably rolling the material at that point. It is to be understood that this arm 15^a and tab 17^a may be shaped and proportioned as desired, for instance, they may be flat or round or variously shaped to give the desired results. If a rolled construction is employed for the spindle part 10^c to apply it to an extension such as is shown in Fig. 7, whereas if the spindle part 10^c is molded or otherwise formed to present a substantially soled element round in cross section then it may be desirable to apply it to an extension such as is shown in Fig. 2.

In Fig. 13 I show another form of construction in which the spindle 10^d has an extension in the form of an arm 15^b formed with it but has no extension to form the tab. The tab in this case is formed on the extension 16 the same as in Fig. 2. However, the blank does not have the arm 15 shown in Fig. 2 since the arm 15^b serves the purpose of the arm 15 shown in Fig. 2.

In the form of the invention shown in Fig. 14 the blank A^2 may be the same as that shown at A in Fig. 2, except that it does not have the tab part 17. In this case the spindle part 10^e is provided with the tab 17^b. In this form of the invention the arm 15 is formed integral with the blank in the same manner as is shown in Figs. 1 and 2.

In Figs. 15, 16, and 17 of the drawings I show a form of the invention wherein the arm 15^f of the retainer is formed independently of the other parts and with a mounting tab 40. The blank A^3 may be the same as that shown in Fig. 2 except that it is without the arm 15. In this case the spindle part 10^f is applied around the extension 16 and around the tab 40 these parts being secured together in the position shown in Fig. 15. It is notable that in this construction the device involves three separate parts, namely, the blank A^3, the arm 15^b and its tab 40, and the spindle forming part 10^f. The spindle forming part may be applied over the extension 16 and tab 40 in any

suitable manner and in practice an adhesive may be applied to the assembled parts to hold them securely in place.

In Figs. 18 and 19 I show another form of the invention similar to that shown in Figs. 15 and 16. In this case the blank A^4 instead of having a plain extension 16 has an enlarged blank portion 10^g which is adapted to be rolled into tubular form to form the tubular or substantially round spindle 10^h on which to wind the hair. This part may be provided with vent openings 50 and the tab 17 may project integrally from it. The arm of the retaining means is provided with a tab 40 held within the spindle formed by rolling the part 10^g.

In using the device of the present invention the end of the strand of hair to be curled is laid on the spindle part of the device. The retaining arm is then applied over the hair. The device is then rolled or rotated so that the hair is wound onto the spindle. The fastening arm is then swung over the roll of hair and the tab is then inserted through the opening in the fastening arm, to hold the fastening arm in place over the roll of hair.

From the foregoing description it will be apparent that I have by my present invention provided a curler construction in which the parts such as the retaining arm 15, fastening arm 14 and tab 17, which can be advantageously made of light, cheap material such as paper, are related and joined in a simple practical and inexpensive manner, whereas the spindle, which is preferably substantially round in cross section and of a character not readily obtained in the use of sheet material, such as paper alone, is an element that may be formed of a material most suitable for that use and may be applied to the other parts of the device.

Whether the spindle part is applied by attachment to one side of the extension of the blank or is wrapped around the extension of the blank the finished structure provides a spindle that is substantially round in cross section. Although I have referred to the spindle as being formed of a material such as paper, felt or leather, it is to be understood that it may be advantageously formed of any other suitable material. For instance it may be formed of any suitable cast or pressed material, or a sheet material that lends itself to being handled as I have described.

Through the construction that I have provided the curler which results has a spindle which is of the desired shape and physical characteristics, that is, it is substantially round in cross section, has body and substantial rigidity, whereas the other parts, namely the retainer and the fastening means are light, flexible parts which will adequately serve their desired purpose. The entire assembly is simple, inexpensive and highly efficient.

Having described only typical preferred forms and applications of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art or fall within the scope of the following claims:

Having described my invention, I claim:

1. A hair curler of the character described including, two arms secured together to swing relative to each other, one a fastener arm comprising a single elongate part, the other a retainer arm including spaced side parts joined at their outer ends, an extension on one arm, and a part attached to said extension to form a substantially round spindle to receive a roll of hair.

2. A hair curler of the character described including, two arms secured together to swing relative to each other, one a fastener arm, the other a retainer arm, an extension integral with one of said arms, and a tubular part permanently attached to said extension to form a substantially round hollow spindle to receive a roll of hair.

3. A hair curler of the character described formed completely of two pieces of material one piece including, two arms secured together to swing relative to each other, one a fastener arm the other a retainer arm, an extension integral with one of said arms, and the other piece including a sheet rolled to be substantially round in cross section and fixed to said extension to form a substantially round hollow hair receiving spindle.

4. A hair curler of the character described including, two arms secured together to swing relative to each other, one a fastener arm the other a retainer arm, an extension integral with one of said arms, and a perforated tubular part rolled to be substantially round in cross section and surrounding said extension to form a substantially round hollow hair receiving spindle.

5. A hair curler of the character described including, a fastener arm, an integral extension on said arm, a part applied to the extension and fixed thereto forming a substantially round hollow spindle, and a retaining arm integral with the fastener arm and hinged thereto by a fold.

6. A hair curler of the character described including, two arms secured together to swing relative to each other, one a fastener arm, the other a retainer arm, an extension on one arm, and an open ended perforated tubular part attached to said extension to form a substantially round hollow spindle to receive a roll of hair.

7. A hair curler of the character described including, two arms formed of a single flexible sheet of material, one a fastener arm, the other a retainer arm, an integral extension on one arm, and a tubular part attached directly to said extension to form a substantially round hollow spindle to receive a roll of hair.

8. A hair curler of the character described including, a sheet of flexible material including two arms, one a fastener arm, the other a retainer arm and an integral extension on one arm, and a tubular part surrounding the extension and attached directly thereto to form a substantially round hollow spindle to receive a roll of hair, said part being formed of flexible material.

9. A hair curler of the character described including a sheet member rolled to be substantially round in cross section so hair can be wound directly thereon, a fastener arm, a retainer arm, and means fixing the arms and said member together, including a part integral with the arm and attached directly to said member.

10. A hair curler of the character described including, a fastener arm, an extension integral with the arm, a tab on the other end of the extension to cooperate with the fastener arm, a tubular perforate part fixed to the extension forming a substantially round hollow open ended spindle, and a retaining arm integral with the fastener arm.

WILLIAM H. MAXWELL.