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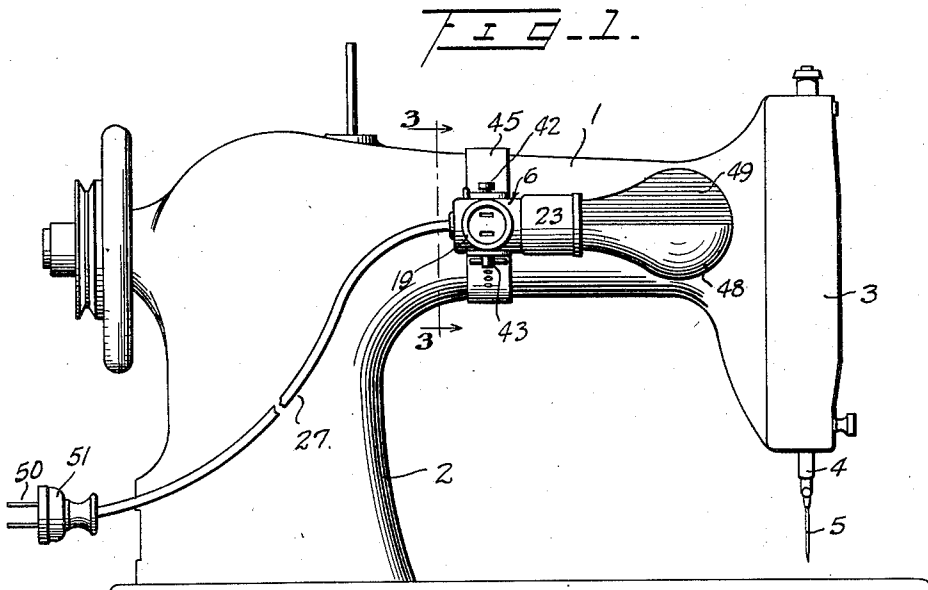
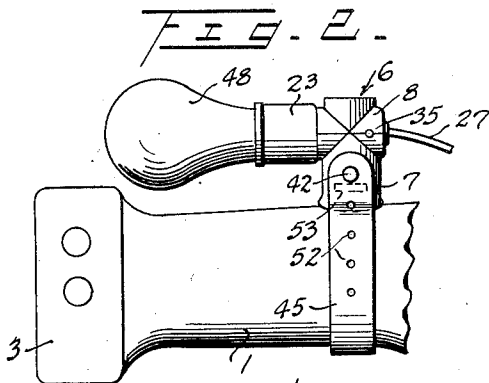
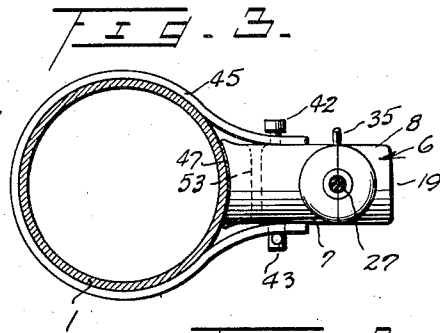
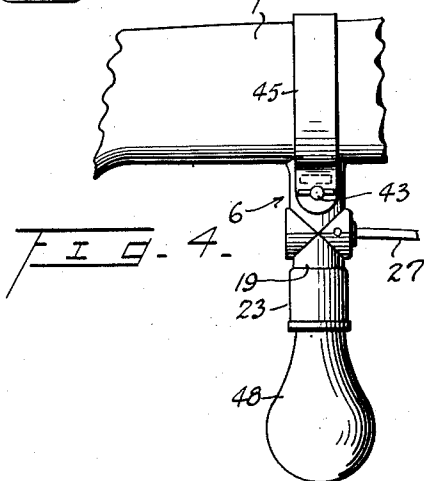
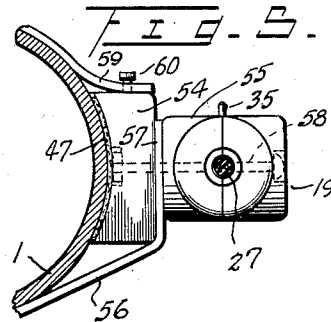
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2,447,833

ATTACHABLE LIGHT FOR SEWING MACHINES

Filed March 7, 1944

2 Sheets-Sheet 1



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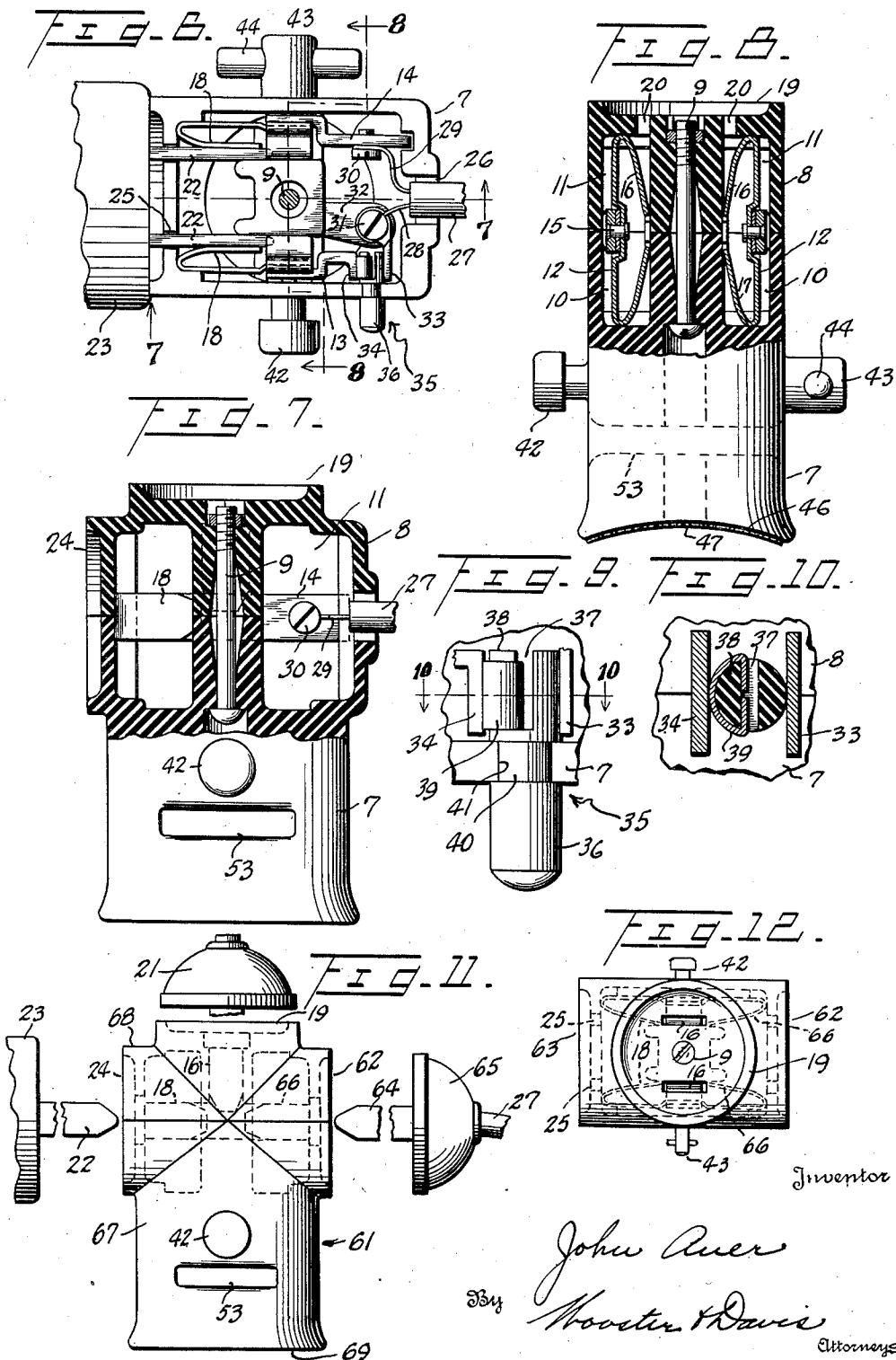
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ATTACHABLE LIGHT FOR SEWING MACHINES

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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ATTACHABLE LIGHT FOR SEWING MACHINES

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2 Claims. (Cl. 240—2.14)

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This invention relates to a lighting device or attachable light for various devices, particularly sewing machines, although it may be used for other devices such as small bench machines and the like or attached to different supports, and has for an object to provide a simple and effective structure which may be readily and quickly applied to and removed from such devices as a sewing machine arm in position to clearly and effectively illuminate the work during the sewing operation, and which may be applied to various types and makes of machines without requiring any changes in or reconstructing of the machines.

It is also an object to provide such a device which may be mounted at the rear of the L-shaped arm in position to throw the light directly to the point of stitching for most effective illumination, and will be so located as to be shaded from the eyes of the operator so as not to interfere with proper vision and also so as not to be annoying or cause discomfort.

Another object is to provide a construction in which the light may be mounted in different positions as desired, as for example at the rear of the sewing machine arm for directly illuminating the work during a sewing operation or at the front of the arm for illumination in threading needles, basting or other hand work.

With the foregoing and other objects in view I have devised the construction illustrated in the accompanying drawings forming a part of this specification. It is, however, to be understood the invention is not limited to the specific construction and arrangement shown but may embody various changes and modifications within the scope of the invention.

In these drawings:

Fig. 1 is a rear elevation of a sewing machine arm showing my device applied thereto;

Fig. 2 is a top plan view of the head end of this arm and the device;

Fig. 3 is a section substantially on line 3—3 of Fig. 1;

Fig. 4 is a top plan view similar to Fig. 3 showing the device at the front of the arm for use in illuminating work for various hand operations;

Fig. 5 is a partial section similar to Fig. 3 showing a modified arrangement;

Fig. 6 is a plan view of the device on an enlarged scale with the cap section removed;

Fig. 7 is a partial plan view and partial section, the section being on substantially line 7—7 of Fig. 6;

Fig. 8 is a partial side elevation and partial

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section, the section being on substantially line 8—8 of Fig. 6;

Fig. 9 is a top plan view of a switch which may be employed with the device;

Fig. 10 is a section on substantially the line 10—10 of Fig. 9;

Fig. 11 is a plan view showing a slight modification, and

Fig. 12 is an end view of the device of Fig. 11.

The device is shown in Figs. 1 to 5 as applied to the arm 1 of a sewing machine supported by the standard 2 and having a head 3 in which is mounted the reciprocating needle bar 4 carrying the needle 5 and the usual presser-foot bar (not shown). My improved lighting fixture or attachment comprises a body 6 of insulating material, such for example as molded plastic including a base portion 7 and a cap portion 8 secured together by any suitable means such for example as a central screw 9 mounted in suitable aligned openings in the base and cap portions. These portions have aligned compartments 10 and 11 in which are mounted spring contact members 12. These contacts may include metal conductor bars 13 and 14 to which the contacts 12 are connected by any suitable means such as the rivets 15. These contacts are preferably of strips of relatively thin flexible resilient metal and extend transversely of the bars 13 and 14 and are bent backwardly upon themselves to form yieldable contact fingers 16 and 17, and there is a similar third contact finger 18 at right angles to the fingers 16 and 17 in substantial alignment with the conductor bars 13 and 14. The outer end of the cap may have a circular boss 19 provided with entrance slots 20 for entrance of the contacts blades of an attachment plug cap 21 or the similar blades 22 of a lamp socket 23, these slots leading to the chambers 11 for these contact blades to engage the contacts 16. At one side of the body there may be a similar circular boss 24 having entrance slots 25 leading to these compartments in alignment with the contacts 18 for entrance of the blades 22 of the lamp socket 23 or blades of the attachment plug cap 21.

At the opposite side of the body is an opening 26 for entrance of a cable 27 carrying lead wires 28 and 29 one of which 29 is secured by a suitable screw 30 to the conductor bar 14 and the other 28 by a screw 31 on a supporting bar 32 and yieldable spring contact 33. The other conductor bar 13 has a laterally bent end portion 34 opposite to and spaced to one side of the contact 33 and mounted between the two is a control switch 35. The particular switch shown comprises a pin of

insulating material having a knob 36 and a forked inner end, the forked portion of which is separated by the slot 37. On one of the arms 38 of the fork is mounted a metal conductor or contact member 39. This may be a strip of copper or bronze wrapped around the forked portion 38 to secure it thereto. The pin of insulating material may have an annular groove forming a reduced neck portion 40 seated in aligned notches 41 in the side walls of the two sections 7 and 8 of the body member, these notches being in alignment so that when the cap is removed the switch may be seated in the notch in the base portion and then when the cap is applied it will be retained in the aligned notches. Turning of the exposed or hand portion 36 will carry the conductor piece 39 to or from bridging engagement with the spaced contacts 33 and 34 and thus open or close the circuit through the contact bars 13 and 14 and the lamp socket or other cap having its contact blades inserted into the device to engage the contacts 16 or 18.

The base portion 7 is provided on one side with a headed lug 42 and on the opposite side with a similar lug 43 which may also be headed or have a cross pin 44. By means of these lugs a flexible rubber or elastic band 45 may be used for attaching the device to the arm 1 of the sewing machine or other support with which it may be used. The end of the base portion 7 is concave as shown at 46 to correspond approximately with the curvature of the arm 1 and may be lined with a piece of cloth or other fabric 47 so as not to mar the finish of the arm. The lamp socket 23 may be plugged into the openings in the side boss 24 or the end boss 19 as desired. In the position shown in Figs. 1 and 2 it is in the side boss 24 so that the lamp 48 threaded into the socket will be substantially parallel to the arm 1 at the rear side thereof. The base portion 7 of the device is made of sufficient length to space the socket 23 outwardly the desired distance from the arm 1 so as to permit the use of a lamp 48 of any desired wattage for plenty of illumination of the work. It is also preferred that the upper half of the lamp be blacked as shown at 49 as by covering it with a baked black, enamel for example, so that the light will be directed down toward the work and there will be no glare in the operator's eyes. The leads in the cable 27 are connected to the contact blades 50 of any standard type of plug cap 51 to be plugged into any outlet receptacle in the house wiring system.

In Fig. 4 the attachment is shown on the front side of the arm 1 and the lamp socket 23 may be plugged into the side boss 24 as shown in Fig. 2, or it can be in the end boss 19 as shown in Fig. 4 so that the lamp is projected forwardly from the arm for illuminating hand work such as threading needles, basting, etc. The rubber or elastic band 45 effectively clamps the device against the arm 1 or other support and also holds it in any desired position. This band also permits the shifting of the device to any desired location on the arm or support and holds it effectively in adjusted position. To accommodate arms or supports of various sizes or diameters the band may be provided with a series of openings 52 any of which may be passed over the appropriate supporting lug 42 or 43. Elasticity of the band also allows for variations in the size of the support.

The body portion is also provided with an elongated slot 53 passing therethrough through which the band 45 or another strap of leather or fabric may be passed and secured around the arm 1 or

other support by an adjustable buckle on the strap.

A slight modification is shown in Fig. 5 in which instead of the base portion of the device being an integral structure, as shown in Figs. 1 to 4 and 6 to 8, it comprises a base or block 54 to which is secured the body portion 55 carrying the contact bars 13, 14 and switch 35 to which the cable 27 is connected and having similar outlet bosses 24 and 19 with inlet slots for cap blades leading to the contacts 16 and 18 the same as in the other form. The rubber or flexible band 56 corresponding to the band 45 has one end 57 extending between the members 54 and 55 and clamped therein by the screw 58 securing the members 54 and 55 together. Its opposite end 59 may have openings 52 therein to pass over a projection 60 to secure the device to the arm 1 the same as in Figs. 1 to 4.

In Figs. 11 and 12 is shown another modification in which instead of having the leads 28 and 29 of the connecting cables 27 leading through one side of the body and connected to the contacts in the device, the body 61 is provided with a boss 62 opposite the boss 24 having similar entrance slots 63 for the contact blades 64 of an attachment plug cap 65 connected to the leads of the cable 27 leading to the house outlet receptacle. Within the body 61 the contacts 18 have similar contacts 66 on the opposite side in alignment with the openings 63 to engage the blade 64. When the cap 65 is plugged into this device current is carried to the contacts 66 and 18 and contacts 16 so that when the lamp socket 23 is plugged into either of the other set of openings current will be applied to the lamp. Of course if a similar cap 21 is plugged into the other set of openings in this form or any of the other forms shown, current may be taken from the device for operating the motor of the sewing machine, another lamp or any other device desired. The device of Figs. 11 and 12 comprises the base portion 67 corresponding to the base portion 7 and a cap portion 68 secured thereto by a suitable screw (not shown) similar to the screw 9 of the first form, permitting removal of the cap for mounting the contacts 16, 18 and 66 in the device, similar to the mounting of the contacts in the first form of Figs. 6, 7 and 8, these contacts being all connected together or formed from a single piece of flexible strip metal of copper, bronze or other suitable conducting material. The switch 35 may be applied to this form the same as the others if desired. The base portion 67 is provided with mounting lugs 42 and 43 and the slot 53 the same as in the other forms, for use of a similar mounting strap 45 or a leather or fiber strap with a buckle, the same as described in connection with the other forms. The end 69 may be curved to fit the curvature of the arm 1 and be lined with fabric or other suitable material 47, the same as in the first form.

It will be seen from the above that the device is a very simple construction similar to the standard attachment devices and therefore may be used in a similar manner and its operation will be familiar to the operator. However, it has the additional improved construction for control and effectively mounting it on the sewing machine arm or other support in any desired position and retaining it thereon, it being necessary merely to place it against the arm and wrap the rubber or other flexible or resilient band about the arm and secure it to the lug 42 having been already secured to the opposite lug, or if

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a strap is used through the slot 53 it may be readily clamped and secured by the buckle on the strap, as will be readily understood.

Having thus set forth the nature of my invention, what I claim is:

1. A lighting device of the character described comprising a body of insulating material including a base member shaped at one end to substantially fit a side of a sewing machine arm and provided with chambers at its opposite end for receptacle contacts, receptacle contacts mounted in said chambers, a cap member having chambers aligned with the first chambers to enclose the contacts, said members being each provided with slots leading to said chambers in alignment with the contacts for entrance of the contact blades of an attachment plug cap and a lamp socket, means for connecting lead wires from a source of current supply with the contacts in the chambers, an attachment plug cap connected to said wires for plugging into an outlet receptacle in a house wiring system, and a flexible band detachably connected with the body at one end adapted to embrace the arm to secure the device thereto.

2. A lighting device of the character described comprising a body of insulating material including a base portion shaped at one end to substantially fit a side of a sewing machine arm, said body comprising separable sections providing enclosed compartments, receptacle contacts mounted in said compartments, said body being provided with entrance slots for attachment plug

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and lamp socket blades leading to said contacts, spaced switch contacts, a rotatable insulating plug provided with an annular groove, aligned notches in the separable sections in which said

- 5 groove is seated to mount said plug, a conductor member mounted on the plug between the switch contacts and movable by turning movements of the plug to and from bridging relation with the switch contacts to close and open the circuit, 10 means for supplying electric current to the receptacle contacts comprising lead wires and an attachment plug cap connected to said wires for plugging into an outlet receptacle of a house wiring system, and a flexible band detachably 15 connected with the body at one end and adapted to embrace the arm to mount the device thereon.

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