The present invention refers to a permanent hair waving apparatus for creating especially fine waves without injury to the hair and without any unpleasant effect on the scalp.

The excellent effect of this apparatus is attained by an entirely new and improved form of the entire device, which, according to the present invention, is provided with a very simple and effective cooling of the scalp and also with a reliable heater and hair winder with packing.

Reference being had to the accompanying drawings, Fig. 1 shows the cooling device, Figs. 2 and 3 a detail of the cooling device in a front and side view, Figs. 4 and 5 the heater and Figs. 6 and 7 the hair winder with packing.

The cooling device as shown in Fig. 1 consists of a hollow distributor a of metal or other suitable material, provided with a funnel b for the insertion of the nozzle of the cooling fan c. From the distributor a a number of tubes d of suitable length branch off, which terminate in small perforated tubes e, closed at their outer ends. These tubes e may be either straight, as shown in the illustration, or slightly curved, or bent at an angle.

Instead of these simple tubes e, the tube clip shown in Figs. 2 and 3 may be used; it consists of a small tube f of circular or angular section with a protective cover g; tube f is provided with perforations h on the inner side and has an extension i for connecting to the flexible tubes d. A metal strip k with a single or double protective covering l (for instance, rubber and fabric) is hinged to the tube f; the hoop m serves to lock the two halves of the clip together.

The electric heater (Figs. 4 and 5) consists of a semi-circular metal casing w containing the heating resistance, adapted to fit over the hair winder together with its packing. The casing w is provided with a handle x, y, which at the same time serves to hold the terminals for the electric current. The plate w is rigidly attached to the casing w and provided with a flat cap y, under which the terminals for the flexible conductor cable z are arranged. Plate w is insulated from the casing w and the flexible conductor cable z by means of an intermediate layer of asbestos or other suitable material. A spring pressed clamping lever 10 with press button 11 is hinged at 9 to the plate w; the projection 12 of lever 10 engages below the casing w with the winder packing, thus keeping the whole in position.

The winder core n (Figs. 6 and 7) of the usual bobbin form is roughened over a part o of its surface in order to provide a good seating for the hair. Around the winder core n a special packing is provided, consisting of an inner sleeve r enclosing the hair, a cotton wool lining s and an outer protective waterproof cover t; the sleeve r at the same time serves to make the hair soft and pliant. The parts r, s, t of the packing are connected so as to form a single unit.

A clip v, consisting of two thin hinged metal strips, serves to hold the packing r, s, t and the hair wave contained in the packing together.

The individual parts of the hair waving apparatus are assembled as shown in Figs. 4 and 5, a heater being placed on each hair winder with its packing and the small tubes e or f of the cooling device being arranged as close to the scalp as possible.

In order to create a permanent hair wave the strand of hair p is wound on the winder core n, surrounded with the packing r, s, t, on which the heater is then fitted. Immediately below the heater casing w the hair strand p with its packing is held together by the clip v and finally either a simple cooling tube e or a combined tube clip f, g, h, k, l, as shown in Figs. 2 and 3, is arranged as close to the scalp as possible.

If the heat generated makes it necessary to cool the strand of hair and the scalp, then the simple cooling tube e (Fig. 1) is inserted between two neighbouring strands of hair, or between the heaters holding these strands, and there kept in position with the help of pads of cotton wool, such as are commonly used in the process of hair waving. Through the medium of the fan c cooling air is then blown through the flexible tubes d into the
small tubes e, from which the air then streams onto the scalp.

If on the other hand the clips f, g, h, k, l, according to Figs. 2 and 3 are used instead of the simple tubes e, these clips are fixed on the strand of hair below the heater and wind-
er, as near to the scalp u as possible, as shown in Figs. 4, 5, 6 and 7. Each clip f, g, h, k, l, is then in a position to cool the hot and moist steam before it can reach the scalp.

But in any case the simple tubes e or clip tubes f, g, h, k, l are always entirely separate from the heater, so that the effect of the latter is not impaired during the heating process by the stream of cold air.

What I claim as my invention, is:

1. In a hair waving apparatus, a distribu-
tor head for air consisting of a hollow body
adapted to have a series of tubes connected
thereto, and a frusto-conical tubular mem-
er opening at its smaller end into the body
and adapted to receive the nozzle portion of
a blower.

2. In a hair waving apparatus, an air dis-
tributor nozzle consisting of a tubular mem-
er closed at one end and adapted for con-
nection at its other end to an air supply tube,
said nozzle having a series of lateral air
escape perforations, a protective cover of air
permeable material surrounding said tube, and
means carried by the tube to clamp a strand
of hair thereon.

In testimony whereof I affix my signature.

FRANZ XAVER MAIER.