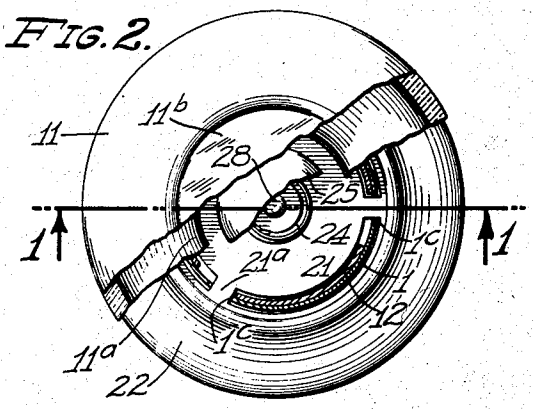
Dec. 29, 1942. M. H. WORTH 2,306,419

DARNING BALL

Filed March 20, 1940

FIG. 2.



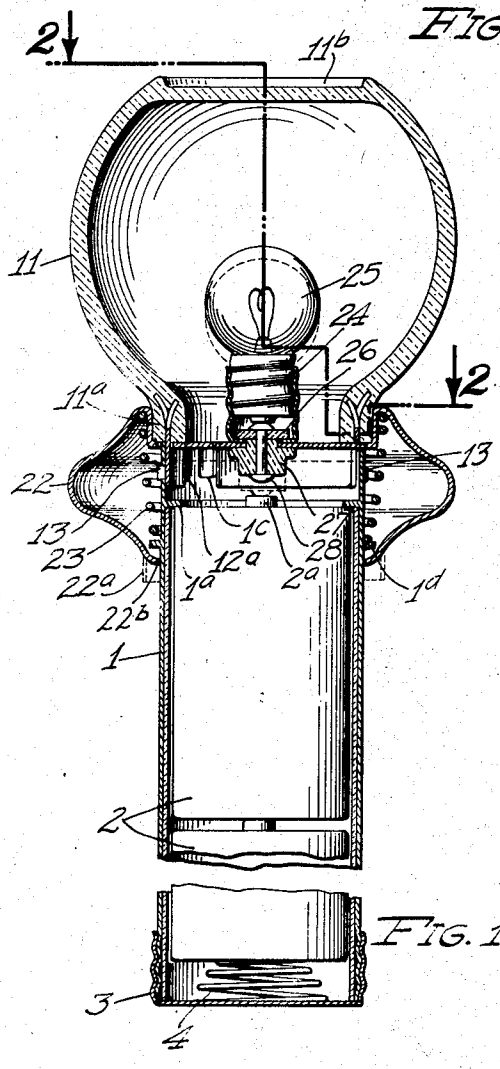
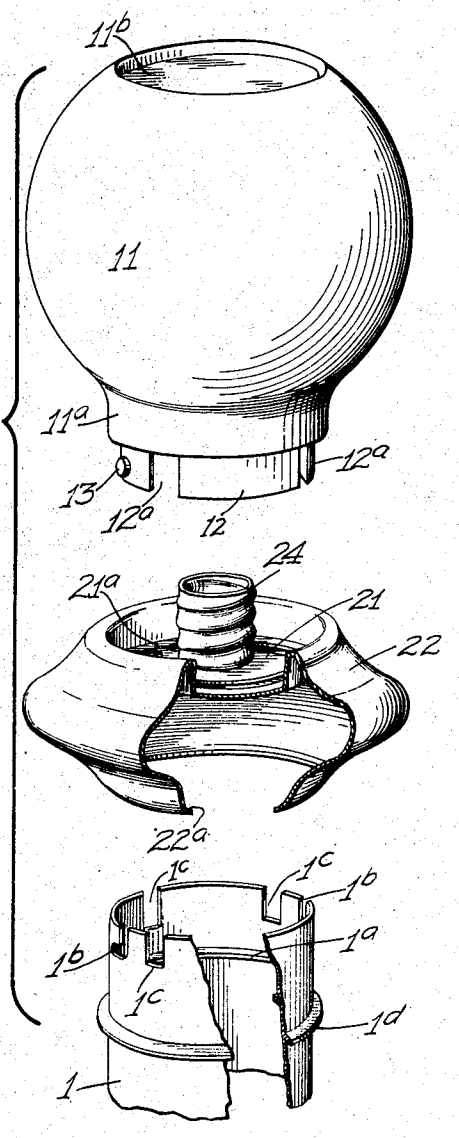


FIG. 1.

FIG. 3.



Inventor

MARIE H. WORTH

By William E. Hall

Attorney

Patented Dec. 29, 1942

2,306,419

UNITED STATES PATENT OFFICE

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DARNING BALL

Marie H. Worth, North Hollywood, Calif.

Application March 20, 1940, Serial No. 325,030

5 Claims. (Cl. 240—6.46)

My invention relates to a darning ball to facilitate darning of stockings and the like.

One of the principal objects of this invention is to provide a darning ball which is illuminated from within and in which the illumination is uniformly dispersed so that the darning operation may be easily seen without strain upon the eyes.

Another important object of this invention is to provide the darning ball in which the illuminating means is turned on only when the device is properly gripped, as when a stocking is tightly held over the ball.

A further object of this invention is to provide a darning ball of this class having a recess which provides clearance for the point of the darning needle.

An object also of this invention is to provide a darning ball of this class which is novel, simple, and economical of construction, very simple of manipulation and operation and which will not readily deteriorate or get out of order.

With these objects in view, as will appear hereinafter, I have devised a darning ball having certain novel features of construction, combination, and arrangement of parts and portions as will hereinafter be described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawing and to the characters of reference thereon, which form part of this application, in which:

Fig. 1 is a longitudinal, sectional view of my darning ball in its preferred form of construction, taken through 1—1 of Fig. 2;

Fig. 2 is a fragmentary transverse sectional view taken through 2—2 of Fig. 1; and

Fig. 3 is an exploded perspective view showing the essential parts of my invention.

Grip 1 of my darning ball is similar to the battery containing tube of the conventional flashlight, and is preferably open at its opposite ends. Within the tube are removably placed conventional flashlight batteries 2, the same being held against an inner annular shoulder 1a by means of a cap 3, secured over the outer end of the tube, having spring 4 placed between the cap and the end of the adjacent battery.

Over the opposite open end of the tube is secured a light transmitting head 11. This head is in the shape of a sphere, is hollow, and is preferably translucent, the inner end of the head is open and is provided with a boss 11a, from which extends a cylindrical metal ferrule 12. One end of the ferrule is anchored on the boss of the head which is preferably cast from such substance as "tennite,"

The end of the ferrule extending beyond the boss is positioned within said other open end of the tube and is detachably secured thereto by a bayonet joint, consisting of pins 13, extending outwardly from the ferrule into the bayonet slots 1b in the tube.

At the head of the device is a supporting disc 21, which is positioned inwardly from the boss 11a of the head 11. This supporting disc is provided with radiating arms or spokes 21a, which extend outwardly through registering, longitudinal slots 1c in the tube, and 12a in the ferrule 12. On the outside of the tube is reciprocally mounted an annular operating member 22, which is secured to the outer ends of the spokes or arms of the supporting base or disc 21. The upper side of the operating member 22 is cupped and is adapted to fit around the boss 11a of the head. The opposite side of the operating member is made cylindrical, as indicated in dotted lines at 22a in Fig. 1. This cylindrical portion is, at 22b, shown turned inward, as by a spinning operation, after the member has been mounted on the tube. Within the operating member is a corresponding conical spring 23, the small end of which is fitted against the upper side of an annular shoulder 1d, and the larger portion of which is fitted within the operating member outwardly from the cupped portion, as shown best in Fig. 1. The spring 23 urges the member against the inner face of the head 11. When the latter is removed, it is seen that the inwardly turned portion 22b comes to a stop against the shoulder 1d and so maintains the operating member in position on the tube.

The longitudinal slots 12a in the ferrule are slightly wider than the corresponding slots 1c in the tube, so that when the ferrule is placed within the open end of the tube with the pins 13 in the bayonet slots 1b, the head member 11 may be rotated sufficiently to allow the pins to enter the bayonet slots.

At the axial portion of the supporting disc 21 is a socket 24 which holds an electric bulb 25. The socket is held in place by an insulating washer 26, which is secured to the outer end of an insulating bushing 27, the washer being secured to the bushing by an axial conducting rivet 28. As the supporting disc 21 is shifted inwardly by means of the operating member 22, the upper end of the conducting rivet 28 contacts the central electrode 2a of the adjacent battery or cell, which completes the electric circuit, the socket 24 being connected through the tube to the enclosing case of the battery or cell.

The adjacent portions of the light transmitting head and the operating member form an annular depression into which the thumb and adjacent fingers of the hand may be placed. As the thumb and fingers tightly embrace the device at this portion, the operating member 22 is shifted axially, causing the circuit to be completed. This is done when a stocking is placed around the bulbous head and held tightly therearound, the hand holding the stocking in place causing the operating member to be axially shifted and the contact made, as stated.

The outer side of the head member is provided with a depression 11b, which may be referred to as a needle clearance recess over which the darning operation may be carried on. The stocking rests upon the edges of the recess providing a clearance for the needle point.

Though I have shown a particular construction, combination, and arrangement of parts and portions, I do not wish to be limited to the same, but desire to include in the scope of the invention, the construction, combination, and arrangement substantially as set forth in the appended claims.

I claim:

1. In a device of the class described, a support, a light-transmitting head thereon, an illuminating means within the head, an electrical circuit for the illuminating means a switch in the circuit for the illuminating means, said switch having an operating member slidable on the support at the rear of the head, means for normally biasing the operating member toward the light-transmitting head for opening the circuit, there being provided between the head and the operating member a substantially V-shaped annular depression to facilitate shifting of the latter from the head for operating the switch to close the circuit, when the head and operating member are embraced at the depression.

2. In a device of the class described, a grip, a light-transmitting bulbous head at one end of the grip, said head being of larger diameter than the grip, an illuminating means within the head, an electrical circuit for the illuminating means an annular switch member in the circuit extending around the grip immediately adjacent said head, and a spring normally forcing the annular switch member toward the head for normally opening the circuit, there being provided between the head and the annular switch member a substantially V-shaped annular depression for the reception of the thumb and adjacent fingers of the hand of the operator for forcing the switch member against the action of the spring for closing the circuit.

3. In a device of the class described, a tube adapted to contain a battery, a light-transmitting bulbous head at one end of the tube, said head being of larger diameter than said tube, and illuminating means extending into the head from the tube, an electrical circuit for the illuminating means an annular switch member in the circuit extending around the tube adjacent said head, a spring normally forcing the switch member toward the head for normally opening the circuit, there being provided between the head and the switch member a substantially V-shaped annular depression for the reception of the thumb and the adjacent fingers of the hand of the operator, the contraction of the thumb and fingers forcing the head and switch member apart and thereby forcing the switch member against the action of the spring and the illuminating means into contact with the battery.

4. In a device of the class described, a tube adapted to contain a battery, a hollow bulbous head at one end of the tube, a supporting base at the end of the tube adjacent the head, an electric bulb supported on the base and extending into the head, said tube having longitudinal slots extending backwardly from the head, said base having radiating arms extending through the slots, an operating member reciprocally mounted at the outside of the tube and secured to the arms, and a spring normally forcing the base toward the head, there being provided between the head and the operating member a substantially V-shaped annular depression for the reception of the thumb and adjacent fingers of the operator, the contraction of the thumb and fingers forcing the operating member from the head and the base into contact with the battery.

5. In an illuminable darning device, the combination with a cylindrical dry battery carrying casing having bayonet slots in its forward end, a spherical translucent head having projections seatable in said slots to lock the parts together, an electric bulb and electrode carrying member radially extending through slots in said parts and axially movable therein, an annular control element rising from the radial extensions of said member, means normally urging said member and element forward against said head, and means on said casing and the said element for arresting forward movement of the latter when the head is removed from the casing.

MARIE H. WORTH.