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2,477,433

POWER-TABLE SEWING MACHINE

Filed Oct. 1, 1945

3 Sheets-Sheet 1

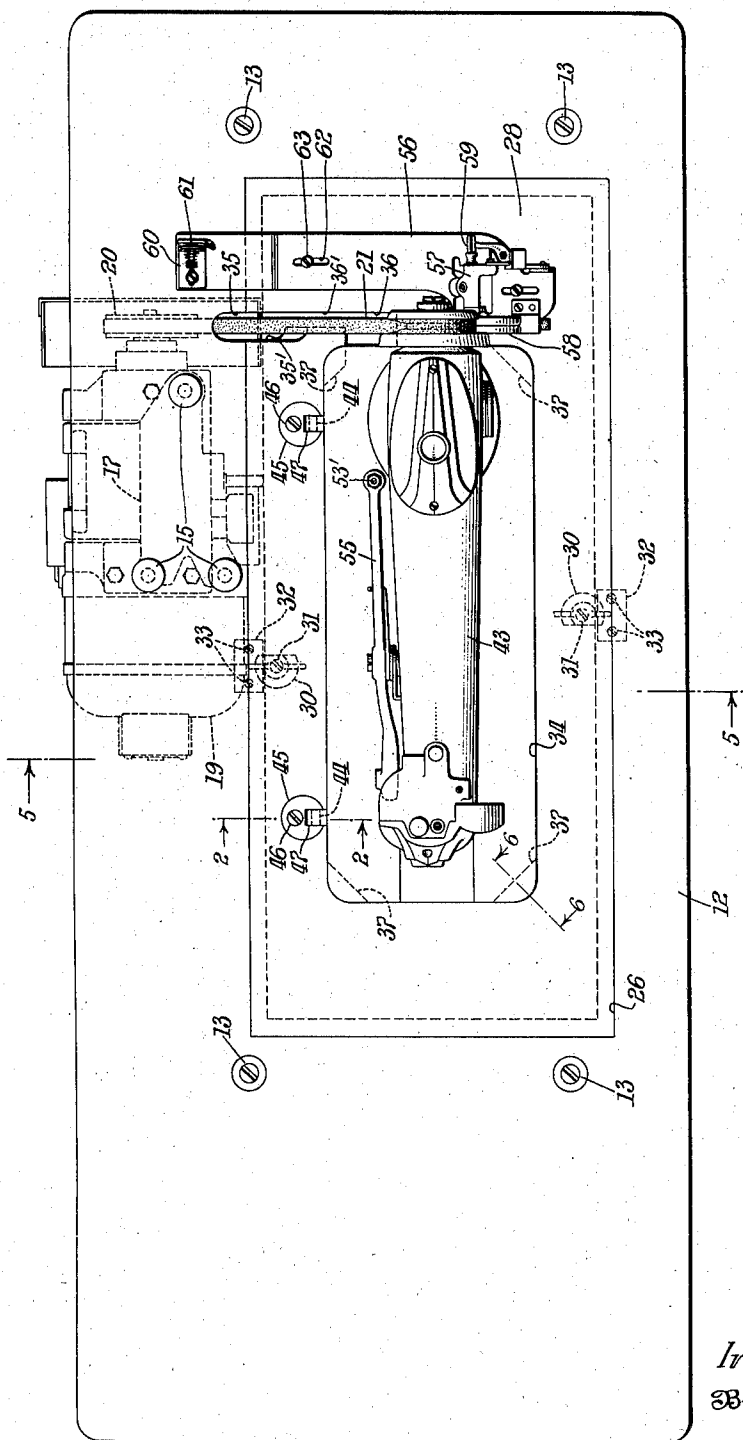


Fig. 1.

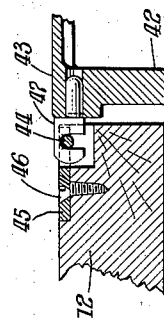


Fig. 2.

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3 Sheets-Sheet 2

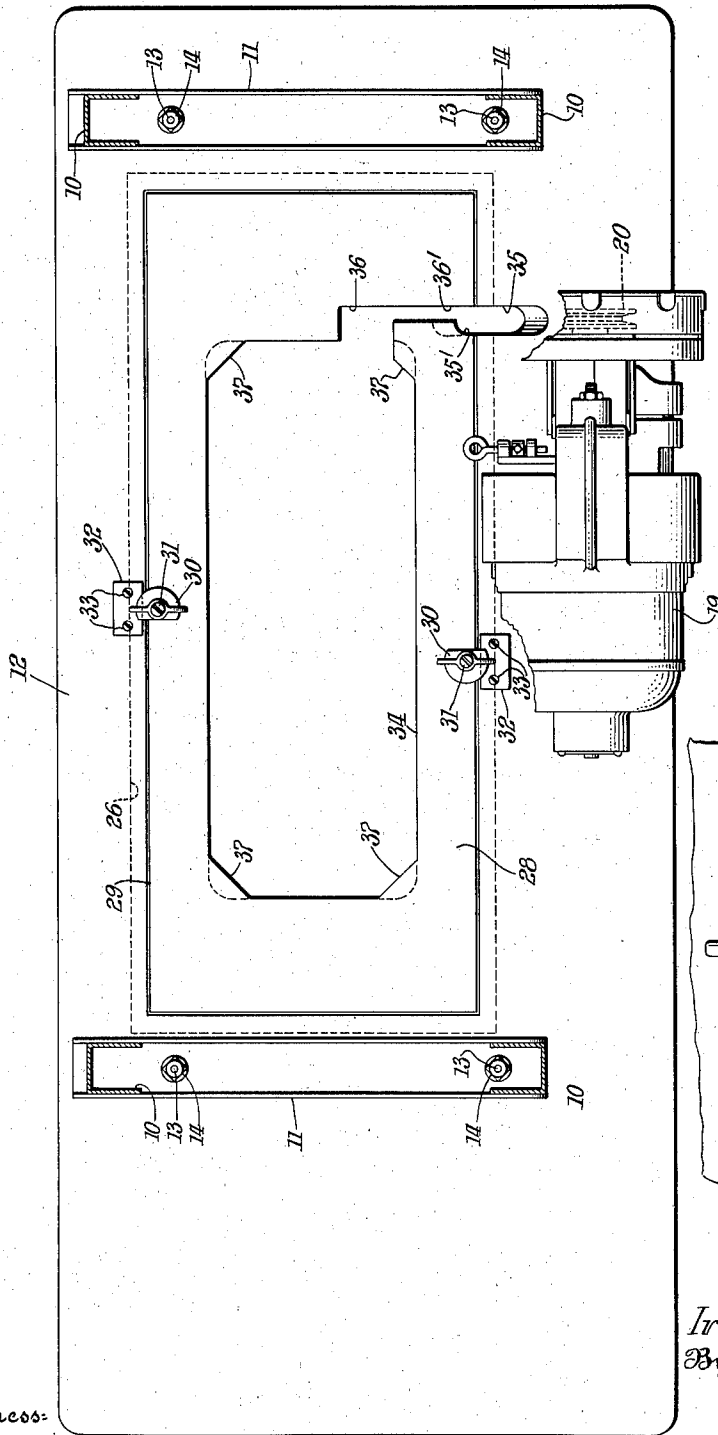


Fig. 3.

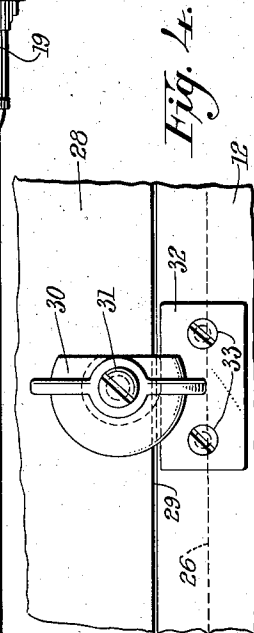


Fig. 4.

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3 Sheets-Sheet 3

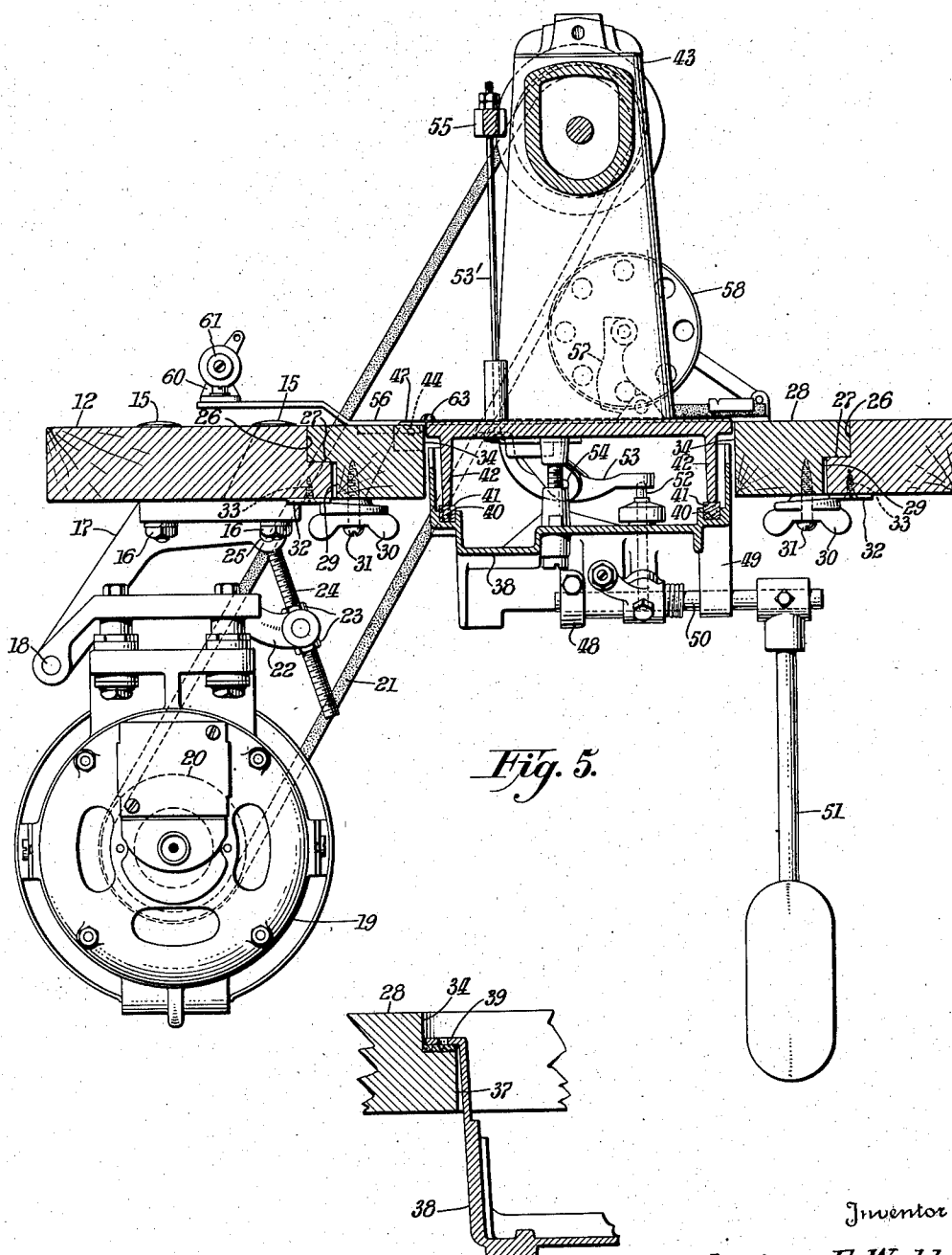


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE

2,477,433

POWER-TABLE SEWING MACHINE

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6 Claims. (Cl. 112-258)

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This invention relates to sewing machine power-tables and it has for its primary object to provide means whereby sewing machines of various types or sizes may each be mounted on the same standard power-table.

Most commercial establishments which use a great number of sewing machines have at all times a certain number of their machines idle, as the requirements of the work being processed at a particular time governs the type of sewing machine that is necessary for manufacturing purposes. It is customary in these establishments to place the idle machines, as well as the accompanying power-tables, in storage so that this equipment will not occupy the valuable floor space normally allocated for production. Whenever such an establishment turns its productive facilities from one type of product to another, it becomes necessary for them to rearrange their sewing equipment. With the type of power-table heretofore used, this requirement of equipment rearrangement presented a difficult problem as each sewing machine had to be used with its own special power-table, thus requiring the moving and storing of the bulky table as well as the individual sewing machine.

In this respect, it is to be understood that it has been standard practice to provide each sewing machine with its own special power-table and electric-transmitter for driving the machine. The power-table is usually provided with a cut-out or opening in the table portion thereof for the purpose of receiving the sewing machine which is mounted within the opening in proper operative relation with the transmitter which is carried beneath the table. Thus each power-table is adapted to receive sewing machines of a single type only, the other types having different dimensions and different belt-pulley dispositions. Therefore, it has been necessary for such sewing machine owners to have a great deal of idle but expensive equipment on hand at all times.

Thus it is the purpose of the present invention to obviate the above noted difficulties by the provision of a power-table which may be standard for a large number of sewing machines.

A further object of the present invention is the provision of a sewing machine and a power-table insert, which elements are so combined that they present a unitary combination of parts which may be readily applied to and removed from a standard type of power-table.

With the above and other objects in view, as will hereinafter appear, the invention comprises the devices, combinations and arrangement of

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parts hereinafter set forth and illustrated in the accompanying drawings of a preferred embodiment of the invention, from which the several features of the invention and the advantages obtained thereby will be readily understood by those skilled in the art.

In the accompanying drawings, Fig. 1 represents a top plan view of a sewing machine and power-table combination embodying the present invention.

Fig. 2 represents a sectional view of one of the sewing machine hinges and taken substantially along line 2-2 of Fig. 1.

Fig. 3 represents a bottom view of the power-table with the sewing machine removed from the replaceable table-insert.

Fig. 4 represents an enlarged detail view of the locking means used for securing the table-insert within the power-table opening.

Fig. 5 represents a vertical sectional view of the sewing machine and power-table combination and taken substantially along line 5-5 of Fig. 1.

Fig. 6 represents a vertical section through one of the supporting ears of the oil reservoir and taken substantially along line 6-6 of Fig. 1.

Referring to the drawings, this invention is illustrated as embodied in a sewing machine power-table comprising four legs 10 having the two cross-braces 11 welded to the upper portions of the legs. These cross-braces 11 support a table portion 12 which is secured thereto by means of the bolts 13 and nuts 14. The legs and cross-braces preferably are made of sheet-metal and the table portion 12 preferably is of wood; the power-table being constructed and assembled substantially as disclosed in United States patent of G. M. Eames, No. 1,695,419, December 18, 1928.

Secured to the under side of the table 12 by means of the bolts 15 and nuts 16 is a bracket 17, to which is pivotally secured as at 18 the usual electric power transmitter 19 having a driving pulley 20 which receives the belt 21. Projecting from the upper portion of the power transmitter unit 19 is an arm 22 carrying nuts 23 into which is threaded a screw-rod 24 pivotally carried as at 25 by the frame 17. By properly turning the nuts 23 the transmitter 19 may be swung about its pivot 18, thus to tension the belt 21. For a more complete description and disclosure of this type of belt tensioning device, reference may be had to the United States patent of W. J. Peets, No. 2,095,203, October 5, 1937.

Referring particularly to Figs. 1 and 5, the table 12 is provided with an opening 26 having

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a rabbet 27 thereabout for supporting a substantially rectangular wooden table-insert 28, which is also rabbeted as at 29 and adapted to fit into the power-table opening 26. A pair of camming type latches 30 are rotatably secured, by means of screws 31, to the bottom portion of the insert 28 for locking the same to the table. Wear plates 32, secured to the bottom of the table 12 by means of screws 33, cooperate with the latches 30 in the locking of the insert 28 to the table.

The table-insert 28 is provided with a cut-out 34 which is adapted to meet the requirements of the particular sewing machine to be used therewith. As illustrated in Figs. 1 and 3, the table 12 is provided with a slot 35 which has aligned therewith a slot 35' formed in the insert 28 and complementary to the table-slot 35 to provide clearance for one run of the belt 21. Clearance for the other run of the belt is provided by a slot 36 formed in the insert and connected by a constricted slot 36' with the insert-slot 35'. Substitute inserts each has its machine cut-out positioned in a manner such that each of the various classes of machines will have its belt-receiving pulley located in substantially the same vertical plane, thus permitting the power transmitter to be secured to the table in one position at all times. A reversing switch (not shown) may be provided with each power transmitter to accommodate machines having different directions of rotation.

Referring to Figs. 3 and 6, the insert 28 is provided at each of the four corners of its cut-out 34 with a shoulder portion 37 which is adapted to be engaged by and to support one ear portion 39 of an oil-containing reservoir 38. One of these ears 39 is provided at each of the four corners of the reservoir 38 and is illustrated in Fig. 6 of the drawings. Thus, it will be understood that the reservoir 38 may be inserted into the cut-out 34 from a position above the table 12 and that it is supported therein by means of the shoulder portions 37. The reservoir 38 is a substantially pan-shaped unit provided with a groove 40 thereabout for the purpose of receiving a gasket of vibration and sound-absorbing material 41 upon which rest the depending bed-plate walls 42 of a sewing machine 43.

A pair of floating hinge devices are provided on the present outfit to permit the machine to be swung backwardly to thus expose the reservoir 38. Each hinge set comprises a pin-member 44 disposed in a carrier portion 45 which is recessed into the insert 28 and held therein by means of a screw 46. A fork member 47 is carried by the machine 43 and it is adapted to embrace the pin 44. The machine, therefore, is adapted to pivot backwardly about said pins 44. When the machine is in its operative position, as illustrated in Figs. 1 and 5, the fork members 47 are disposed slightly above and out of contact with the pins 44. The machine, while in operation, rests entirely upon the gasket 41 and has no direct engagement with either the insert 28 or the table 12. As illustrated in Fig. 5, the machine 43 and the reservoir 38 form a substantially enclosed and oil-tight chamber.

Formed on the bottom portion of the reservoir 38 are lugs 48 and 49 apertured to receive a horizontally disposed rock-shaft 50, to one end of which is secured the usual knee-shift lever 51. Movement of this lever causes a pin 52 carried in the reservoir to move endwise vertically for actuating a crank 53 which is pivotally secured

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as at 54 to the sewing machine 43. The crank 53 is in turn operatively connected with a vertically disposed rod 53' which is adapted to actuate the usual presser-bar lifter lever 55 carried by the machine head 43. For a more detailed disclosure of the present type of oil reservoir and its accompanying mechanism, reference may be had to the U. S. patent of R. Kaier, No. 2,250,922, July 29, 1941, and to the U. S. patent of L. C. Marsac, No. 2,300,583, Nov. 3, 1942.

Referring to Figs. 1 and 5 the insert 28 has also mounted thereupon a bobbin-winding attachment. Broadly, this attachment comprises a sheet-metal base-plate 56 upon which is mounted a frame 57 carrying the usual driven pulley 58 and bobbin holder 59. Disposed at the other end of the base 56 is a sheet-metal plate 60 carrying a thread-guiding and -tensioning unit 61.

A slot 62 is formed in the base 56 and receives a screw 63 which secures the attachment in juxtaposition to the driving belt 21 of sewing machine. For a complete description of the present type of bobbin-winding attachment, reference may be had to the U. S. patent of J. D. Karle, No. 1,290,225, January 7, 1919.

From the foregoing description it is to be understood that the present type of power-table is constructed with an opening 26 which is adapted to receive any one of a plurality of interchangeable inserts, each having an appropriate machine-receiving cut-out to fit a respective one of the various machine classes. Thus a single power table may be used in conjunction with a plurality of various types of sewing machines.

Furthermore, it will be understood that the present sewing machine 43, oil reservoir 38, knee-shift mechanism and bobbin-winding mechanism are all carried by the insert 28 as an integral unit, and as such the unit may be directly applied to the power-table 12. Whenever one type of sewing machine is to be substituted for another, this insert unit may be removed and stored without disassembling the component elements therefrom, thus saving the time and expense of handling the units as single elements.

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

1. A universal table-structure adapted to accommodate any one of a plurality of belt-driven sewing machines having bed-plates of different sizes and each having a presser-foot lifting device associated therewith, comprising a table-top having an opening therein, a power-transmitting drive supported by said table-structure, and a plurality of sewing machine supporting inserts each of which is adapted to be removably mounted in the opening in the said table-top said inserts each having a cut-out of a size and shape to accommodate one of said sewing machines and to locate said machine in a position such that it may be belted to said power-transmitting device, each of said inserts having a manually operable device carried thereby for actuating said presser-foot lifter.

2. In combination, a power-table adapted to accommodate any one of a plurality of sewing machines having bed-plates of different sizes and each having a presser-foot lifting device associated therewith, said power-table having a table top provided with an opening therein, a power-transmitting device supported by said power-table, a plurality of sewing machine supporting inserts any one of which may be removably secured within said opening, each of said inserts

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having a cut-out of a size adapted to accommodate one of said sewing machines and to locate said machine in a position such that it may be operatively connected to said power-transmitting device, and a manually operable presser-foot actuating device carried by said insert.

3. The combination with a sewing machine having a presser-foot lifting device, of a power-table having a table top provided with an opening therein, an insert removably secured within said opening, said insert apertured therethrough to accommodate said sewing machine, and means for actuating said presser-foot lifting device, said means being carried by said insert.

4. In the combination of a power-table having a table-top provided with an opening therein, a sewing machine adapted to be received within said opening and having a presser-foot lifting device, a power-transmitting device supported by said power-table, and means operatively to connect said power-transmitting device with said sewing machine; the improvement consisting in the provision of a unitary means for mounting said sewing machine within said table opening, said unitary means comprising, an insert adapted to be removably mounted within said table opening, said insert having a cut-out formed therein of a size and shape to accommodate said sewing machine, hinge means secured to said insert for pivotally securing said sewing machine thereto, and means carried by said insert for actuating said presser-foot lifting device.

5. In the combination of a power-table having a table top provided with an opening therein, a sewing machine adapted to be received within said opening and having a presser-foot lifting device, a power-transmitting device supported by

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said power-table, and means operatively to connect said power-transmitting device with said sewing machine; the improvement consisting in the provision of a unitary means for mounting said sewing machine within said table opening, said unitary means comprising, an insert adapted to be removably mounted within said table opening, latching means for locking said insert to said table top, said insert having a cut-out formed therein of a size and shape to accommodate said sewing machine, hinge means carried by said insert for pivotally securing said sewing machine thereto, and manually operable means carried by said insert and adapted to be separably engaged with said presser-foot lifting device for the purpose of actuating the same.

6. A sewing machine power-table adapted to accommodate any one of a plurality of sewing machines having bed-plates of different sizes, comprising, a table-top provided with an insert-receiving opening, a supplemental table-insert mounted in said opening and provided with an opening, a sewing machine having a bed-plate mounted in the opening of said table-insert, and a bobbin-winding device mounted on said insert in operative relation with said sewing machine.

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The following references are of record in the file of this patent:

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