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3,327,662

SEWING MACHINE FOOT SWITCH MOUNTING BRACKETS

Filed Oct. 6, 1964

2 Sheets-Sheet 1

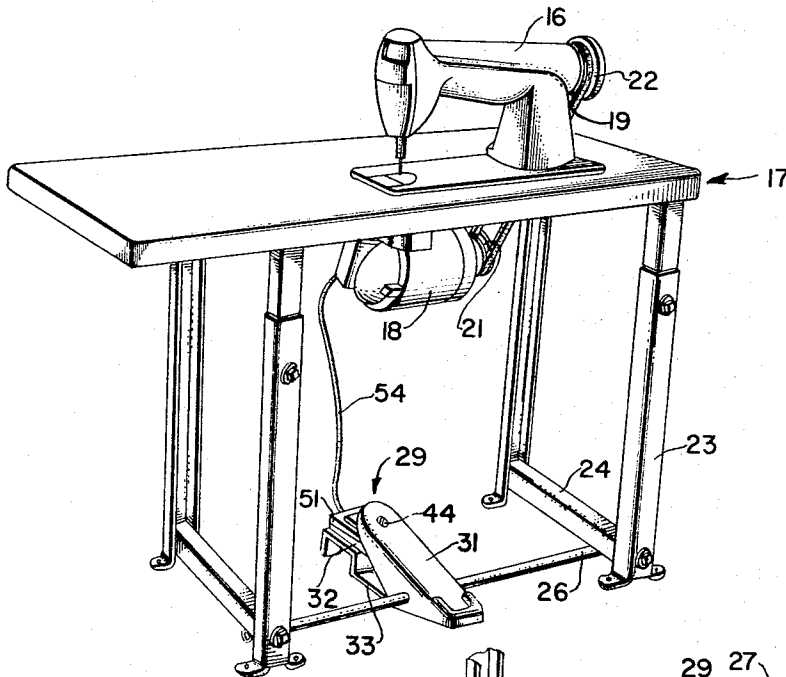


Fig. 1

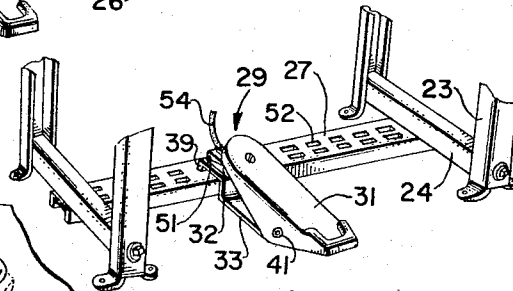


Fig. 1A.

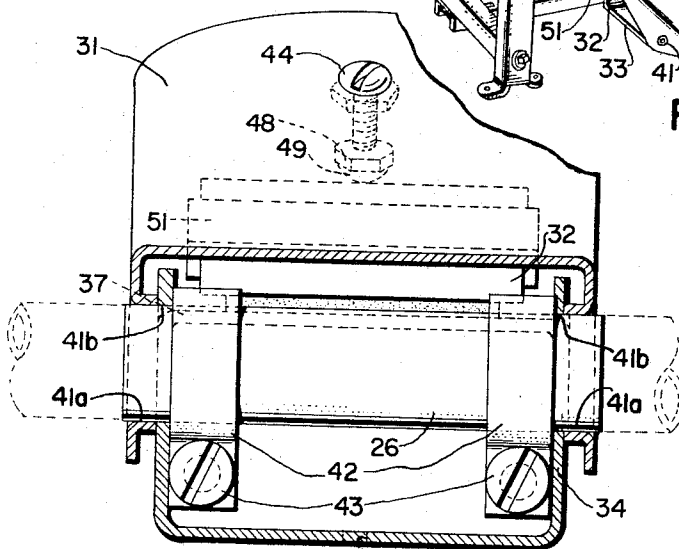


Fig. 3

WITNESS

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2 Sheets-Sheet 2

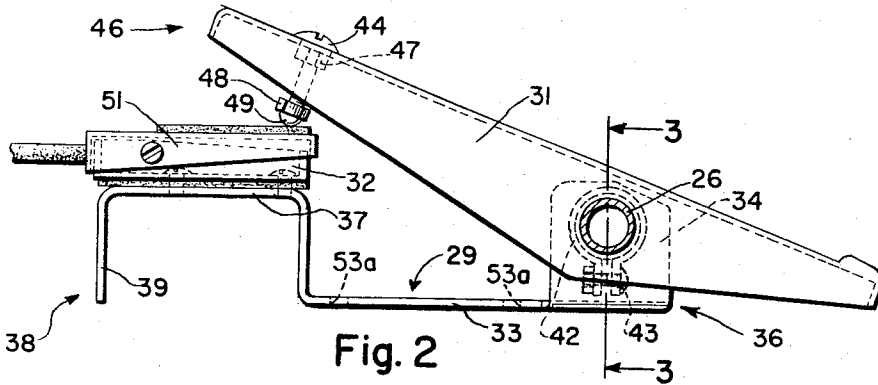


Fig. 2

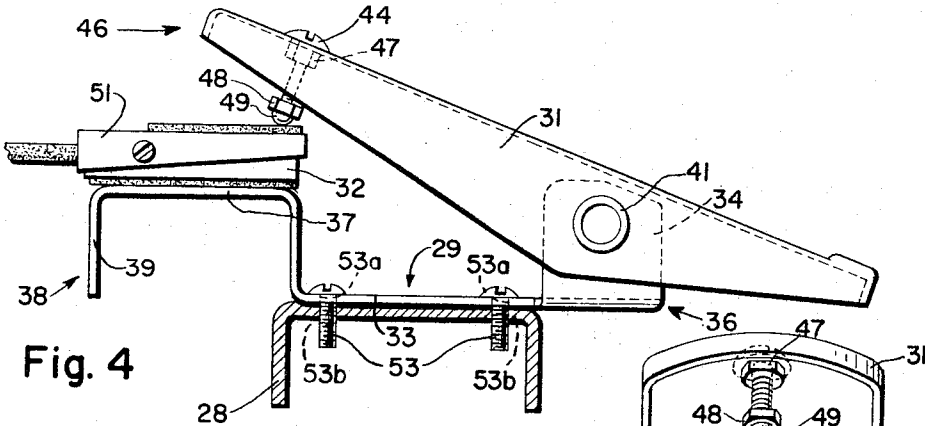


Fig. 4

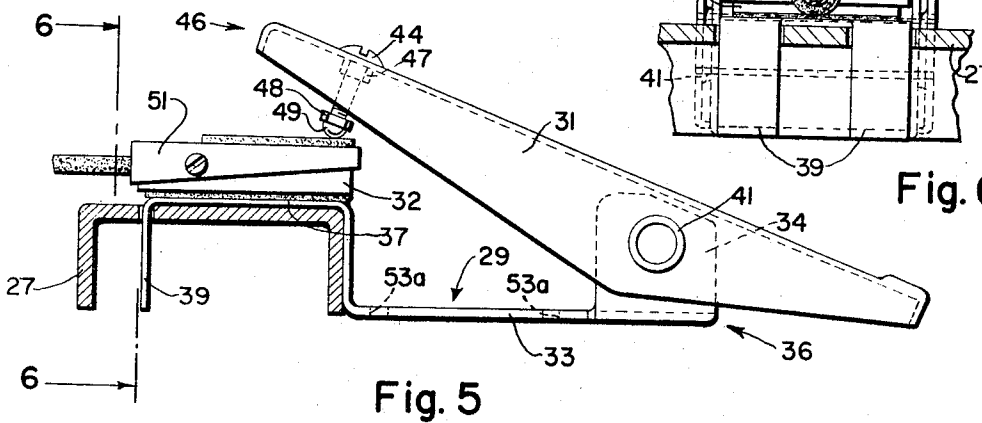


Fig. 5

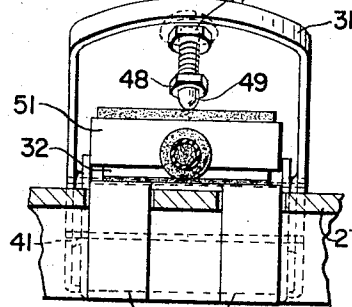


Fig. 6

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3,327,662
SEWING MACHINE FOOT SWITCH MOUNTING
BRACKETS

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1 Claim. (Cl. 112—217.3)

This invention relates to sewing machines and more particularly to a sewing machine foot switch mounting bracket capable of attachment to a sewing machine power table under a wide variety of conditions.

Because of the many different types of sewing machine power tables that are presently in use, many different means have been devised to mount switches to control sewing machines which are mounted on the power tables. One of the most desirable ways in which to mount a switch is to mount it so that it can be operated by means other than by the operator's hands such as by foot in order to leave the hands of the operator free to perform other important tasks such as manipulating the work material before and during sewing. At present, there are no standardized mounting means available to mount a foot switch to enable it to be used with a wide variety of power tables. This means that the owner of a large factory having many different kinds of machines and power tables must keep a selection of foot switch mounting means available at all times if he is to avoid costly idle time caused by a machine becoming inoperative through loss or breakage of a switch mount. In addition, because of the present lack of uniformity, a manufacturer of sewing machine parts cannot take full advantage of the cost savings to be derived from the mass production of standardized parts.

It is therefore, an object of this invention to provide a sewing machine foot switch mounting means capable of attachment to a sewing machine power table under a wide variety of conditions.

Another object of the invention is to provide a sewing machine foot switch mounting means in accordance with the foregoing object in which the mounting means is simple and inexpensive to manufacture.

In meeting the requirements of a sewing machine foot switch mounting means of the foregoing character, and it being understood that one kind of supporting structure for a sewing machine has a treadle support located at the bottom, a foot switch mounting bracket is provided which can, in the alternative, be connected to (1) a flat-topped treadle support, (2) a round treadle support, or (3) a treadle support having a hole formed in the top. The mounting bracket has a flat base adaptable for mounting the bracket on a flat-topped treadle support by securing the bottom of the base to the top of the treadle support. An upstanding lug is provided at the front portion of the bracket on each side thereof, and a raised platform having a member depending therefrom is provided at the rear portion of the bracket. The depending member makes the bracket adaptable for connection to a treadle support having a hole formed in the top by inserting the depending member into the hole formed in the treadle support. A switch is mounted on the raised platform and a foot pedal is pivotally mounted on the upstanding lugs to coact with the switch. The pivotal mounting of the foot pedal is adaptable for mounting the mounting bracket on a round treadle support by passing the round treadle support through the pivotal mounting. From the foregoing discussion, it becomes readily apparent that the structure of the foot switch mounting bracket makes it readily adaptable for construction out

of sheet metal; the upstanding lugs, the raised platform and the depending member being formed by simply bending the metal.

With the foregoing and other objects in view, as will hereinafter appear, the invention comprises the devices, combinations and arrangements of parts described in connection with the accompanying drawings which form a part of this disclosure and in which:

FIG. 1 is a perspective view of a sewing machine mounted on a power table with a foot switch mounting bracket mounted on a tubular treadle support;

FIG. 1A is a fragmentary perspective view of the foot switch mounting bracket of FIG. 1 connected to a treadle support having slotted holes formed in the top;

FIG. 2 is a side elevational view of the foot switch mounting bracket mounted on a tubular treadle support;

FIG. 3 is a cross sectional view taken substantially along the line 3—3 of FIG. 2;

FIG. 4 is a side elevational view of the foot switch mounting bracket mounted on a flat-topped treadle support;

FIG. 5 is a side elevational view of the foot switch mounting bracket connected to the treadle support which has slotted holes formed in the top;

FIG. 6 is a cross sectional view taken substantially along the line 6—6 of FIG. 5.

Referring more specifically to the drawings, the invention is illustrated in conjunction with a sewing machine 16 which is on the top of a support structure or power table 17. A transmitter 18 is slung underneath the top of the power table. The transmitter drives the sewing machine through a V-belt 19 which frictionally engages pulleys 21 and 22 which are mounted on shafts (not shown) journaled in the transmitter and in the sewing machine respectively. The power table is supported by four legs 23 which are laterally braced by two horizontal braces 24—24. A horizontal cross member or treadle support 26, 27 or 28 spans the distance between the braces 24—24 and comprises the variable which gave rise to the present invention.

A foot switch mounting bracket 29 is provided to mount a foot pedal 31 and a foot switch 32. Both the foot pedal and the foot switch may be of conventional design. The foot switch mounting bracket includes a flat-bottom base portion or base 33 having upstanding lugs 34—34 located one on each side of the front portion 36 of the mounting bracket. A raised platform 37 is formed at the rear portion 38 of the mounting bracket raised above the level of the top surface of the base 33, and a bifurcated depending member 39 depends from the raised platform 37. From the foregoing, it is readily apparent that the foot switch mounting bracket can be easily formed out of sheet metal by simply bending the metal to form the upstanding lugs 34—34, the raised platform 37 and the depending member 39.

The foot switch 32 is mounted on the raised platform 37 of the foot switch mounting bracket 29 by means of screws (not shown) while the foot pedal 31 is mounted on the upstanding lugs 34—34 by means of a cylindrical stud 41. The cylindrical stud extends through pivot means or horizontal holes 41a—41a formed in the foot pedal, horizontal holes 41b—41b formed in the upstanding lugs 34—34, and is laterally held in place by a pair of clamping members 42—42 which are clamped on the stud by means of nuts and bolts 43—43. Coaction between the foot pedal switch is induced by switch contacting means in the form of a bolt 44 at the rear portion 46 of the foot pedal.

The bolt 44 is locked on the foot pedal by a nut 47 and the end of the bolt is capped by a nut 48 having a spherical head 49. The pressure of the spherical head 49

of the nut 48 bearing against the pedal 51 of the foot switch actuates a microswitch (not shown) inside the foot switch upon depression of the foot pedal.

In operation, the foot switch mounting bracket 29 is adaptable for connection to (1) a treadle support having a round cross section, (2) a treadle support having a hole formed in the top, or (3) a treadle support having a flat-top.

The foot switch mounting bracket can be mounted on a tubular treadle support 26 by removing the cylindrical stud 41 and substituting the tubular treadle support therefor by passing the tubular treadle support through the pivotal mounting of the foot pedal 31. The clamping members 42—42 can then be used to fix the mounting bracket laterally on the treadle support.

The foot switch mounting bracket can be connected to a treadle support 27 having spaced slotted holes 52 formed in the top by simply inserting the bifurcated depending member 39 at the rear portion 38 of the mounting bracket into two of the spaced slotted holes 52. The breadth of the depending member 39 and the spacing of the two slotted holes maintain the mounting bracket perpendicular to the treadle support.

Finally, the foot switch mounting bracket can be mounted on top of a flat-topped treadle support 28 by securing the bottom of the base 33 of the mounting bracket to the top of the treadle support by means of screws 53—53 which extend through clearance holes 53a—53a formed in the base and thread into tapped holes 53b—53b formed in the top of the treadle support.

With the foot switch mounting bracket 29 in place and connected to a treadle support 26, 27 or 28 and the foot switch 32 connected to the transmitter 18 of the sewing machine 16 by means of an electric cord 54, the sewing machine can then be controlled by foot. Pivotal movement of the foot pedal 31 as the operator "toes" the pedal causes the bolt 44 at the rear portion 46 of the foot pedal to descend and depress the pedal 51 of the foot switch 32 as shown in FIG. 2. Depression of the pedal 51 actuates the microswitch (not shown) inside the foot switch.

Although the invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention.

Having thus set forth the nature of this invention, what is claimed herein is:

A universal switch and foot-pedal mounting bracket for a sewing apparatus including a sewing machine; means for mounting the sewing machine; means for supporting the means for mounting the sewing machine at table height; a horizontal cross member located at the foot of the sewing apparatus having any one of a variety of shapes including a flat top, a circular cross section and a recess formed in the top; a foot pedal; pivot means on the foot pedal; switch contacting means on the foot pedal; and a switch contacting the switch contacting means on the foot pedal and connected to the sewing apparatus; said switch and foot-pedal mounting bracket being especially adapted for mounting on any selected one of the cross members and being an improvement comprising a flat-bottomed base portion; upstanding means at one end of the base portion having a horizontal hole formed therein; a removable stud mounted in the hole formed in the upstanding means providing a pivotal support for the foot pedal through the pivot means on the foot pedal; a raised platform at the other end of the base portion raised above the level of the top surface of the base portion for mounting the switch for actuation by the foot pedal; and means depending from the raised platform; the under surface of the flat-bottomed base portion adapted to mount the mounting bracket on a flat-topped cross member, the horizontal hole formed in the upstanding means adapted to mount the mounting bracket on a cross member having a circular cross section by replacing the stud with the cross member to provide the pivotal support for the foot pedal, and the depending means adapted to connect the mounting means to a cross member having a recess formed in the top by inserting the depending means into the recess.

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