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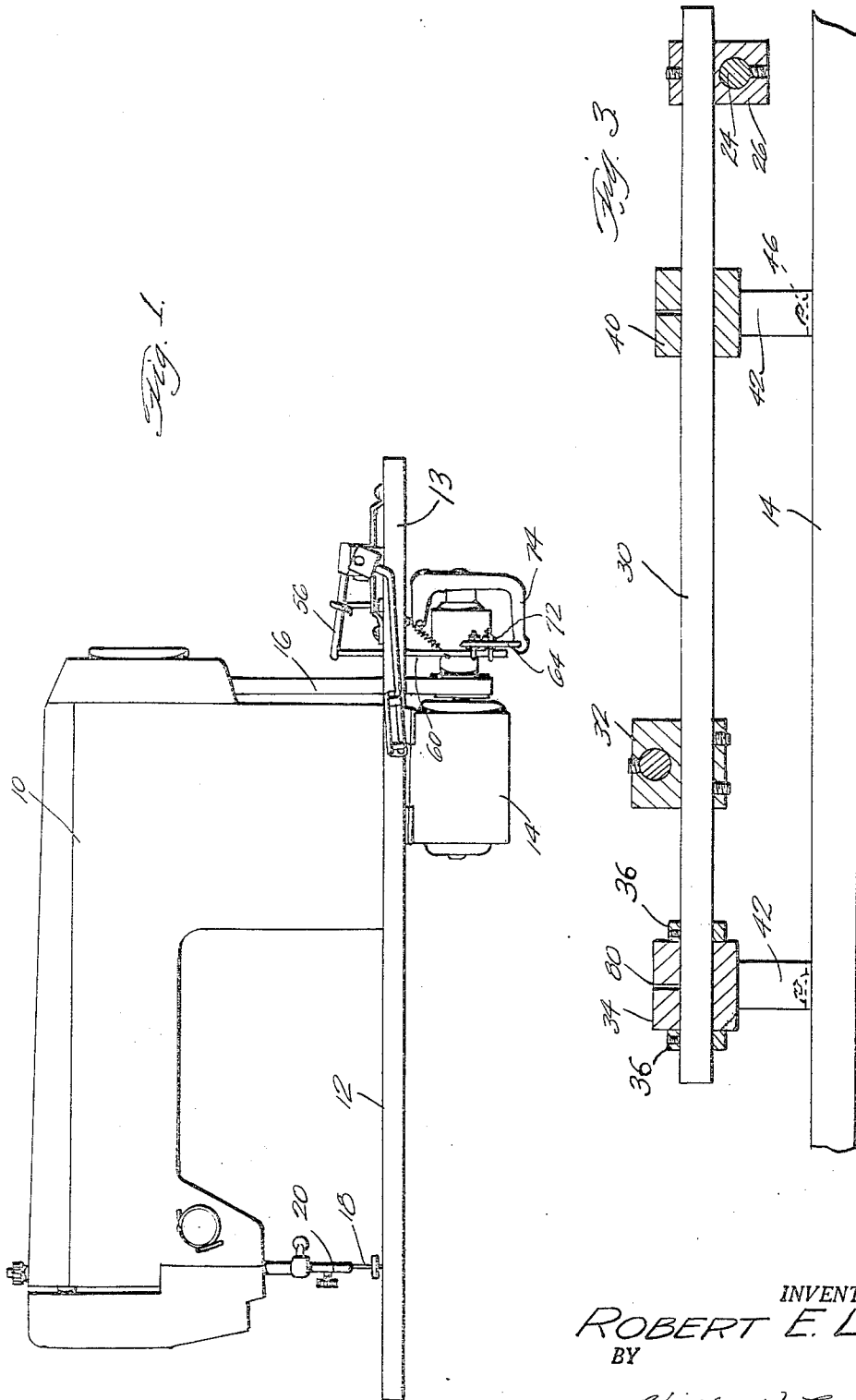
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ARM CONTROL-MECHANISM FOR COMMERCIAL-TYPE SEWING MACHINES

Filed Dec. 21, 1967

2 Sheets-Sheet 1



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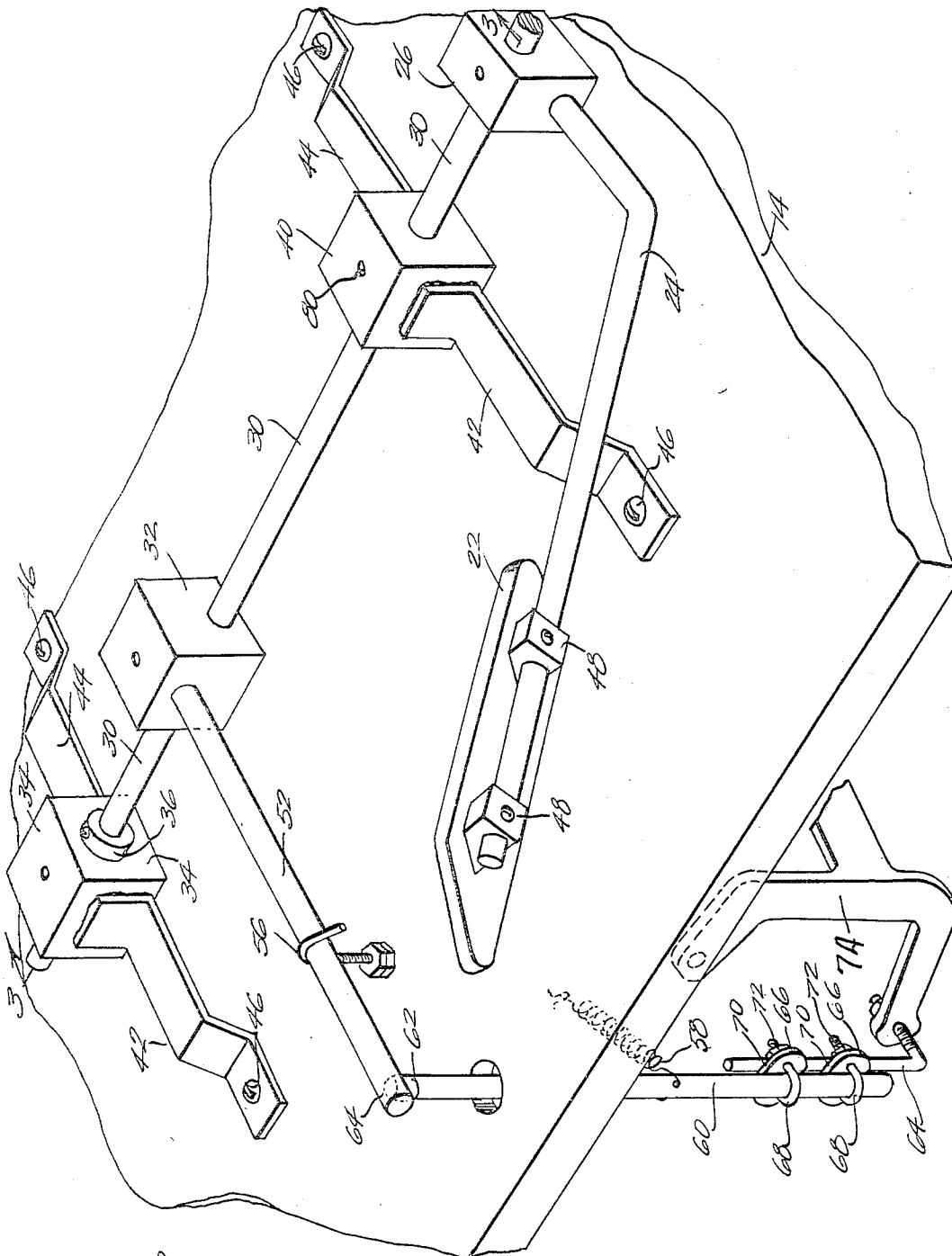
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3,479,901 ARM CONTROL-MECHANISM FOR COMMERCIAL- TYPE SEWING MACHINES

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3 Claims

ABSTRACT OF THE DISCLOSURE

An arm control mechanism for sewing machines of the commercial type, which are adapted for handicapped individual use, having an attachment which enables one to operate it with efficiency of an able-bodied person, and which fits any clutch type commercial sewing machine and which does not interfere with the operation of the machine. The component parts are of steel or rigid construction and are adapted to be adjusted for proper installation and use in accordance with the purposes of the invention.

The present invention relates to a new and approved arm control mechanism for being adapted to commercial sewing machines, and more particularly, the invention relates to control mechanism attachments which enable one to operate a commercial sewing machine with the efficiency of an able-bodied person when one may be partially disabled. The present invention includes apparatus which will fit any clutch type commercial sewing machine, and a further object and advantage of the present invention is that the control mechanism arrangement consists of half-inch or the like rods made of cold, rolled steel, which are coupled together by a set of coupling mechanisms or hangers that can be appropriately adjusted for the particular installation under consideration.

It is seen, therefore, that by means of the present invention, any clutch type commercial sewing machine could be used for handicapped individual use.

The above and other objects and advantages of the invention will become apparent upon full consideration of the following detailed description and accompanying drawings in which:

FIG. 1 is a front elevation view of a commercial sewing machine, having the control arm mechanism installed on the commercial-type sewing machine, in accordance with the preferred embodiment of the present invention;

FIG. 2 is a perspective broken-away view showing the guard rod for actuating the commercial-type sewing machine in a manner embodying the control arm mechanism of the present invention; and

FIG. 3 is a cross-sectional view taken along lines 3—3 of FIG. 2.

Referring now to the drawings, there is shown a sewing machine 10, a sewing machine table 12, the drive motor and clutch mechanism 13 showing an endless belt or drive linkage 16, and the sewing machine needle 18, supported by the driving mechanism 20. Also shown is the table extension 14 having a guard plate 22 supported by a half-inch rod 24 which engages a hanger 26. The hanger 26 is secured to a rotatable transverse rod or shaft 30, which extends through hangers 32, 34 and 40, and which is axially secured in place by lock members 36 as shown in FIG. 3.

The hangers 34 and 40 which support rod 30 are supportably mounted from the table 14 by brackets or mounting means 42, 44, respectively, by screws 46.

As the guard plate 22, mounted on the shaft 24 by bracket means 48 is subject to movement, the hanger 26 follows the movement of the guard plate 22, and this accordingly rotates the shaft 30 in the same direction

2

through the hangers 34, 40. In this way, the shaft 52 is moved vertically downwardly in an arcuate direction. A spring 58 tends to bias upwardly a vertical control shaft 60, the upper end of which has a ball fitting end 62, which fits into a recess 64 of the shaft 52, and thus forms a coupling. The lower end of the shaft 60 engages a drive rod 64 by a pair of brackets or bracket clamps 66, 66, which are U-shaped bolts 68, having a leather washer 70 and nuts 72. The drive arm or drive shaft 64 engages a drive crank 74, as shown in FIG. 1. Accordingly, upon downward movement of vertical control shaft 60, the drive crank 74 is shifted to operate the motor and clutch mechanism 13. A guard 56 engages shaft 52 to limit upward movement of shaft 60 as shaft 60 is biased upwardly by spring 58.

The shafts may be made of cold, rolled steel and the hangers can be adjusted for proper installation. Each of the hangers has an oil-receiving aperture 80 as exemplarily showed in FIG. 2, as well as FIG. 3.

By means of the present invention, an arm control is provided that fits most table-type, clutch-operated sewing machines and it is within the purview of the present invention that the arm guard plate 22 therefore actuates the drive crank 74 in a manner convenient for a disabled person.

What is claimed is:

1. An arm control mechanism for commercial type sewing machines having a work table comprising a guard plate to be operated by handicapped persons, a guard plate shaft, means attaching said guard plate to said shaft, a rotatable shaft, first hanger means adjacent the ends of said rotatable shaft mounting the shaft on the top of said table, second hanger means connecting said guard plate shaft to said rotatable shaft, third hanger means fixedly secured to said rotatable shaft for rotation therewith, a third shaft extending radially from said rotatable shaft carried by said third hanger means and being driven in a vertical plane by said rotatable shaft, a vertical sewing machine control shaft extending to a point beneath said table, ball and socket means connecting the adjacent free ends of said third shaft and said control shaft, guard means for limiting the upward movement of said third shaft, spring means normally biasing said control shaft in an upward direction to hold said third shaft in engagement with said guard means and drive crank means under said table connected to said control shaft, whereby upon operation of said guard plate to rotate said rotatable shaft, said control shaft moves downwardly to shift said drive crank means to actuate said sewing machine.

2. The invention according to claim 1 including lock means secured to the rotatable shaft for limiting the axial movement thereof and allowing rotation thereof.

3. The invention according to claim 2 wherein each of said hangers has an oil-receiving recess for enabling lubrication of the moving parts of the arm control mechanism.

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