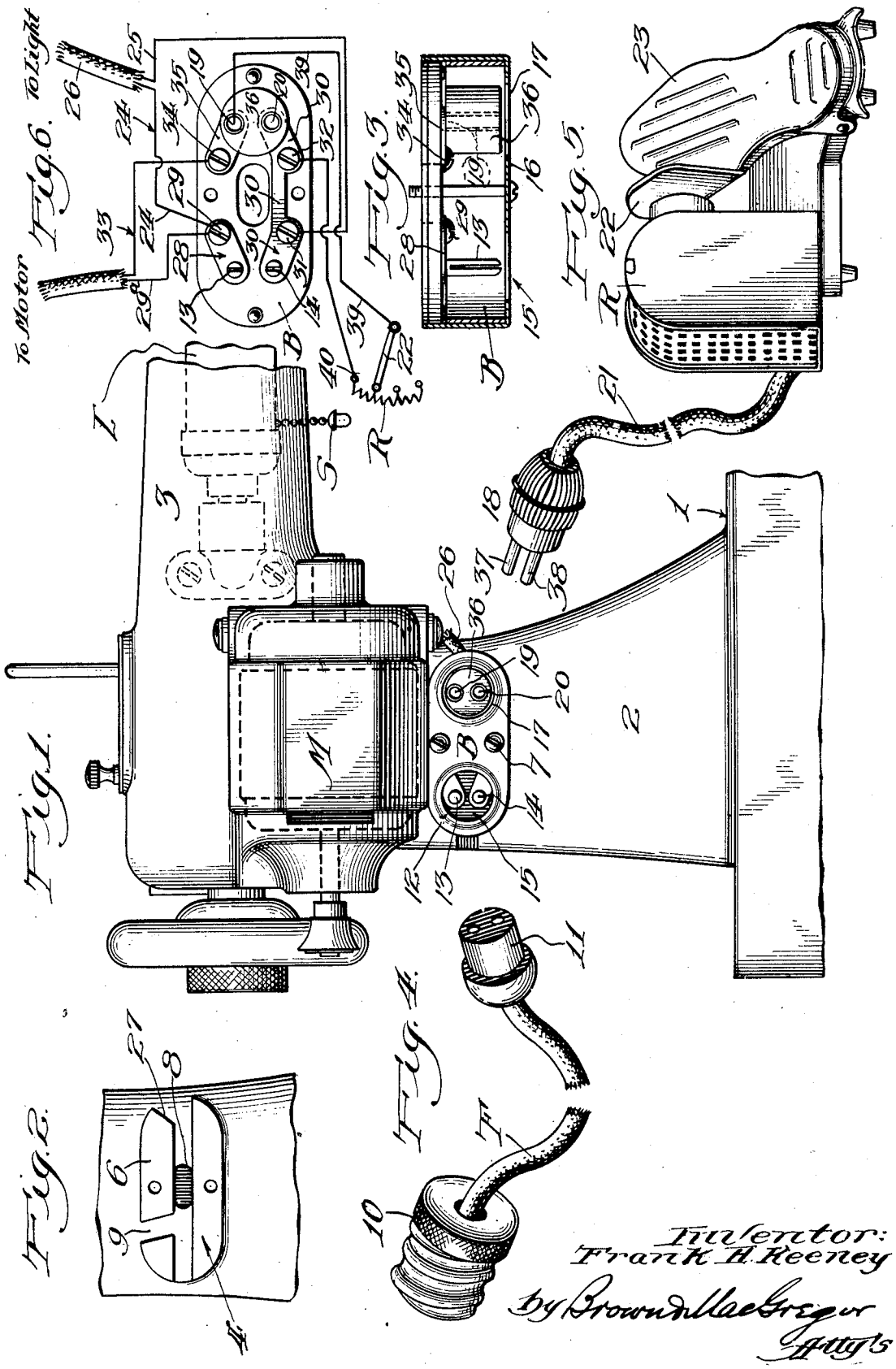
May 7, 1929. F. H. KEENEY 1,711,792

ELECTRICALLY DRIVEN AND LIGHTED SEWING MACHINE

Filed Jan. 21, 1927



Patented May 7, 1929. 1,711,792

UNITED STATES PATENT OFFICE.

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ELECTRICALLY DRIVEN AND LIGHTED SEWING MACHINE.

Application filed January 21, 1927. Serial No. 162,470.

This invention relates to electrically driven and lighted sewing machines.

In some machines of this type, the motor and lighting devices are connected to the source of electrical supply by separate feed wires, and in some instances these devices are connected in multiple. These feed wires are usually in the way of the operator, especially when the machine is being moved from place to place, or when the machine frame is being put into or taken out of a drop-head cabinet.

It is also objectionable to have a junction block for the electrical wiring to the motor and to the lighting device located adjacent to the supply socket or connection in the room. In such an arrangement, the junction block lies on the floor and is liable to become injured. When the feed wire or wires are left connected to the machine, but detached at the other end from the source of supply, it is generally inconvenient for the operator to arrange the wires and the junction block about the machine head, so as to permit of the dropping of the latter into the drop-head cabinet.

The principal object of the present invention is to produce a construction which will obviate these and other objections; which will present a neat and compact appearance and which will enable the necessary connection and disconnection to be made by the operator with accuracy and speed and without danger of injury to the junction block or other parts of the construction.

To this end, the invention consists in the structural arrangement and combinations of the several parts illustrated, described, and pointed out in the claims hereto appended.

In the drawings:

Figure 1 is a side elevation of a portion of the back of a sewing machine frame to which the invention has been applied.

Figure 2 is a side elevation of a portion of the back of the standard to which the junction block is secured.

Figure 3 is an edge view of the junction block, its casing being in section.

Figure 4 is a detached view in perspective of the feed or supply cable.

Figure 5 is a view in perspective of a rheostat and foot operative parts connected therewith.

Figure 6 is a diagrammatic view showing the electrical circuit used.

The frame of the sewing machine illustrated comprises a base plate 1, a hollow standard 2, standing upright on the base, and a horizontally disposed, forwardly directed hollow arm 3, integrally connected with the standard. The usual operating mechanisms of a sewing machine are located within the standard and arm, and form no part, per se, of the present invention. The machine is provided with a driving motor designated as a whole at M, and with an electrical lighting device indicated, as a whole, at L,—the lighting device being located, preferably, upon the front of the arm 3.

Upon its rear surface, the standard 2 is provided with a bearing block, comprising outwardly extending bosses 4, 5 and 6, upon the outer vertical bearing surfaces of which a junction block B is secured by means of screws 7 or any other suitable means. The adjacent margins of these bosses are separated by a space indicated at 8, and the blocks 5 and 6 are similarly spaced apart as indicated at 9, whereby convenient room is obtained for wires leading from the block B to the motor M and to the lighting device L. This arrangement provides for compactness in structure and for neatness of appearance.

F designates the feed line cable provided on one end with a convenient type of screw plug 10 for attachment to any suitable source of electric current. At the other end the cable has a plug 11 adapted for attachment to the socket 12 in the block B. To make electric contact with the two contact posts 13 and 14, in the said socket, the bored plug 11 is entered through the opening 15 in the block case 16. The block casing 16 has an opening 17 through which a plug 18 may be entered and be put into electrical connection with the junction block B by means of the terminals 19 and 20 of the block B. The plug 18 is upon the end of the cable 21 which is appropriately wired to any standard type of rheostat R having a movable switch and a plurality of contact points whereby the electric circuit may be quickly closed or broken and the speed of the motor regulated. By reference to Figure 5, it will be seen that the movable switch of the rheostat is controlled from the plate 22 on the hinged treadle or foot piece 23, and its operation will be understood without further illustration or description.

Referring to the circuit diagram, Figure 6, it will be seen that the contact points 13

and 14 are directly connected by wires 24 and 25, respectively, to the lighting device L, so that the instant the cable F joins the source of electric supply with the block B, through the connection of the plug 11 with the contact points 13 and 14, the light circuit will be complete. It will be necessary for the operator only to manipulate the chain switch S to turn the light off or on as desired, and this without regard to whether or not the motor may be running. It will be understood also that the wires 24 and 25 are usually encased in a cover 26 and are laid in the space 8 of the bearing block. The cable 26 is then brought around the end 27 of the boss 6, across the inside of the standard 2, and snugly against it, and then directly up to the lighting device. This makes a neat and very compact construction.

The contact post 13 on the conductor plate 28 has a binding post 29 to which a motor wire 29ª is attached. The light wire 24 is bound to this same post 29. The other contact post 14 on the conductor plate 30 has two binding posts 31 and 32. The other light wire, 25, is attached to the post 31. The other motor wire, 33, is attached to the binding post 34 on the conductor plate 35, the latter extending below the insulating stud 36. One end of the conductor plate 30 also extends below the stud 36. The stud 36 is provided with two bores or sockets to receive contact pins 37 and 38 on plug 18, the ends of which pins are thereby adapted to rest upon the plates 35 and 30, respectively, to make electrical contact at 19 and 20, respectively.

The contact pins 37 and 38 are connected by wires 39 and 40 in the cable 21 with the control-switch plate 22 and the rheostat R, the pin 37 contacting with plate 35 at 19, and pin 38 with plate 30 at 20. The circuit is normally open because contacts 19 and 20 are separated, and rheostat switch also open. But when the plugs 11 and 18 are inserted in the block B, and contacts made at 19 and 20, all the operator has to do to start the motor M is to depress the treadle 23 which closes the rheostat circuit and establishes an operative circuit through the motor.

It will be understood that the circuit to the lighting device L will be controlled by the switch operating chain S and the circuit to the motor by the switch operating treadle member 22, and that both may be open or closed at the same time, or one open when the other is closed.

An advantage in having the junction block B permanently attached to the machine frame is that it obviates the necessity of having a junction block attached to the supply cable F, and in the event of damage to the cable F, the cost of repairs will be much less than would be the case if the junction block were attached to the cable.

Another advantage is that when lowering the machine frame into the drop-head cabinet, or covering the machine frame with a portable cover, the cable F as well as the foot treadle and cable 21 may be separately disposed of without the necessity of wrapping them about the machine frame, or of handling the junction block.

Another advantage resulting from my improved construction lies in the fact that the shortest motor and light wires are used on the machine. This lessens the possibility of injury to the wires by reason of coming in contact with the machine parts, as is likely when the motor and light wires are led downwardly through the hollow standard to a point below the bed plate.

I claim as my invention:

1. In a sewing machine having the conventional gooseneck frame, operating mechanism, an electric motor and an electric lighting device, connected with the gooseneck, a junction block rigidly secured to the gooseneck and wired for electrical connection with both the motor and the lighting device, a rheostat, removable means for connecting said rheostat with the junction block, and removable means for supplying electric current to said block, said removable means being dissimilar, whereby they are not interchangeable.

2. In a sewing machine having the conventional gooseneck frame, operating mechanism, an electric motor and an electric lighting device, connected with the gooseneck, a junction block rigidly secured to the gooseneck and wired for electrical connection with both the motor and the lighting device, and two dissimilar pairs of contact members on said junction block adapted to cooperate with corresponding pairs of removable contact members, whereby they are not interchangeable.

In testimony, that I claim the foregoing as my invention I affix my signature this 14th day of January, 1927.

FRANK H. KEENEY.