May 24, 1927. 1,630,078

A. T. SMITH

CURLING IRON

Filed Sept. 17, 1924

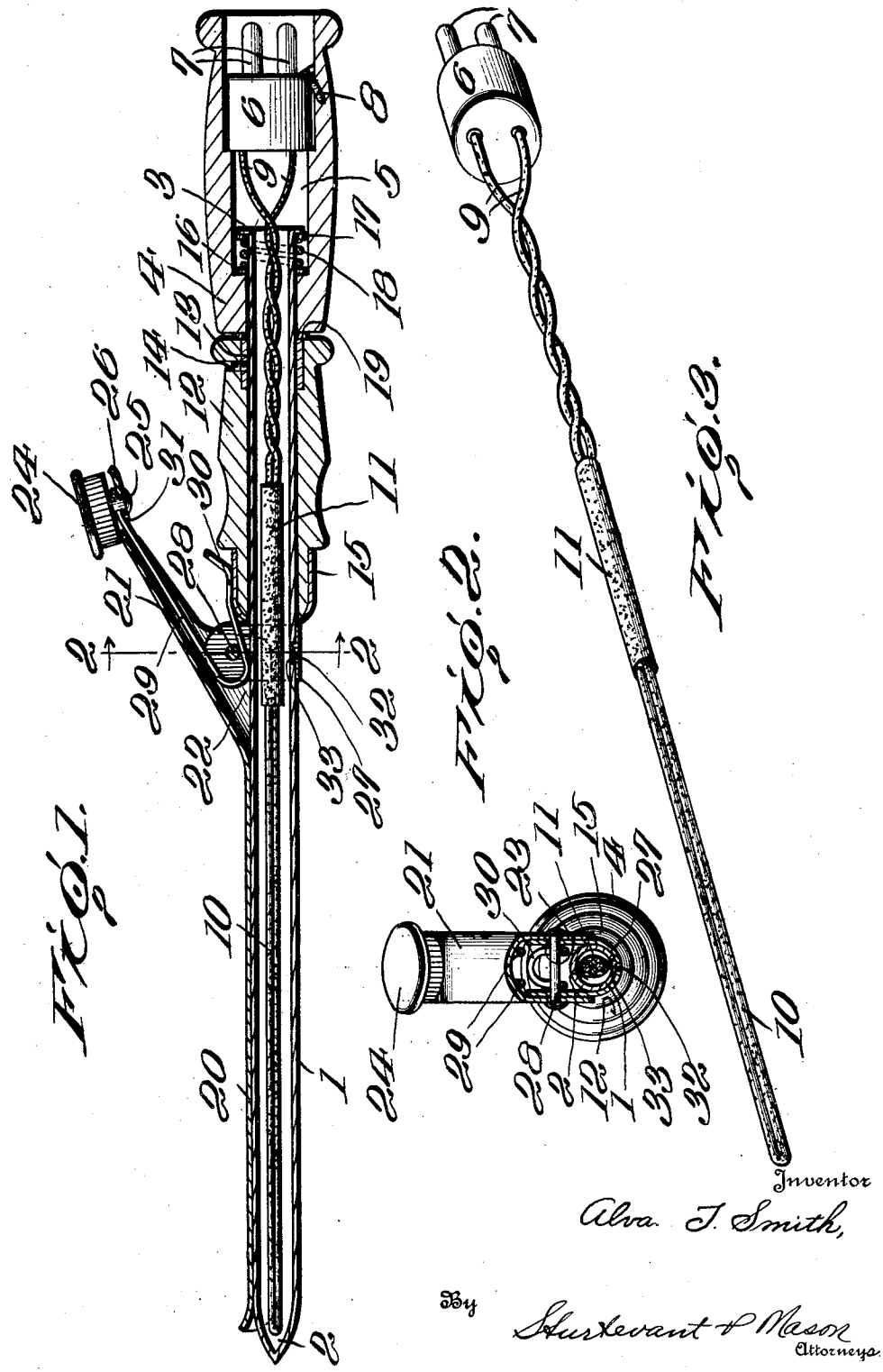


Fig. 1.

Fig. 2.

Fig. 3.

Inventor
Alva T. Smith,

By Sturtevant & Mason
Attorneys

Patented May 24, 1927. 1,630,078

UNITED STATES PATENT OFFICE.

ALVA T. SMITH, OF WINSTED, CONNECTICUT, ASSIGNOR TO THE FITZGERALD MFG. COMPANY, OF TORRINGTON, CONNECTICUT, A CORPORATION OF CONNECTICUT.

CURLING IRON.

Application filed September 17, 1924. Serial No. 738,232.

This invention relates to improvements in curling irons.

Among the objects of this invention is the provision of a handle structure which permits the rotation of the shell and tong portion of the iron without the simultaneous movement of the portion of the handle customarily held in the hand.

Another object is the provision of a swivel-handle for curling irons, which may be cheaply and easily made and quickly assembled upon the shell of the curling iron.

A further object is the provision of a curling iron structure in which the heating element and connectors are held against rotation during the movement of the shell and tong.

Still a further object is the provision of an improved shell and tong construction which permits the easy and rapid dismounting and assembly of the swivel-handle and tong.

With these and other objects in view, as will appear from the following description, one exemplification of the invention is set forth on the accompanying drawings, in which—

Figure 1 is a longitudinal section through the curling iron;

Fig. 2 is a cross section on the line 2—2 of Fig. 1, and

Fig. 3 is a perspective view showing the heating element alone.

The curling iron as shown in this exemplification comprises a shell 1 formed with the customary ogival end 2 and having an outwardly turned flange 3 at its open end. Fitting around the open end of the shell 1 is the outer handle portion 4 which has a recess 5 therein to receive the flange 3 of the shell. The cavity 5 is widened near the mouth to receive the spacer 6 of insulating material, which carries the two prongs 7, 7 which enable the connection of the iron to a plug on the end of the flexible cord from an ordinary electric lighting fixture or similar outlet. It will be noted that the prongs 7 are carried entirely within the handle portion 4 to prevent mechanical injury to them. The spacer 6 is held against rotation relative to the handle portion 4 by a holding screw 8.

Attached to the terminal prongs 7, 7 within the body of the spacer 6 are the two ends 9, 9 leading to the heater element 10 of the curling iron. This heater element is composed of a suitable high resistance material, and is coated and wrapped with refractory insulation material adapted to resist mechanical friction. To assist in reducing the effect of friction upon the heater element, the sleeve 11 may be disposed about the element at an appropriate point.

The inner handle portion 12 is likewise seated about the shell 1 and is provided, in an enlargement of the hole receiving the shell, with a metal bushing 13 which is held against rotation relative to the inner handle portion 12 by a set screw 14 carried wholly within the handle portion 12. The inner end of the handle portion 12 is suitably provided with a ferrule 15.

Against the end wall of the cavity 5 in the handle portion 4 is seated a washer 16, and a similar washer 17 is carried on the shell and pressed against the flange 3 by means of the coiled spring 18. A washer 19 is seated on the shell between the two handle portions 4 and 12.

The tong portion of the curling iron comprises a sheet of metal 20 bent into substantially semi-cylindrical form for the portion thereof extending along the shell 1. The other end of the tong is formed with an upward flare 21 having extended lugs 22 with apertures 23 therein. Seated on the rearward end of the flare 21 is a button 24 of material which is a poor heat conductor. This button is held in place by a rivet 25 embedded in its structure and clinched upon a seat 26 formed on the end of the flare 21.

A stirrup 27 formed of sheet metal is carried about the shell 1. A pivot pin 28 is passed through the holes 23 of the lugs 22 and through corresponding holes in the stirrup 27, and is held in place, for example, by upsetting the ends.

A tong spring 29 is formed of spring wire

and passes about the pivot pin 28. The spring wire is bent at its middle, so that the two runs are substantially parallel to each other and constitute a single spring, in effect. One end 30 of this spring is formed appropriately to engage the ferrule 15 of the inner handle; and the other end is passed through an aperture 31 in the seat 26, and is clamped against displacement by the button 24, as shown.

A pip or depression 32 formed in the bottom of the stirrup 27 is received, in the assembled condition of the curling iron, in an aperture 33 in the shell.

The method of assembly of the curling iron from its dis-associated members, is as follows: The washer 17, spring 18 and the washer 16 are successively placed upon the shell 1. The bare outer handle 4 is then slipped on, followed by the spacing washer 19. The handle 12 is then seated, and the stirrup 27 and its associated tong, is slipped loosely over the shell; in which position, the spring 30 is not in contact, or only very slightly in contact, with the shell. These parts are then pushed in until the spring 30 begins to ride up on the ferrule 15. The tong 20 is then pulled away from the shell 1, and by traction on the shell 1 and pressure on the tong 20, the various members are caused to compress the spring 18 until the pip 32 slips into the aperture 33; and is held there by the action of spring 29. Screw 14 is tightened onto shell 1. In this condition, the mechanical elements of the iron are completely assembled, and held in positive relation. The heating element is now slipped into position, by means of its spacer 6, which is then secured to the outer handle 4 by the screw 8. The iron is now entirely assembled and ready for connection to a coupling disposed on a flexible cord or the like, as customary.

The spring 18 now serves to prevent wobbling between the two handles, and to maintain a slight friction between the members 4 and 12, through their spacing washer 19.

In operation, the outer portion 4 of the handle is held by the last three fingers of the hand; the thumb is used to operate the tong, by pressure on the button 24, as necessary; and after the curling iron has been properly positioned upon the tresses, the shell, tong, and inner handle 12 may be rotated in either direction by the thumb and fore-finger, without causing any kinking of the connecting cord and without possibility of dropping the iron through the fingers, since it is firmly held by the last three fingers as stated above. It will be noted that no swivel connection is provided in the connecting leads between the conducting cord and the heater element.

It will be understood that many modifications are possible within the purview of this invention, and it is not desired to limit it within the scope of the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters-Patent, is—

1. In a curling iron, a shell, a tong pivoted to said shell, an outer handle portion free to rotate on said shell, an inner handle portion to rotate with said shell, and a heating element within said shell and rigidly secured to said outer handle.

2. In a curling iron, a shell, a tong pivoted to said shell, an outer handle free to rotate about said shell, an inner handle secured to said shell, a spring surrounding said shell and adapted to force said handle portions together, and a heater element secured to said outer handle.

3. In a curling iron, a shell, a handle mounted on said shell, a spring disposed between said handle and said shell, a tong, a stirrup pivotally mounted about said tong and having a pip thereon adapted to be received in an aperture in said shell, a sleeve on said shell in contact with said handle and a tong spring, said tong spring engaging said sleeve and holding said pip in the aperture.

4. In a curling iron, a shell, a tong adapted to be pivoted intermediate its ends and having an apertured seat on its handle end, means including a pivot to mount said tong on said shell, a handle, a spring engaging said handle and passing about said pivot and through the aperture of the said seat, and a button passing through said aperture and riveted to said seat to hold the end of said spring in position.

5. In a curling iron, an outer handle and an inner handle, a current connector rigidly fixed to said outer handle, a shell, a tong pivoted to said shell, a heater element in said shell and attached to said outer handle, said inner handle being secured to said shell, and a spring surrounding said shell and adopted to force said outer handle into frictional relation with said inner handle.

6. In a curling iron, a shell, a handle mounted on the shell, a tong, a stirrup pivoted to said tong and having a pip thereon adapted to be received in an aperture of the shell, a tong spring, and means in conjunction with said handle to keep said spring under a normal tension to hold said pip in said aperture.

7. In a curling iron, a shell, a tong pivoted to said shell, a first handle member free to rotate on said shell, a second handle member fastened to the said shell to rotate therewith relative to said first handle member, and a heating element located in said shell and fastened to said first handle member, so that said first handle member may be held fixedly in the palm of the hand by the end fingers while the second handle member with shell

and tong may be rotated with relation thereto by engagement with the thumb and forefinger.

8. In a curling iron, a shell, a tong pivoted to said shell, a first handle member free to rotate on said shell, a second handle member fastened to the said shell to rotate therewith relative to said first handle member, a spring surrounding said shell and engaging a collar on the shell and the inner wall of said first handle member, to force said handle members together for frictionally maintaining said second member in actuated position.

In testimony whereof, I affix my signature.

ALVA T. SMITH.