## UNITED STATES PATENT OFFICE.

ELLEN T. CRAIN, OF KANSAS CITY, MISSOURI.

## IMPROVEMENT IN HAIR-CURLING.

Specification forming part of Letters Patent No. 138,995, dated May 20, 1873; application filed February 21, 1873.

To all whom it may concern:

Be it known that I, ELLEN T. CRAIN, of Kansas City, in the county of Jackson and State of Missouri, have invented a certain Process for Converting Straight Hair into Permanent Curls, of which the following is a specification:

I boil this for four hours, and after boiling put the sticks of hair thus prepared between two boards, so that the upper board shall cover the whole, and put the whole into a hot, dry oven, thus placed between the boards, and steam it for three to six hours, according

First, I take straight hair of any desired length and weave it into plaits of about one inch wide, in the manner known as "weaving up the hair;" then I thoroughly cleanse it by a solution of pure rain-water and ammonia, composed of one table-spoonful of liquid ammonia to one pint of water; then comb the hair straight and dry it in the sun; then moisten the hair with Burnett's Cocoaine, and wind it tight on a common curling-stick; then I wind over the hair inch strips of white letter-paper, unruled, and over this strips of white cotton cloth of the same width. The winding must all be very close and the cloth secured at both ends. I then put the hair thus prepared (one stick or more) into a closelycovered tin vessel, with sufficient quantity of pure rain-water and borax in solution to nearly cover it, the proportions being about one

ounce of borax to eight pints of water; then I boil this for four hours, and after boiling put the sticks of hair thus prepared between two boards, so that the upper board shall cover the whole, and put the whole into a hot, dry oven, thus placed between the boards, and steam it for three to six hours, according to the quantity of hair on the sticks. After the hair has been steamed, let it cool off, and then unwind it from the sticks. Each piece of hair should then be combed with an ordinary comb over a curling-stick, and dressed, preferably, with Burnett's Cocoaine. It is then ready for putting onto wires, &c., for sets, as may be required.

I claim as my invention—

The process of converting straight hair into permanent curls by the employment of the materials and in about the proportions named, and by baking and boiling the hair, substantially in the manner hereinbefore described.

ELLEN T. CRAIN.

Witnesses:

MILLIE R. SHERWOOD, EBEN W. KIMBALL.