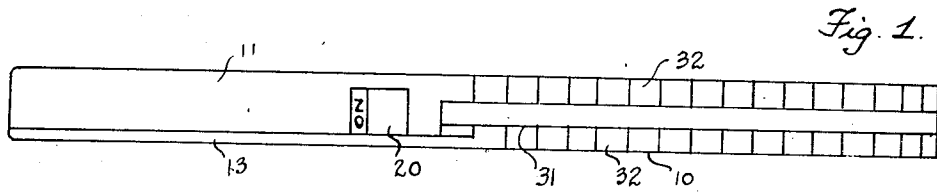
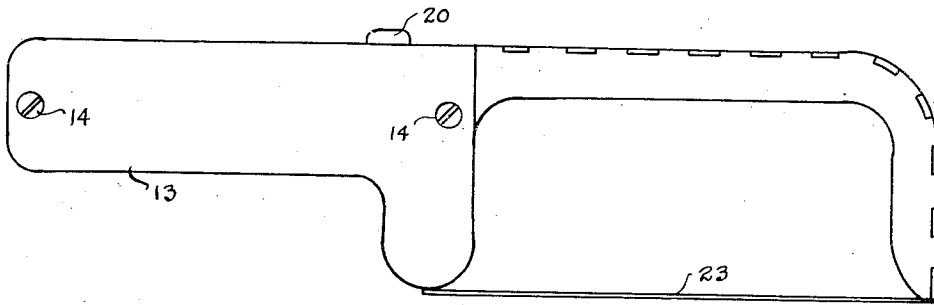
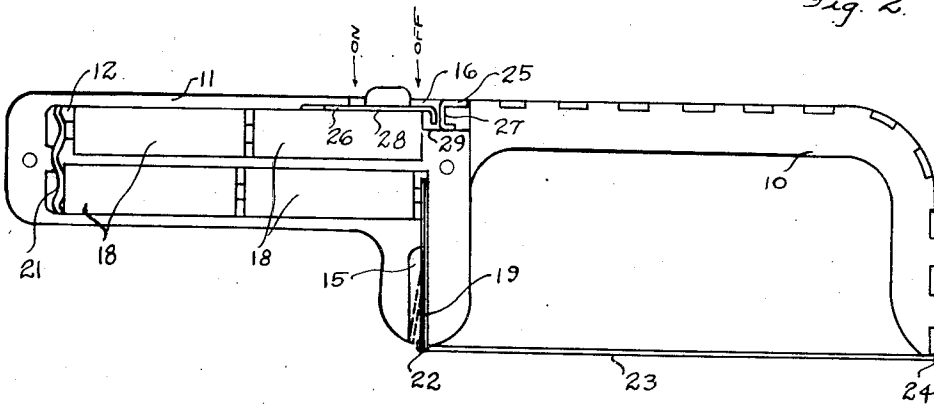


Oct. 9, 1945.

T. F. SAFFADY
ELECTRICALLY HEATED KNIFE

2,386,409

Filed Dec. 8, 1944



INVENTOR.
Thomas F. Saffady
BY
Daniel G. Gullen
att'y

UNITED STATES PATENT OFFICE

2,386,409

ELECTRICALLY HEATED KNIFE

Thomas F. Saffady, Detroit, Mich.

Application December 8, 1944, Serial No. 567,244

2 Claims. (Cl. 219—21)

This application relates to an electrically heated knife, such as is useful for cutting butter, or the like.

The appended drawing shows such a knife. In this drawing:

Fig. 1 is a top plan view.

Fig. 2 is a side view.

Fig. 3 is a side view with a cover part removed for purposes of clarity.

The electrically heated knife herein disclosed comprises a C frame 10, integrally molded with a handle portion 11 having a deep recess 12 whose open side is normally closed by a cover 13 held on to the handle by screws, or the like, 14. In the recess 12 of the handle body, which recess has extensions 15 and 16, are disposed respectively dry cells 18, a bimetal element 19, a slidable switch whose button is shown at 20, and a flexible connector 21 for electrically connecting the positive pole of one cell to the negative pole of another.

The bimetal element 19, connected to the cells, is adapted to warp, upon being heated by the passage of current therethrough, slightly to the left in Fig. 3, space for this purpose being afforded by the recess portion 15. The free end of the bimetal element 19 is connected to one end 22 of a fine resistance cutting wire 23. The other end 24 of the wire 23 is connected by soldering, or the like, to a metal band 25 running around the exterior of the C frame to serve as an ornamental band. Band 25 also serves as a means for electrically connecting the wire 23 to the switch whose contact plate 26, engaging one cell 18, is also formed to engage the terminal 27 of the band 25. The switch 20 is a sliding switch and in the position shown establishes a circuit at the breaking point 27, so that current from the cells passes through the bimetal 19, the wire 23, the band 25, and the switch plate 26 in a complete circuit.

The shoulders 28 and 29 of the handle body are marked "On" and "Off," respectively, to indicate the position of the switch button 20 and the condition of the switch.

The band 25 is disposed in a groove 31 around two sides of the C frame 10, and staggered notches 32 on opposite sides of the groove are provided to facilitate molding of the groove in the same molding operation with the molding of the entire handle, body and C frame.

The bimetal element 19 warps to compensate for the increase of the length of the wire under the influence of the heat caused by the passing of current through the bimetal and the wire, 55

and thus preserves the wire taut during the use of the tool.

A means not shown may be provided to maintain the switch 20 normally open, with such means being overcome only by and when the thumb of the operator is resting upon the switch button to keep it in the "on" position with contact plate 26 of the switch engaged with the band terminal 27.

It will be observed that the construction of the device is such that replacement of the cells, or of the bimetal, or of the wire 23, or of the switch 20, is a very simple matter. Particularly in the case of the cell, it is merely necessary to remove the screws 14, remove the cover 13, and pull out the used cells from the recess 12 and reinsert new ones and this may be done without requiring the services of a skilled electrician.

Now having described the knife herein disclosed, reference should be had to the claims which follow.

I claim:

1. An electrically heated knife comprising a C frame having a handle, a fine resistance cutting wire extending across the ends of the C frame, dry cells in the handle, a bimetal, the other end of the wire being connected to the C frame, mounted on one end of the C frame and connected to one end of the wire and also connected to the dry cells, a band connected to the other end of the wire, and a switch connecting the band to the dry cells, the bimetal being arranged to warp when heated in a direction to stretch the wire and maintain it taut and thus compensate for the expansion of the wire when heated, which expansion, but for the compensating effect of the bimetal, would loosen the wire.

2. An electrically heated knife comprising a C frame having a handle, a fine resistance cutting wire extending across the ends of the C frame, dry cells in the handle, a bimetal, the other end of the wire being connected to the C frame, mounted on one end of the C frame and connected to one end of the wire and also connected to the dry cells, a band connected to the other end of the wire, and a switch connecting the band to the dry cells, the bimetal being arranged to warp when heated in a direction to stretch the wire and maintain it taut and thus compensate for the expansion of the wire when heated, which expansion, but for the compensating effect of the bimetal, would loosen the wire, the band being exposed and extending around the C frame to serve as an ornament.

THOMAS F. SAFFADY.