Dec. 2, 1930. L. C. PACKER 1,783,544

SEWING MACHINE LIGHTING UNIT

Filed March 12, 1929

Fig. 1.

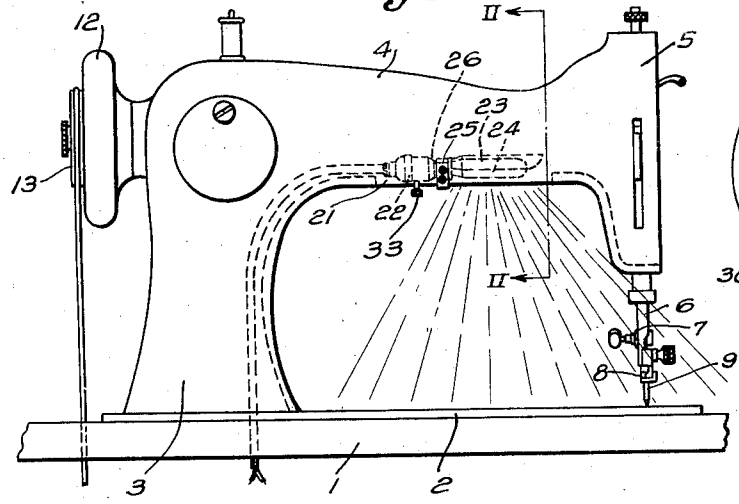


Fig. 2.

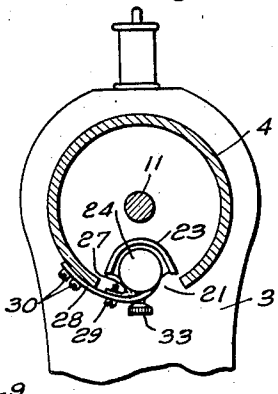


Fig. 3.

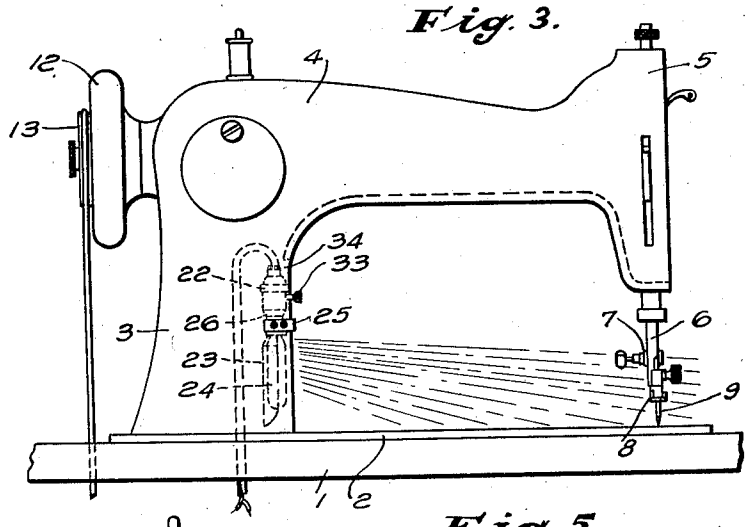


Fig. 4.

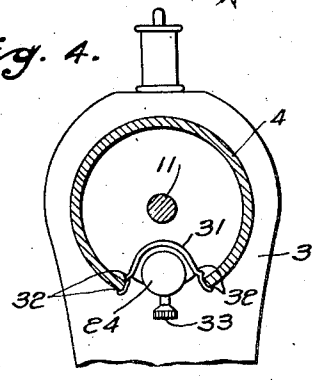
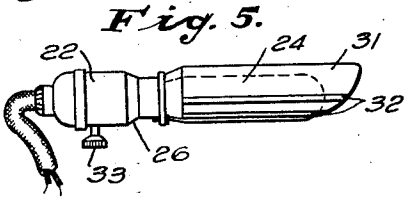


Fig. 5.



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Patented Dec. 2, 1930 1,783,544

UNITED STATES PATENT OFFICE

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SEWING-MACHINE LIGHTING UNIT

Application filed March 12, 1929. Serial No. 346,470.

My invention relates to lighting units and has particular relation to lighting attachments for sewing machines.

An object of my invention is to provide a lighting attachment which shall be simple in construction, inexpensive to manufacture and of maximum utility.

Another object of my invention is to provide a lighting attachment suitable for drop head or portable machines which shall occupy a minimum amount of space, and be inconspicuous and out of the way of the operator.

Another object of my invention is to provide a lighting attachment which, when in working position on a sewing machine, will not interfere with, and need not be shifted or manipulated by the operator to permit, the dropping of the sewing-machine head within the cavity of the usual drop-head stand or with the placing of the cover of a portable carrying case over the sewing head.

Another object of my invention is to provide a lighting attachment which may be securely fastened to the machine, which will not vibrate while the machine is running and in which the wiring is hidden from view and protected from mechanical injury.

A still further object of my invention is to provide a lighting attachment from which the light will be directed upon the work, and will not strike the eyes of the observer, either directly or by reflection from the surface of the work or the table. This result is secured without casting objectionable shadows of machine parts on the work.

In practicing my invention, I provide a suitable recess in the goose neck of the sewing machine, either within its horizontal or its vertical portion. The lighting unit is secured by clamps in such manner that it may be readily removed.

In the accompanying drawing;

Figure 1 is a side elevational view of a sewing machine provided with a lighting attachment which is indicated by broken lines.

Fig. 2 is a sectional view taken along the line II—II of Fig. 1.

Fig. 3 is a side elevational view of a sewing machine showing a modification in which the lighting attachment is mounted within the vertical standard,

Fig. 4 is a sectional view of the sewing machine shown in Fig. 1, taken on the line II—II and showing another modification of my lighting attachment, and

Fig. 5 is a view, in side elevation, of the lighting unit shown in Fig. 4.

In the accompanying drawings showing various embodiments of my invention, a sewing-machine head of usual construction is illustrated as mounted upon a base 1, which may be of either the portable or the drop-head type. The sewing-machine frame includes a flat bed 2 from which rises a hollow bracket arm or goose neck including a standard 3, a horizontal member 4 and a sewing head 5 in which are slidably mounted the usual presser bar 6 and reciprocating needle bar 7 carrying, respectively, a presser foot 8 and a needle 9. The needle 9 cooperates with the usual feed dog, to feed the work and with the loop taker which is mounted below the bed 1 to form stitches (neither of these parts being shown).

The mechanism in the sewing-machine head is driven by means of the drive shaft 11 which may be rotated either by means of a hand wheel 12 or by a pulley 13, in the usual manner. Machines of this type are usually driven by a suitable motor which has been omitted from the illustration since it forms no part of the present invention except as the utilization of a motor provides a suitable source of electrical energy for operating a lighting unit, and the connections for the lighting unit may be so arranged as to take advantage of the location of the driving motor. The sewing machine may, of course, be supported and driven in any desired manner as, for instance, by motors or by means of the usual foot-pedal devices known to the art.

In the embodiment of my invention illustrated in Fig. 1, an opening 21 is provided in the horizontal portion of the under side of the goose neck to receive a lighting unit comprising a socket 22, a shade 23 of the usual semi-cylindrical construction and a lamp 24. The lamp 24 may be of any suit-

able shape but, preferably, is of the tubular type shown, since it occupies a minimum amount of space in a vertical direction, thereby allowing sufficient clearance between the lighting unit and the shaft 11 of the machine.

The lighting unit may be held in place by means of a clip or clamp 25 which encircles the narrow part 26 of the socket. The free ends of the clip are arranged to overlap each other so that the shorter portion 27 of the clip may be secured to the longer portion 28 by means of a screw 29, whereby the clip may be securely clamped to the socket. When disposed in the goose neck, the lighting unit and screw 29 are disposed in such manner that the screw 29 may be loosened and the reflector rotated to any desired position. The longer portion 28 of the clip is bent to conform to the outside surface of the goose neck and is drilled in order that it may be secured to the goose neck by means of screws 30.

In a modification of my device, shown in Fig. 4, the semi-cylindrical or U-shaped reflector 31 is made of resilient material and is provided with raised portions 32, such that, when the reflector and the lamp are inserted in the recess of the goose neck, the raised edge portions of the reflector yieldingly engage the edges of the opening to hold the lighting unit securely in place. The unit may be readily inserted and withdrawn and may be tilted from side to side according to whether it is or is not fully inserted. In all the embodiments shown, the push button or switch 33 of the socket is so positioned that the switch may be readily operated from outside the machine.

In the embodiment of my invention shown in Fig. 3, a recess 34 is provided in the vertical portion or standard 3 of the goose neck by removing a portion of the wall thereof, and the lighting unit is disposed within the recess. The unit may be disposed with the socket above or below the lamp and may be secured in place by means of the clip or special reflector hereinbefore shown and described or in any other suitable manner.

The clamp or special reflector is arranged to grip the lamp fixture at a position substantially midway of its length, thereby avoiding objectionable vibration of the lamp. Since the lighting attachment is disposed within the goose neck, it is out of the way of the operator and does not interfere with the manipulation of the work or the machine. The lighting attachments of the prior art have detracted from the appearance of the sewing machine unit because of the clamps and fixtures utilized in fastening the lighting unit and the cord to the machine, as well as the appearance of the lighting unit itself. My invention obviates these objections by locating the lighting unit and wiring inside the goose neck.

Hitherto, the problem of wiring the fixture has offered difficulty since the lamp cord must usually be disposed on the outside of the goose neck and must be passed through the base by providing openings therein. In my device, the lighting unit and cord are hidden from view and the cord may readily be connected to a supply circuit introduced beneath the machine. The light is directed across the work or downward on the work without direct glare into the eyes of the operator and without reflecting light from the work or the polished surfaces of the machine. Advantage is taken of the bracket arm as a shade to effectively shield the eyes of the operator from the glare of the lamp while permitting the use of a lamp reflector that is not so deep or so fully enveloping as to cause overheating or to prevent a generous distribution of the light over the work. The disposition of the lamp avoids the casting of objectionable shadows upon the work by machine parts carried by, or forming a part of, the goose neck or sewing head.

Further, the device is permanently located within the goose neck itself, whereby the device does not interfere with, or need not be shifted to permit, the dropping of the head within the cavity of the usual drop-head cabinet or with the placing of a cover or a carrying case over the head.

Although I have described certain embodiments of my invention, it is to be understood that changes may be made without departing from the spirit and scope of my invention, as set forth in the appended claims.

I claim as my invention:

1. The combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of a lighting unit located entirely within the said opening.

2. In combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of a lighting unit located in said opening and means for supporting said lighting unit from the outside of the goose neck.

3. In combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of a lighting unit comprising a lamp socket, a lamp and a reflector, located wholly within said opening, and means for supporting the lighting unit in the opening, said means permitting rotatable adjustment of the reflector.

4. In combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of a lighting unit located wholly within said opening, and means for supporting the lighting unit therein.

5. In combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of a lighting unit comprising a lamp socket, a lamp and a re-

flector, located in said opening, and means for supporting the lighting unit in the opening, said supporting means being adjustable from the exterior of the goose neck to permit rotatable adjustment of the reflector.

6. In combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of an incandescent lamp in said opening, and a reflector for said lamp, the edge portions thereof yieldingly engaging the edges of the wall opening to hold the lamp therein.

7. In combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of a lighting unit comprising a lamp, a socket therefor and a reflector located in said opening and adjustably held therein by the reflector.

8. In combination with a hollow sewing-machine goose neck having an opening in the inner wall thereof, of a lighting unit comprising a lamp, a socket therefor and a reflector located in said opening and adjustably held therein by operative engagement of edge portions of the reflector with the edges of the wall at the opening.

In testimony whereof, I have hereunto subscribed my name this seventh day of March, 1929.

LEWIS C. PACKER.