Nov. 15, 1955 G. SAUER 2,723,637

SEWING MACHINES

Filed Feb. 3, 1953 11 Sheets-Sheet 1

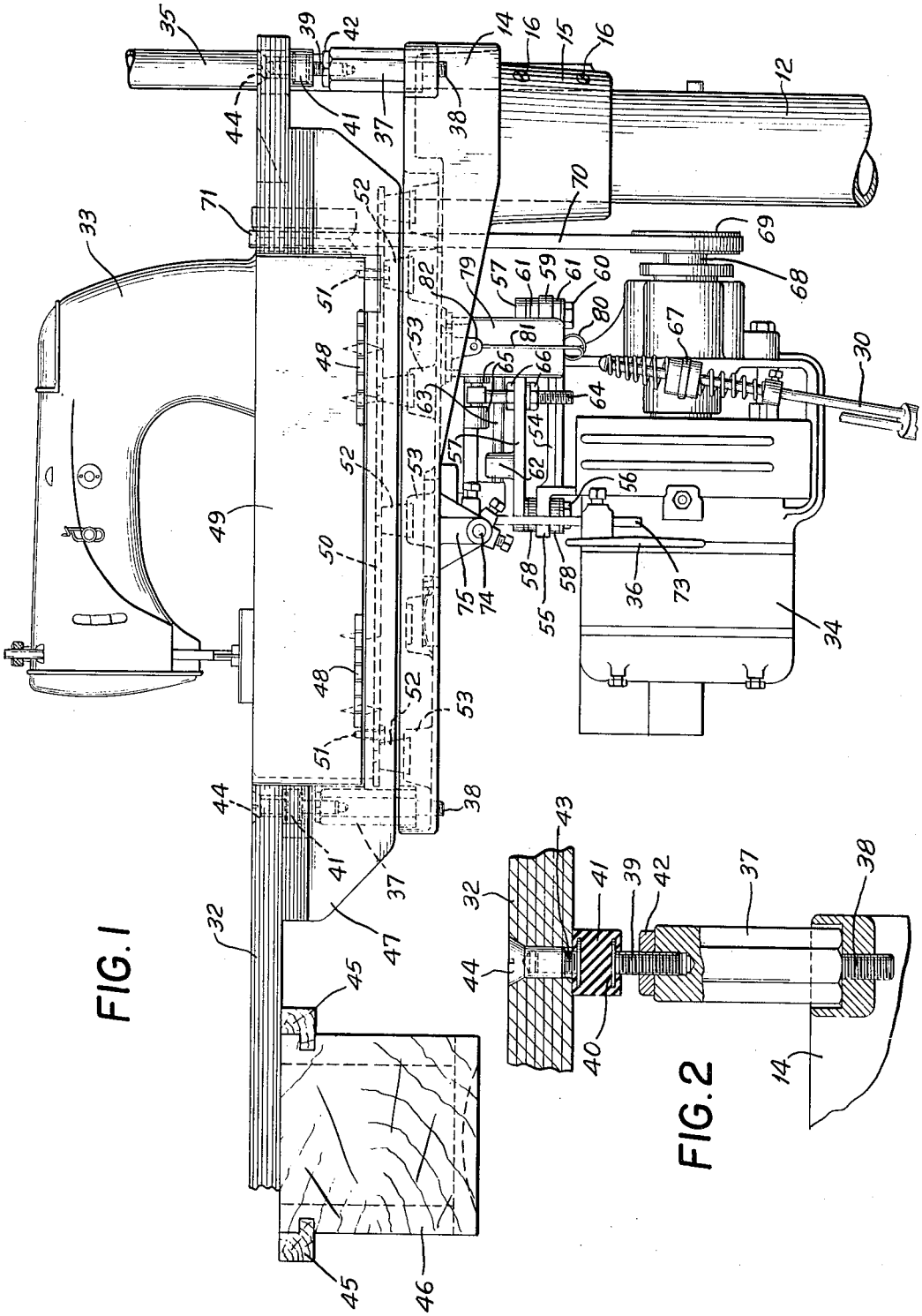
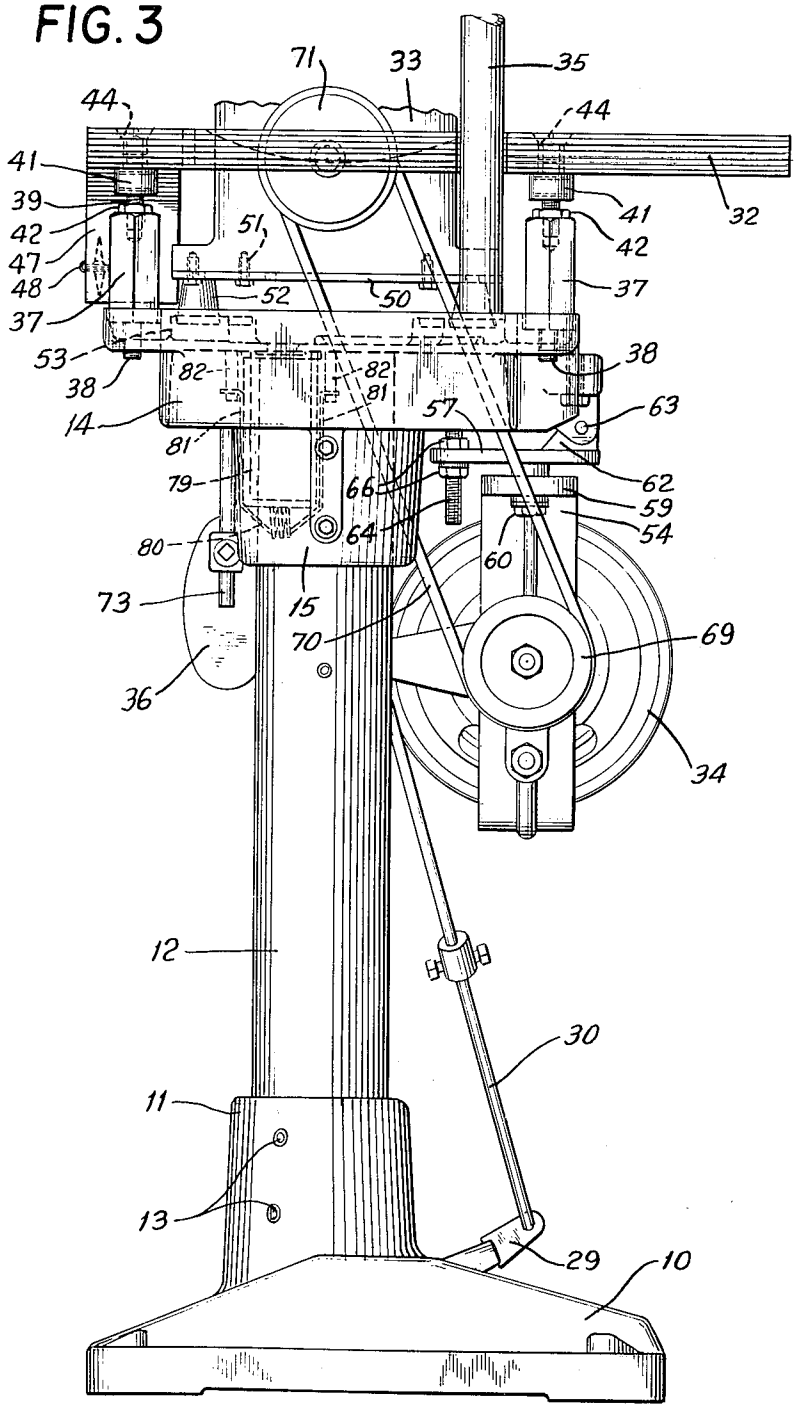


FIG. 1



FIG. 2

FIG. 3

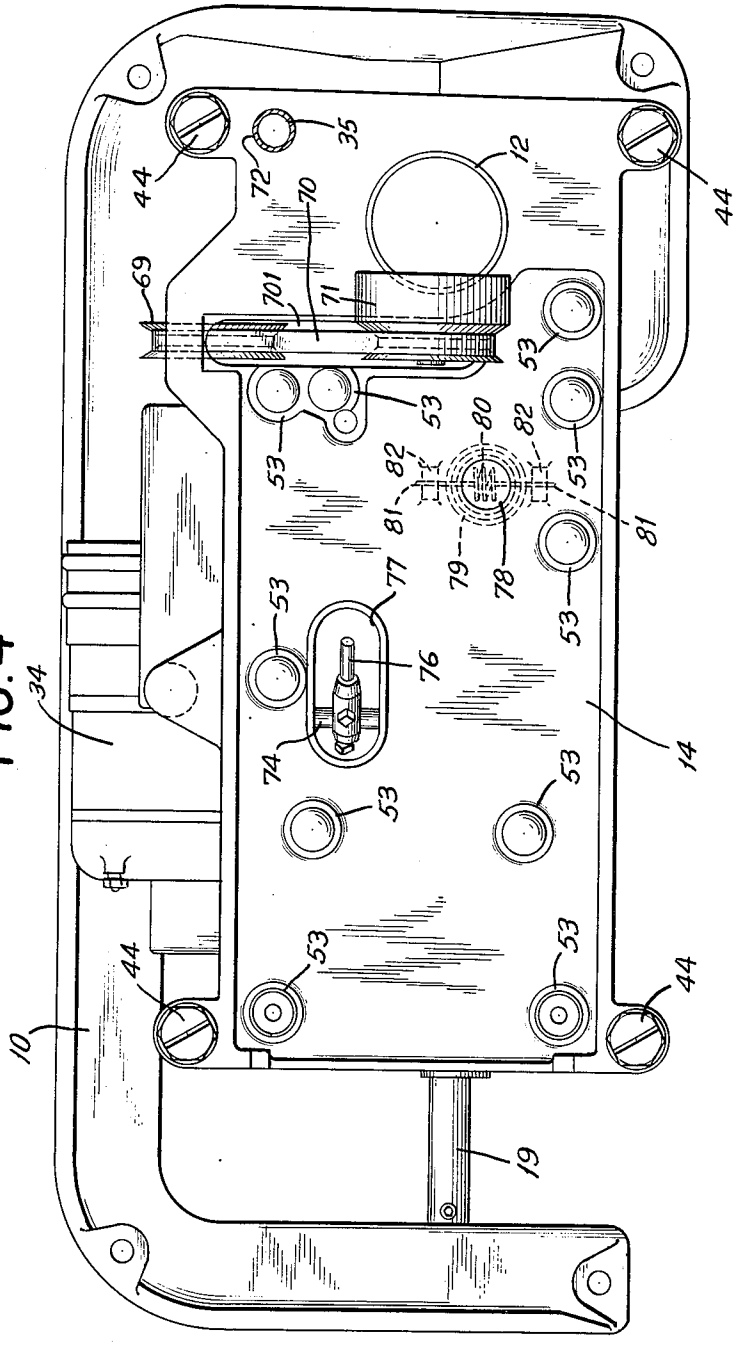

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FIG. 4



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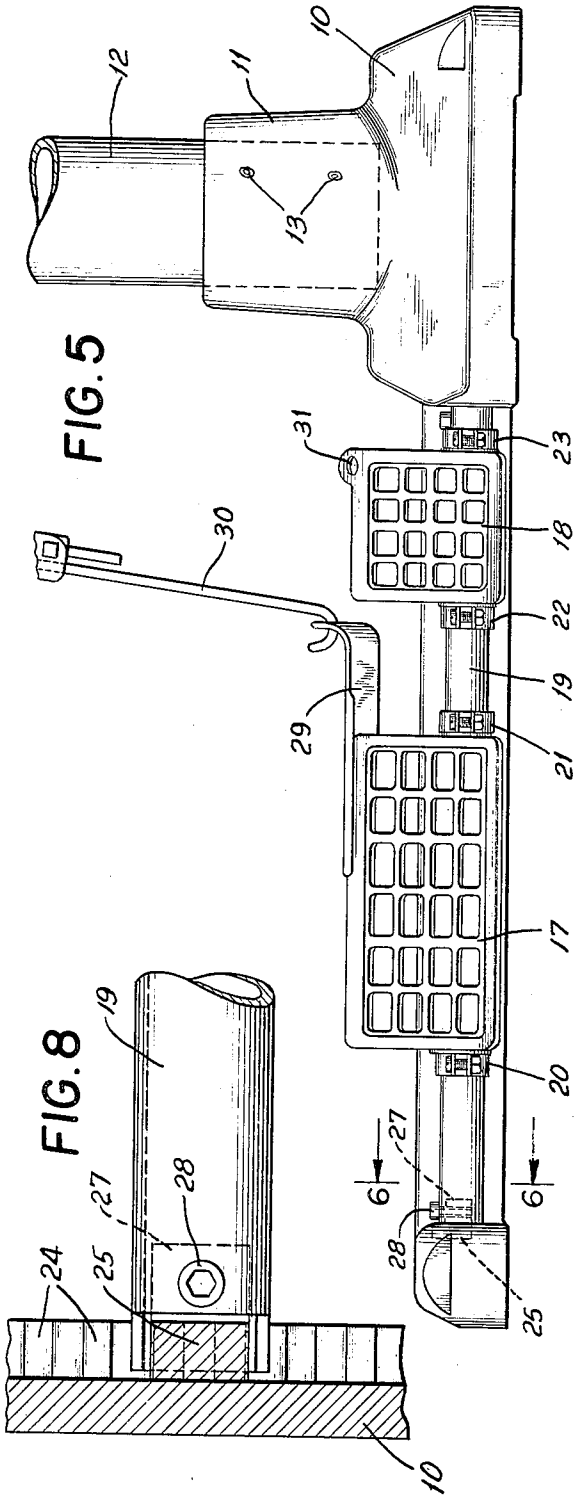



FIG. 5

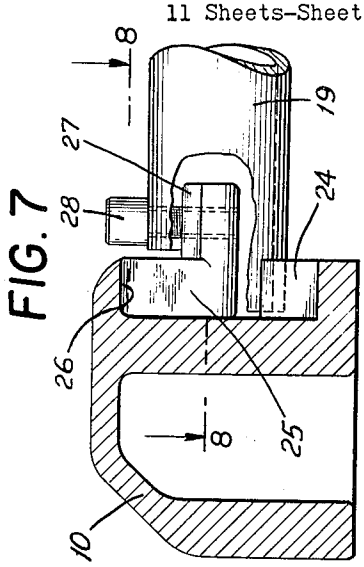



FIG. 7




FIG. 8

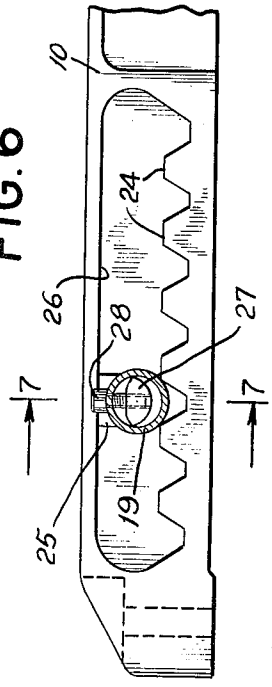


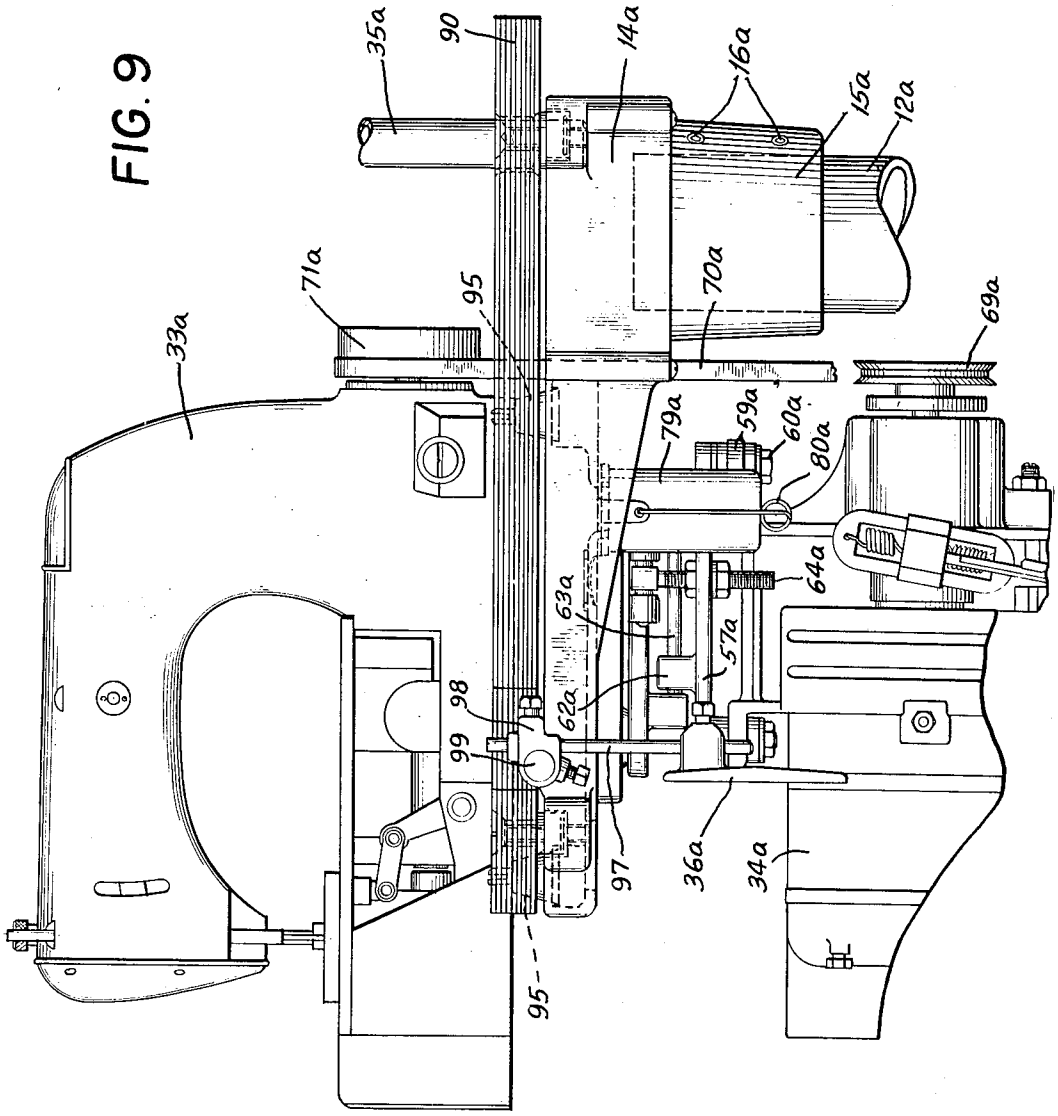

FIG. 6

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SEWING MACHINES

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FIG. 9

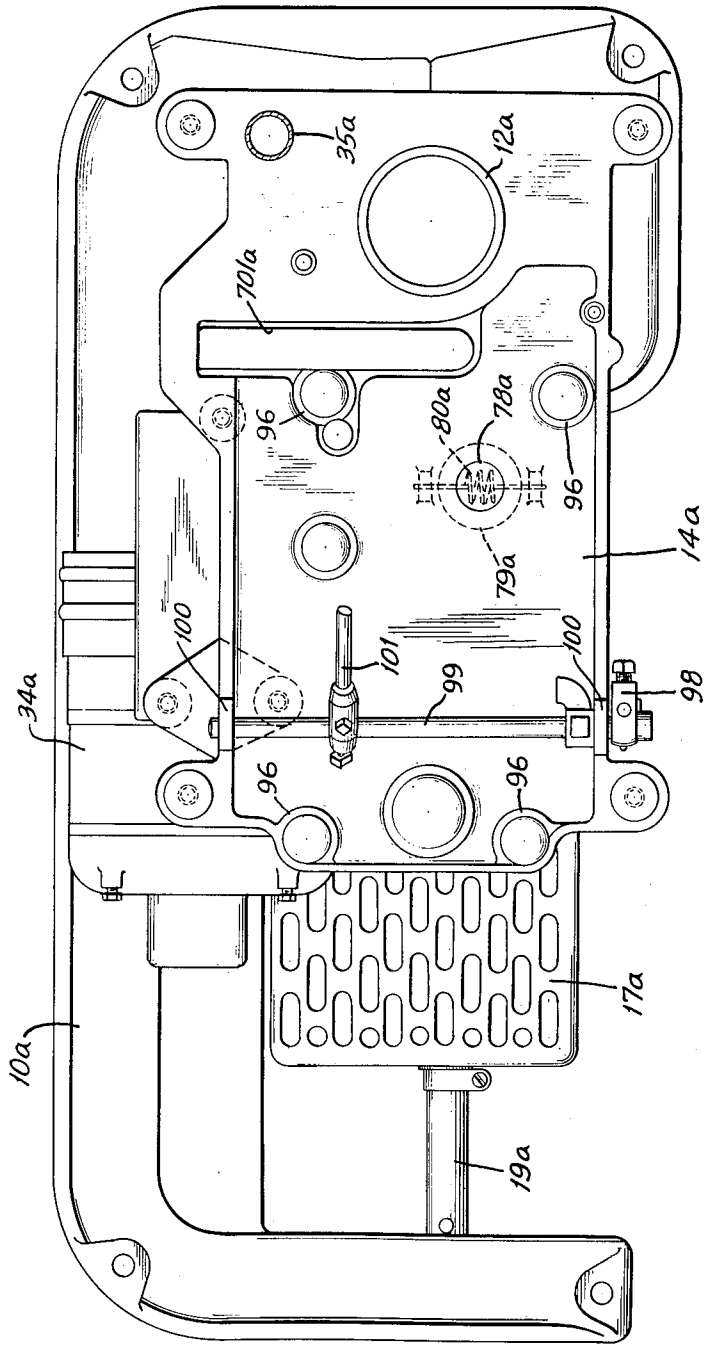


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FIG. 10



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FIG. 12

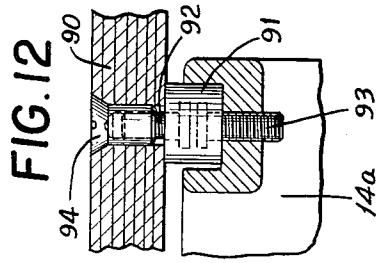


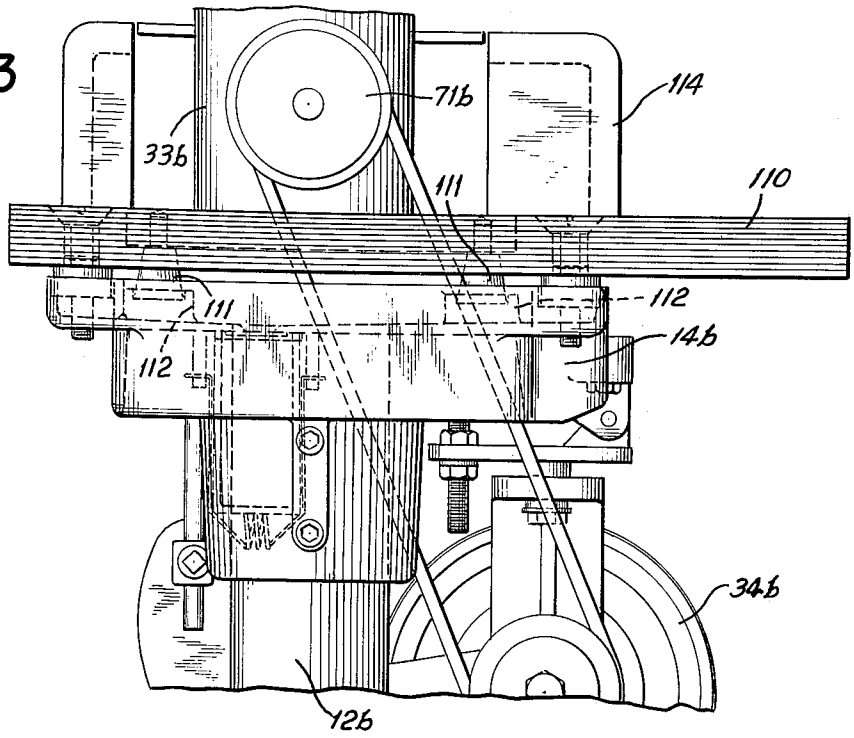

FIG. 11

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FIG. 13



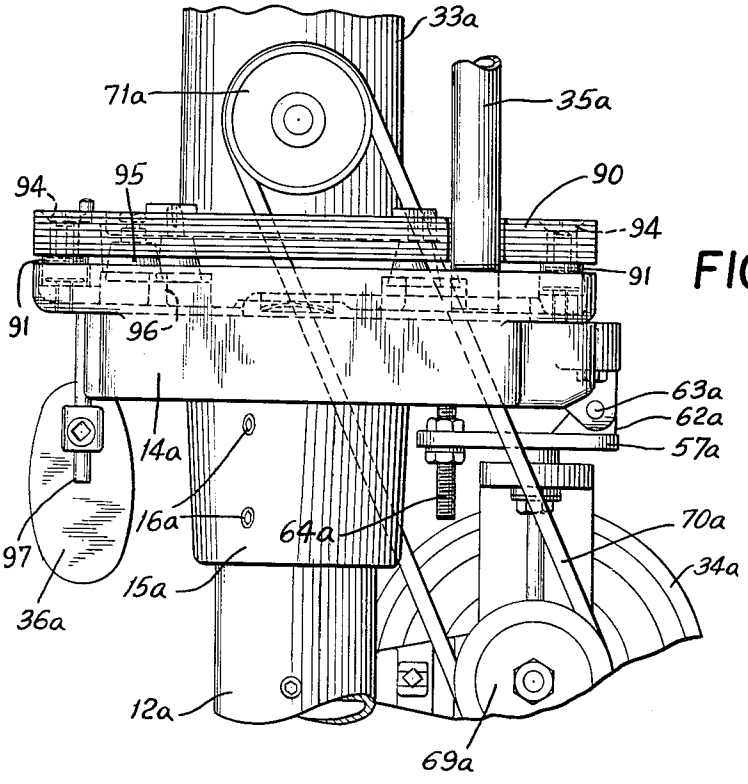



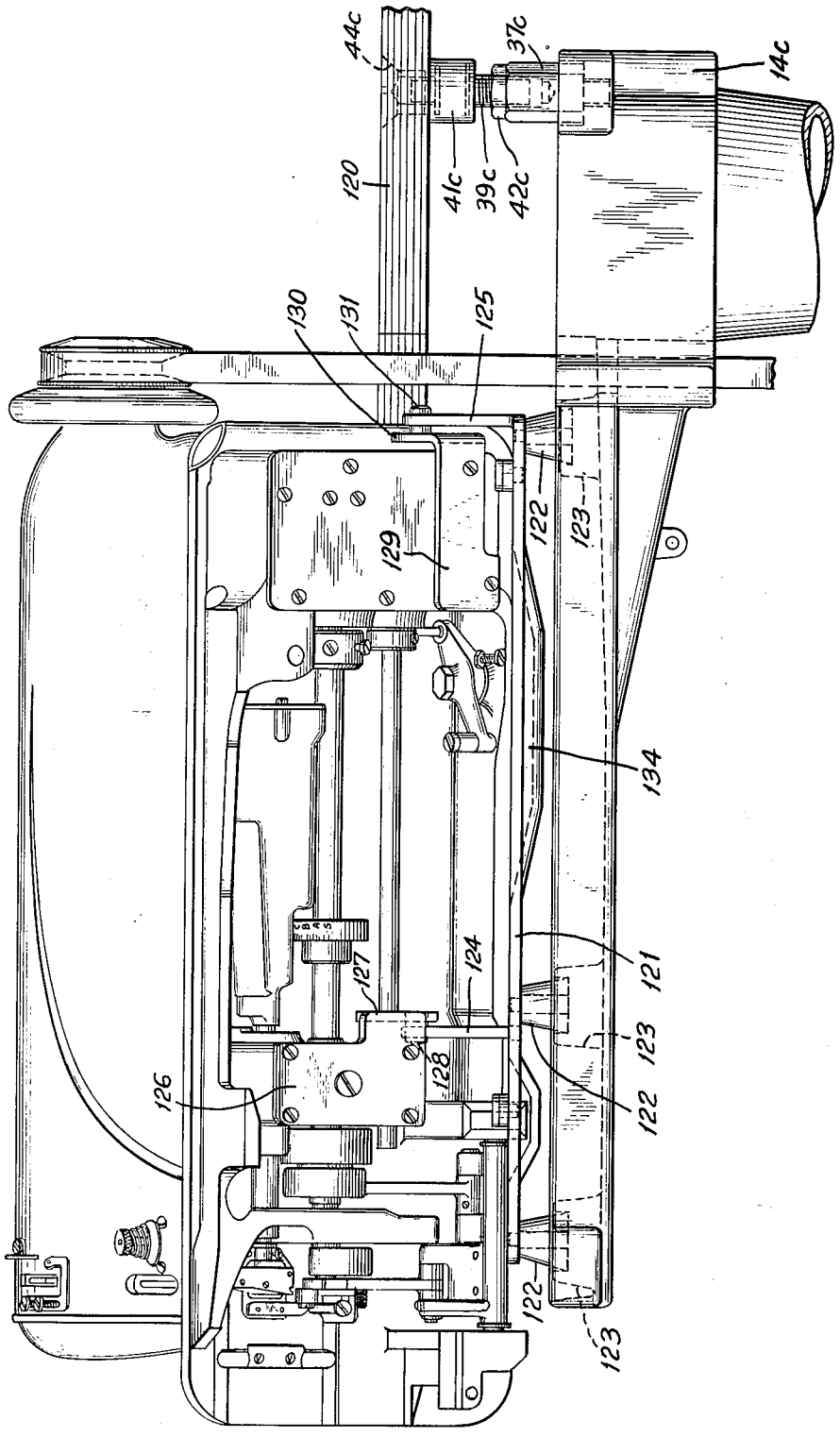

FIG. 14

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FIG. 15



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FIG. 16

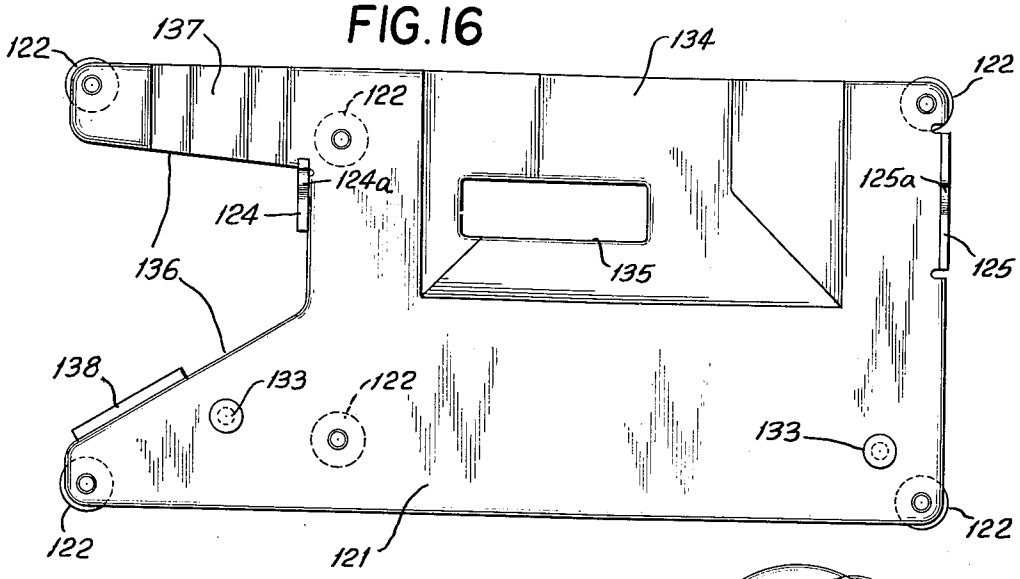
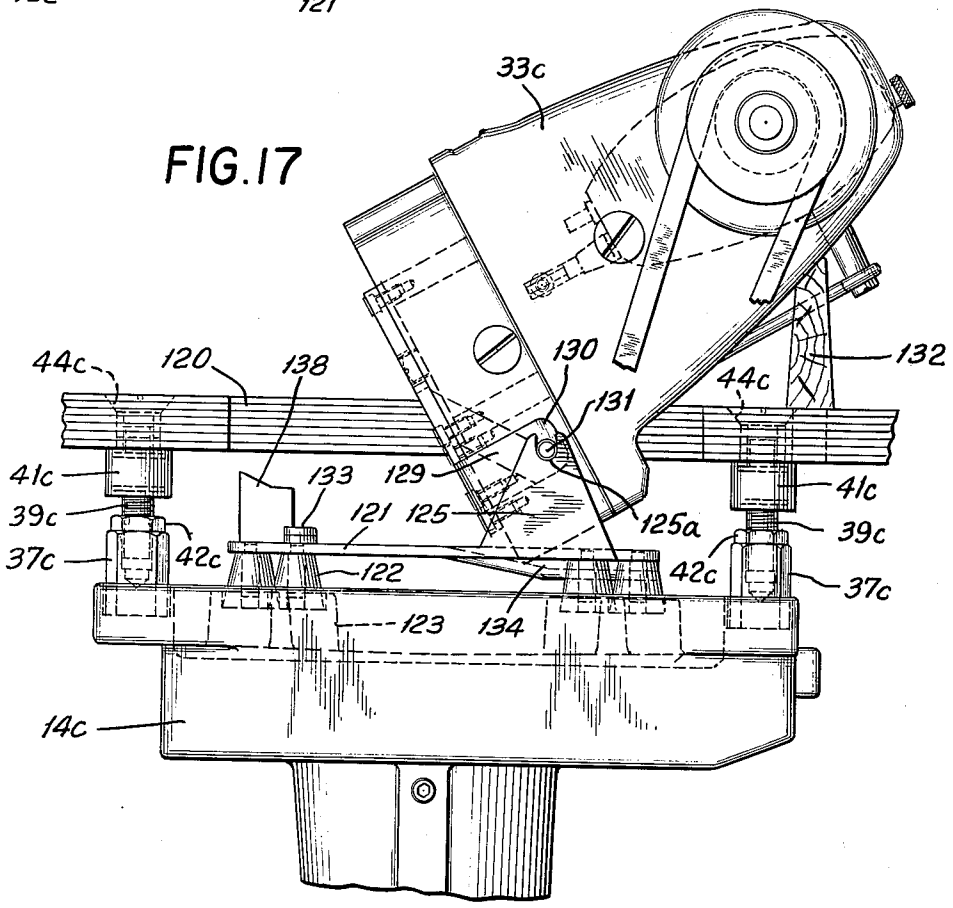



FIG. 17



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SEWING MACHINES

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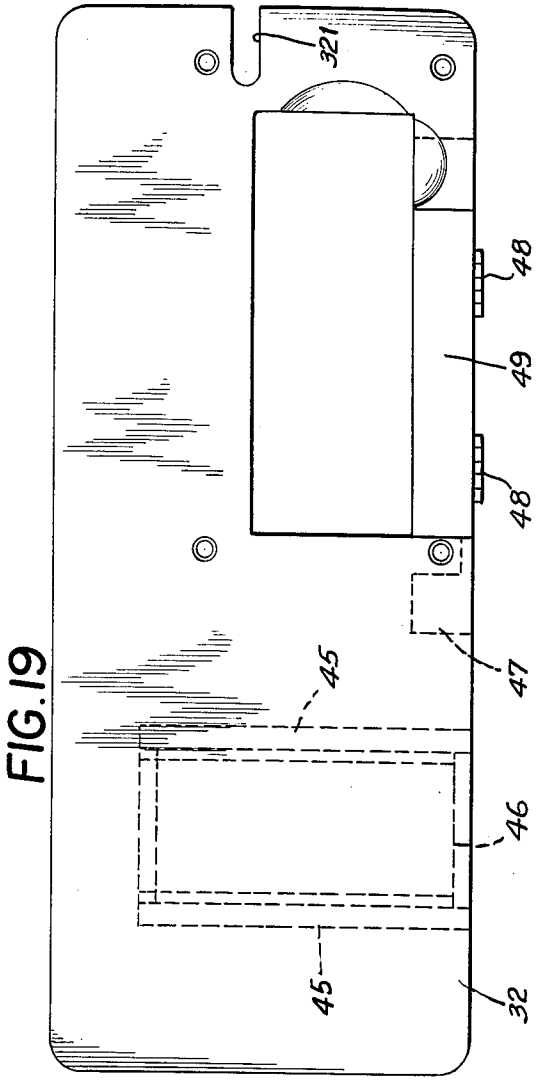



FIG. 19

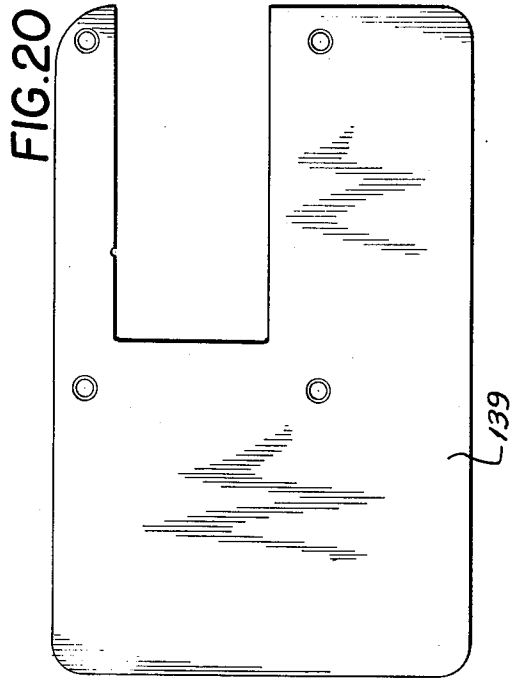



FIG. 20

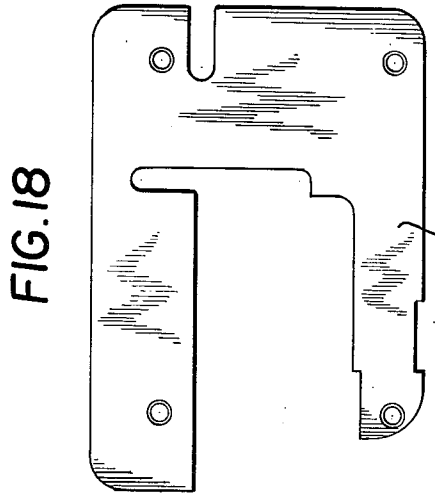



FIG. 18

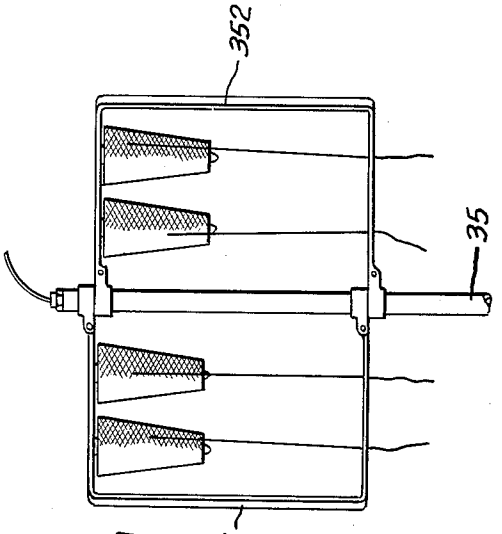



FIG. 21

United States Patent Office 2,723,637
Patented Nov. 15, 1955



2,723,637

# SEWING MACHINES

George Sauer, Berwyn, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois

Application February 3, 1953, Serial No. 334,851

13 Claims. (Cl. 112—258)

This invention relates to a sewing unit comprising a supporting structure of the pedestal type having mounted thereon a sewing machine, a table top associated therewith and an electric transmitter for driving the sewing machine. The unit is self contained and adapted to be readily shifted about for placement at any desired position in a production line or elsewhere in a factory.

An important object of the invention has been to provide a unit of the character indicated which is capable of easy adjustment to suit the convenience of different operators and also capable of ready substitution of different sewing machines and table tops for the performance of a variety of operations, or the positioning of the machine in different relations to the table top, i. e. fully submerged, semi-submerged or non-submerged.

A feature of the invention is the provision of a pedestal supporting structure in a unit of the character indicated, having a horizontally disposed drip pan on which are separately mounted the sewing machine, the table top, the electric transmitter and various accessory devices. In conjunction with the foregoing a further feature of the invention is the provision of means for isolating the table top and the sewing machine against the transmission of vibrations from one to the other and to or from the supporting drip pan. So also, the transmitter is mounted on the pedestal, independently of the table top, and is isolated in relation to the pedestal. Another feature is the independent mounting of a thread stand on the drip pan, so that the table top may be removed and replaced without removal or disturbance of the thread stand.

As a further feature, the invention contemplates the provision of a novel mounting for a lock-stitch machine by which the latter may be more easily tilted backwardly on suitable pivots, to provide access to the mechanism below the cloth plate, and without danger of injury to the hands in restoring the machine to its active position.

Another object of the invention has been to provide a pedestal support having treadles, for the control of certain operations, which may be adjusted in relation to the base of the pedestal to suit the convenience of different operators and to provide the most desirable location of the treadles in the performance of different types of seaming operation. In the use of different machines, or sometimes even the same machine, for the performance of various operations required in the production of garments or the like an operator frequently finds it more comfortable or convenient to change her position in relation to the unit as a whole.

Additional features of the invention include the provision of a knee press mechanism for controlling the operation of some part of the sewing machine this mechanism being carried by a shaft mounted on the lubricant tray or pan either above or below the lubricant collecting surface thereof, and the provision for ready substitution of a variety of different table boards projecting to the left or the right of the sewing machine, or extending all the way around the machine or only partially around the same.



Other objects, features and advantages of the invention will appear from the detailed description of certain illustrative forms of the same which will now be given in conjunction with the accompanying drawings, in which:

Fig. 1 is a front elevational view of the upper portion of the pedestal support of one form of the new sewing unit, showing a flat bed sewing machine, a table board and an electric transmitter mounted thereon;

Fig. 2 is an enlarged detail view, partly in section and partly in elevation, illustrating one of the means for securing the table board to the lubricant pan of the pedestal support;

Fig. 3 is a side view of the unit as viewed from the right end of Fig. 1, the upper portion of the sewing machine being broken away to condense the view;

Fig. 4 is a top plan view of the pedestal support of the unit shown in Fig. 1, the hand wheel and pulley of the sewing machine being illustrated in relation to the transmitter;

Fig. 5 is a front elevational view of the lower portion of the pedestal support;

Fig. 6 is a detail view, in section along the line **6—6** of Fig. 5, of a portion of the base member of the pedestal support;

Fig. 7 is an enlarged detail view taken in section along the line **7—7** of Fig. 6;

Fig. 8 is a detail view taken along the broken line **8—8** of Fig. 7;

Fig. 9 is a view similar to Fig. 1, showing a modified arrangement of a flat bed sewing machine and table board on the lubricant pan of the pedestal support;

Fig. 10 is a top plan view of the pedestal support employed in connection with the modified form of the invention illustrated in Fig. 9;

Fig. 11 is a front elevational view of the upper portion of a further modified form of sewing unit;

Fig. 12 is a detail view, in vertical section, showing the means for attaching the table board to the lubricant pan of the pedestal support in the forms of the invention illustrated in Figs. 9 and 11;

Fig. 13 is an end view, taken from the right of Fig. 11, showing a portion of the modified form of sewing unit;

Fig. 14 is an end view taken from the right of Fig. 9, showing a portion of that sewing unit;

Fig. 15 is a front elevational view of the upper portion of a sewing unit embodying a lock stitch sewing machine, the latter being shown in a rearwardly tilted position to render the mechanism beneath the cloth plate accessible;

Fig. 16 is a top plan view of a special supporting plate embodied in the unit of Fig. 15;

Fig. 17 is an end view of the upper portion of the unit shown in Fig. 15 as seen from the right in Fig. 15;

Figs. 18, 19 and 20 are plan views of several different table boards which may be used in various embodiments of the invention; and

Fig. 21 is an elevational view of a thread stand that may be employed in the various forms of the invention.

Referring now to the drawings and more particularly Figs. 1, 3 and 5, the new sewing unit comprises a pedestal support having a floor engaging base member **10** provided with an upwardly extending sleeve or collar **11** arranged to receive the lower end of a tubular column **12**. The latter is retained within the sleeve **11** at a suitable elevation by means of set screws **13**. At the upper end of the column **12** there is mounted a horizontally disposed lubricant pan **14** having a downwardly extending sleeve or collar **15** which fits around the upper end of the tubular column and is secured thereto by means of set screws **16**. As will be understood the position of the lubricant pan **14** may be adjusted vertically on and angularly about the axis of the column **12** to suit the requirements of the

operator and the particular combination of devices included in the sewing unit.

Turning now to Figs. 5, 6, 7 and 8, the construction of the base portion of the pedestal support is shown. Within the opening of the U form of this base member there is mounted a pair of treadles 17 and 18, these being rockably supported on a fixed tubular shaft 19. Treadle 17 is retained against axial movement along the shaft by collars 20 and 21 suitably clamped upon the shaft. Similarly, treadle 18 is retained against axial movement by means of collars 22 and 23 clamped upon the shaft. This arrangement is such that the treadles may be shifted to a certain extent axially along the shaft. Shaft 19 may be shifted to any desired position from front to rear of the base member of the pedestal support to suit the convenience of the particular operator in the performance of a particular type of seaming operation. The shaft 19 may be locked in any adjusted position by forcing it into the space between selected ones of a series of teeth 24 provided in each of the arms of the U of the base member of the support. To retain each end of the shaft 19 in the selected notch between adjacent teeth 24, a locking dog 25 is provided. This is arranged to be drawn upwardly into locking engagement with a surface 26 on the adjacent portion of the base member of the support. For urging the dog into such locking engagement, it is provided with a lateral extension 27 within the end of the tubular shaft. This extension is screw threaded to receive the lower end of screw 28 which passes freely through an opening in the wall of the tubular shaft. It will be understood that turning of the head of the screw by a suitable wrench will tend to lift or lower the locking dog 25.

A laterally extending arm 29, integral with or suitably secured to the treadle 17, is connected by an extensible rod 30 with the part to be controlled. As will be later explained, this is the operating means for the clutch of the transmitter in the illustrative machine. A similar extensible rod or a chain may be connected with the treadle 18 at the opening 31 provided therein. This extensible rod or chain may be connected to operate any other portion of the apparatus which it is desired to control by foot, as for example the presser bar lifting means, or the cutter of a folding attachment.

As best shown in Figs. 1 and 4, the member 14 presents a relatively long lubricant pan which, as previously explained, forms the support for a table board 32, a sewing machine 33, an electric transmitter 34, a thread stand 35 and a knee press 36. The manner in which each of these members is mounted on the lubricant pan will now be explained.

Referring to Figure 2, the means for securing the table board to the pan 14 comprises a series of posts, preferably 4, one of which is shown in Fig. 2. This consists of an elongated element 37 which as illustrated, is hexagonal in cross section to facilitate turning by means of a wrench. It has a downwardly extending threaded stem 38 having screw threaded engagement with an opening in a laterally extending ear formed on the lubricant pan. At its upper end the element 37 is provided with a screw threaded recess arranged to receive the threaded stem 39 of an element having an enlarged head 40 embedded in a cylinder 41 formed of rubber or other resilient material. A lock nut 42 serves to lock the stem 39 in the threaded opening of the element 37. Some adjustment of the overall height of the post is permitted by this arrangement. Extending upwardly from the cylinder 41 is a screw threaded element 43 having an enlarged head, similar to the head 40, embedded in the cylinder. An internally threaded hollow screw 44 passing through a suitable opening in the table board and having its head countersunk in the upper surface of the table board serves to retain the latter firmly against the upper surface of the cylinder 41. The latter absorbs or isolates vibrations and eliminates or minimizes their transmission to or from the table board.



On the under surface of the table board there is mounted a pair of spaced cleats 45 which are L-shaped in cross section and arranged to cooperate with grooves in the side walls of a drawer 46. In the region of the lubricant pan there is also secured to the under surface of the table board an apron 47 of U-shaped form. To this apron there is hingedly secured, by means of hinges 48, a cover member 49 which extends across the front of the sewing machine. This cover member may be swung outwardly whenever desired to permit removal or replacement of the sewing machine and to provide access to the mechanism within the base of the sewing machine such as the loopers and work feeding devices and the like.

The sewing machine 33 is mounted on the top of the lubricant pan by means adapted to isolate vibrations. For this purpose there is secured to the bottom of the machine a plate 50 which is affixed to the frame of the sewing machine by any suitable means such as screws 51. The plate 50 carries a number of foot elements 52, preferably of frusto conical shape and formed of rubber or any other suitable vibration isolating material. These foot elements are adapted to fit into recesses or sockets formed in the tops of a plurality of bosses 53 extending upwardly from the bottom of the lubricant pan. As shown in Fig. 4, 10 such bosses are provided in the illustrative apparatus.

Plate 50 is provided with six foot elements arranged to fit into a corresponding number of the bosses. The arrangement and number of bosses 53 provided in the lubricant pan is such as to accommodate sewing machines of a variety of different types having foot elements similar to elements 52 attached thereto at the most appropriate locations. Some of the bosses are used in relation to certain machines and others in relation to other machines.

The transmitter 34 is supported from the underside of the lubricant pan 14. For this purpose the arrangement disclosed in Fig. 1 comprises a plate which is adjustably mounted, in a manner to be explained, for belt tightening purposes and to which the transmitter is connected in a way to isolate vibrations. Transmitter 34 has a frame member 54 provided with laterally extending ears or feet, one of which is indicated at 55. A screw 56 passed through an opening in the ear 55 and threaded into a plate 57 serves to attach one side of the frame member 54 to the plate. Isolation absorbing washers 58 are provided between the ear 55 and plate 57 and between the ear 55 and the head of the screw 56. In this way metal to metal contact is avoided in the means for attaching the transmitter frame to the plate. Similarly, a screw 60 threaded into the plate 57 passes through an ear or a foot 59 at the opposite side of the frame member 54 and vibration isolating washers 61 are provided at opposite faces of the ear 59. Plate 57 has upwardly extending lugs 62 having axially aligned openings to receive a fixed shaft 63 carried by downwardly extending ears (see Fig. 3) formed on the lubricant pan. At its forward end the plate 57 is retained by a screw threaded member 64 which is pivotally mounted on downwardly extending lugs 65 formed on the lubricant pan. The angular position of the plate 57 may be varied by adjustment of nuts 66 along the screw threaded element 64. As will be apparent from Fig. 3, the tension on the belt connecting the transmitter with the sewing machine may be varied by this adjustment of the nuts 66 along the element 64.

Transmitter 34 may be of any suitable construction as for example of the type disclosed in the patent to Peets et al. No. 2,004,055 granted June 4, 1935. It is provided with a control arm 67 adapted, upon operation, to cause engagement of the clutch embodied in the transmitter unit. Operation of the arm 67 is brought about through the depression of the treadle 17

which is connected by the extensible rod **30** with the arm **67**. As explained in said patent to Peets et al., operation of the arm **67** causes shifting of a sleeve which carries a shaft **68** on the outer end of which is mounted a pulley **69**. The latter is connected by a belt **70** with a combined hand wheel and pulley **71** carried by the main driving shaft of sewing machine **33**. An opening **701** through the bottom of the lubricant pan provides for full passage of the belt between the pulleys. This opening is bordered by an upstanding flange which prevents the escape of lubricant at this point.

The thread stand may suitably be of the form disclosed in the patent to Smith No. 2,430,832, granted November 11, 1947. The lower end of the main supporting standard **35** of this thread stand is fitted into an opening **72**, Fig. 4, provided in the upper face of the lubricant pan **14**. It may be retained simply by a tight fit within the opening or by the employment of screw threads as shown. C-shaped cone retaining arms **351** and **352** are clamped in any suitable positions upon the standard **35**. (See Fig. 21.)

An advantage of this mode of support of the thread stand is that it enables removal of the table board and its replacement by a different type of table board without the necessity of removing or disturbing the thread stand. A suitable cut-out portion or notch **321** (Fig. 19) may be provided adjacent the edge of the table board to enable it to be inserted around or removed from the lower end of the standard of the thread stand.

The knee press plate **36** is mounted at the lower end of a rod **73** which at its upper end is clamped to a rock shaft **74** mounted in downwardly extending ears **75** provided on the lubricant pan. At a suitable point along the rock shaft **74** there is clamped an arm **76**, Fig. 4, which is arranged to extend upwardly through an opening **77** in the bottom of the lubricant pan. Opening **77** has an upstanding flange surrounding the same to prevent the discharge of lubricant which may accumulate in the pan as it drips from the mechanism of the sewing machine. Arm **76** is adapted to cooperate with a lever of the type shown in Fig. 5 of the patent to Sauer, No. 2,323,422, granted July 6, 1943. Through connections of the character disclosed in said patent, the operation of the knee press may serve to lift the presser bar of the sewing machine. If desired the rock shaft **74** could be arranged for operation by the treadle **18** instead of by the knee press as disclosed. For this purpose an arm provided on the shaft **74** may be connected by a suitable chain or an extensible rod, similar to the rod **30**, with the opening **31** in the treadle **18**. If desired, either the treadle or the knee press could be connected by a suitable means (not disclosed) with the operating means of an appropriate folder while the other of these control members may be connected with the presser bar lifting means. Or either of the controls might be arranged to operate any other device adapted to be operated at the will of the operator, such as a fastener guiding attachment of the character shown in the patent to Schweda, No. 2,603,174, granted July 15, 1952.

Any lubricant which drips into the lubricant pan **14** may be discharged through an opening **78** provided in the bottom of the pan at its lowest point and delivered into a container **79** which may suitably be in the form of a glass jar secured to the under surface of the lubricant pan around the opening **78**. For retaining the jar in position a coiled wire element **80** may be provided. This has vertically extending branches **81** adapted to be hooked into openings in downwardly extending ears **82** provided on the lubricant pan adjacent the opening **78**. The coiled portion of the wire element is engaged with the bottom of the lubricant collecting jar and may be easily shifted to release the jar whenever it becomes substantially filled.

In Figs. 9, 10, 12, and 14 there is shown a modified form of sewing unit having many features similar to those in the embodiment described above, but having various differences in the construction of certain portions of the unit and having a different relationship between certain of the elements of the combination. The modified unit has a pedestal support which may be the same as that disclosed in Figs. 1 to 8 inclusive. Briefly, it comprises a substantially U-shaped base element **10*a*** and a tubular column **12*a***. In the base member there is adjustably mounted a stationary shaft **19*a*** upon which is rockably mounted a treadle **17*a***. If desired a second treadle similar to the treadle **18** of Figure 5 may be provided. At the top of the column **12*a*** is mounted a lubricant pan **14*a*** having a downwardly extending sleeve or collar **15*a*** adapted to surround the upper end of the column **12*a***. Set screws **16*a*** serve to lock the lubricant pan in position on the column. The arrangement permits vertical adjustment of the pan and also horizontal adjustment about the axis of the column **12*a***.

Lubricant pan **14*a*** is of shorter length than the pan **14** of the first embodiment. It also differs in detail from the pan **14** in various respects, but in general its construction and purpose are similar. It is adapted to support a suitable table board **90** which, as shown in Fig. 9, may extend over the lubricant pan **14*a*** and project to any desired distance beyond the right hand end of the same. Its left end terminates substantially in vertical alignment with the left end of the lubricant pan. Table board **90**, shown in plan in Fig. 18, is secured to the lubricant pan by four attaching means of the type shown in Fig. 12. Each comprises a cylindrical element **91** formed of rubber or other yieldable material capable of absorbing or isolating vibrations. In this are embedded the heads of two screw elements **92** and **93**. Element **93** is engaged with the screw threads of an opening in an ear projecting laterally from the lubricant pan **14*a***. Screw element **92** cooperates with an internally threaded hollow screw **94** the head of which is countersunk in the upper surface of the table board **90**. As will be seen from the drawings the arrangement described serves to position the table board only a slight distance above the upper surface of the lubricant pan and it provides a non-submerged arrangement of a sewing machine **33*a***.

The sewing machine **33*a*** may be of any suitable construction, but for the purposes of illustration there is shown a type particularly suited for hemming operations on tubular work such as the ends of the leg portions of a pair of pajamas or the ends of the sleeves of such a garment. It will be observed that the work supporting portion of the machine projects toward the left sufficiently beyond the end of the lubricant pan **14*a*** and the table board **90** to permit the necessary manipulation of the work around the work support in the course of forming a hem. In dealing with smaller tubular work it will be understood that the work supporting portion of the sewing machine may be reduced in dimension and may be suitably shaped to cooperate properly with the work. For this purpose a machine constructed in accordance with the patent to Hayes, No. 2,583,735, granted January 29, 1952, may be employed.

The sewing machine **33*a*** is supported on the lubricant pan **14*a*** by means of frusto conical foot elements **95** which are attached in any suitable way to the bottom of the sewing machine frame. Each of the foot elements may, for example, be provided with a screw threaded stem adapted to cooperate with a screw threaded opening in the frame. Upstanding bosses **96** provided in the lubricant pan are recessed to receive the foot elements **95**.

A transmitter **34*a***, similar to the transmitter **34** of Fig. 1 may be suspended from the lubricant pan **14*a*** in the same manner as the transmitter of Fig. 1. Certain of the parts of the mounting are indicated in Fig. 9 by corresponding numbers with the letter "*a*" added thereto. A belt **70*a*** serves to connect a pulley **69*a*** of the transmitter with the hand wheel and pulley **71*a*** of the sewing machine.

A knee press plate **36*a***, Fig. 9, is secured to a downwardly extending rod or arm **97**, adjacent its lower end.

Arm 97 is clamped at its upper end within a member 98 which in turn is clamped to a rock shaft 99 that extends across the top of the lubricant pan, Fig. 10. This rock shaft is journaled at its opposite ends in upstanding ears 100 provided on the lubricant pan. Secured to the rock shaft 99 at the appropriate point is an arm 101 adapted to cooperate with the presser bar lifting mechanism of the sewing machine in the same manner as the arm 76 of Fig. 4.

A thread stand 35*a* of the type shown in the above mentioned Smith Patent No. 2,430,832 may be mounted on the lubricant pan in the same manner as described in connection with Fig. 1. It will be understood that the table board may be suitably formed to permit its removal without disturbing the thread stand.

In the bottom of the lubricant pan 14*a* there is provided a lubricant discharge opening 78*a* beneath which is mounted a jar or receptacle 79*a* to receive lubricant caught by the drip pan from the operating mechanism of the sewing machine. A coiled wire element 80*a* similar to element 80 of Fig. 1 serves to retain the lubricant collecting jar in position.

In Figs. 11 and 13 there is illustrated a further modified arrangement of the various parts of a sewing unit of the character described above. The main suporting portion of the pedestal is the same as described in connection with Figures 9 and 10. Only the column 12*b* and the lubricant pan 14*b* are illustrated. This lubricant pan may suitably be of the same form as the pan 14*a* illustrated in Fig. 10. Only the portion 54*b* of the transmitter, which corresponds with the portion 54 of Fig. 1, is shown. It will be understood however, that the transmitter may be of the same construction as that shown in Fig. 1 and it may be mounted on the lubricant pan and suspended therefrom in the same manner. The sewing machine 33*b* is illustrated in a non-submerged position in relation to a table board 110. The sewing machine may, for example, be of the flat bed type and of the character disclosed in the patent to Peterson et al. No. 2,598,426 granted May 27, 1952. It is supported on the lubricant pan 14*b* by means of frusto conical foot elements 111 formed of rubber or other vibration isolating material and arranged to fit into recesses in the tops of upstanding bosses 112 formed in the lubricant pan. The foot elements 111 may have screw threaded stems fitted in screw thread openings in the bottom of the frame of the sewing machine.

Table board 110 is arranged to surround the sewing machine, the general contour of the base of which is indicated by the broken line 113. It will be understood that an opening is provided through the table board of a size slightly larger than the base of the sewing machine frame. The table board 110 is secured to the lubricant pan 14*b* by means of four vibration isolating fastening elements of the type illustrated in Fig. 12. A tray or auxiliary cloth plate 114, formed of wood or a suitable plastic, extends along the front and rear sides of the base of the sewing machine and projects some distance toward the left beyond the end of the sewing machine base. The upper surface of this tray is flush with the work supporting surface of the sewing machine.

Turning now to Figs. 15, 16 and 17 there is illustrated a suitable fully submerged mounting for a lock stitch sewing machine of the general character indicated in the patent to Christensen No. 2,113,572, granted April 12, 1938. The main pedestal support, which is not shown, may be of the same character as illustrated in Figs. 1 to 8 inclusive. So, also, at the upper end of the tubular column there is provided a lubricant pan 14*c* which may suitably be of the same form as the pan 14 illustrated in Fig. 4. A table board 120 having an opening just large enough to receive the base portion of the sewing machine is secured to the lubricant pan by a plurality of posts similar to the one shown in Fig. 2. The element 37 of that figure is, however, replaced by an element 37*c* of somewhat less height in order to present the top of the table board at the level of the work supporting surface of the sewing machine.

For mounting the sewing machine in vibration isolating relation to the lubricant pan, in a manner enabling the sewing machine to be tilted rearwardly for access to the mechanism in the base, a supporting plate 121, Fig. 16, is provided.

This plate carries a number of downwardly extending foot elements 122 of frusto conical form each of these being attached to the plate by means of a screw threaded stem. Foot elements 122 are formed of rubber or other yieldable material adapted to isolate vibrations. Six such elements are provided on the plate illustrated in Fig. 16. They are arranged to fit into recesses provided in the tops of a plurality of upstanding bosses 123 formed in the upper surface of the lubricant pan. To provide a pivotal support for the sewing machine, the plate 121 is formed with an upstanding ear 124 toward its left end. This ear has a notch 124*a* in its upper edge. A similar upstanding ear 125 is provided at the right end of the plate 121 and this is similarly provided with a notch 125*a* in its upper edge. A plate 126 secured to the bottom of the gear housing, which encloses the gears for the rotary hook shaft, has a rearwardly and upwardly extending portion 127, Fig. 15, from which a pin 128 extends inwardly, i. e. toward the left. This pin is adapted to fit into the notch 124*a* and forms one of the pivots for the machine. Similarly, a plate 129 is secured to the bottom of the vertical standard of the sewing machine and this plate has an upturned portion 130 from which extends outwardly, toward the right, a pin 131. This pin cooperates with notch 125*a* to provide a second pivot for the machine. As best shown in Fig. 17, the machine is thus adapted for pivotal movement about an axis located some distance from the rear edge of the sewing machine toward the center line of the machine. It is thus located closer to the center of gravity of the machine than in arrangements in which pivoting of the machine is about hinges along the rear edge of the base. When the machine is tilted rearwardly it is permitted to rest against a wooden stop 132. When it is swung into its operating position, portions of the plates 126 and 129 are adapted to engage stop elements 133 carried by the upper surface of the plate 121. Each of the stop elements may be provided with a layer of vibration absorbing material on its upper surface.

Plate 121 is provided with a recessed or depressed portion 134 to provide clearance for the pivotal action of the sewing machine, as best indicated in Fig. 17. An opening 135 is provided through the plate at a low point to permit drainage into the lubricant pan of any lubricant which may drip on to the plate. Adjacent its left end the plate is cut away as indicated at 136 in the region where most of the lubricant will drip from the feed mechanism and the rotary hook. A depression 137 is provided, at the point indicated, to provide clearance in this region for certain parts of the sewing machine as the latter is tilted backwardly above the pivot pins 128 and 131.

Toward the left end of the plate 121 there is provided an upstanding plate-like guard element 138 having its upper edge formed as shown in Fig. 17. This guard element, which may be formed integral with the plate 121 or secured thereto by welding or the like, serves to catch any lubricant spray that may be thrown by the rotary hook or other moving parts of the sewing machine. Any such lubricant is delivered to the plate 121 and thence to the drip pan from which it may be collected by a container similar to the jar 79 of Fig. 1.

In Fig. 20 there is illustrated another form of table board 139 which may be used in the new unit when it is desired to provide a relatively large work supporting surface toward the left end of the sewing machine but not toward the right of the latter.

It will be seen from the foregoing that the new unit

is adapted for varied uses, and may be readily assembled in a variety of different forms. The several parts entering into a particular unit are adapted for interchangeable use with other parts to form another unit especially suited for a different type of operation. The base and column portions of the pedestal may be identical for all units with the possible exception of the omission of one of the treadles for certain units. A number of different lubricant pans may be interchangeably mounted on the column to adapt the pedestal support as a whole for the reception of different types of sewing machine. However, a single lubricant pan may be adapted to receive and support a number of different types of sewing machine. A variety of different forms of table board may be mounted on the lubricant pan to provide work supporting surfaces which extend either toward the right or toward the left of the sewing machine or completely around the same, as desired. Moreover, the mounting of the table board on the lubricant pan may be varied through the use of securing posts of different length so as to provide for a fully submerged, a partially submerged or a non-submerged relationship of the sewing machine to the table board.

As indicated in the detailed description, the mode of assembly of the various parts of the complete unit is such that the various elements of the combination which have a tendency to set up vibrations are isolated against the transmission of vibrations to the supporting structure or to or from each other. So also, as indicated in the detailed description of the invention, the several important elements of the unit such as the sewing machine, the electric transmitter, the table board and the thread stand, are independently mounted on the lubricant pan so that any one of these elements may be removed without disturbing the others.

While a number of illustrative embodiments of the invention have been disclosed in some detail, it will be understood that various changes may be made in the construction and arrangement of the various parts of any of the embodiments, and that features disclosed in relation to one embodiment may be employed in connection with another, without departing from the spirit or scope of the invention.

What is claimed is:

1. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end, a sewing machine mounted directly on said pan, said pan extending beyond the horizontal limits of said sewing machine, vibration isolating elements interposed between said sewing machine and said pan, a motor and clutch unit, means for attaching said unit to said pan independently of said sewing machine, said attaching means having elements therein for isolating vibrations developed by said unit, means for transmitting power from said unit to said sewing machine, a table board associated with said sewing machine and having a clearance opening surrounding said sewing machine, and vibration isolating means for connecting said table board to said pan at points beyond the horizontal limits of said sewing machine, said table board being removable independently of said sewing machine and said unit.

2. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end, a sewing machine mounted on said pan, said pan extending beyond the horizontal limits of said sewing machine, vibration isolating elements interposed between said sewing machine and said pan, a motor and clutch unit, means for attaching said unit to said pan independently of said sewing machine, said attaching means having elements therein for isolating vibrations developed by said unit, means for transmitting power from said unit to said sewing machine, a table board associated with said sewing machine and having a clearance opening surrounding said sewing machine, vibration isolating means for connecting said table board to said pan independently of said sewing machine and said unit at points outwardly of the horizontal limits of said sewing machine, and a thread stand mounted directly on said pan independently of said table board outwardly of the horizontal limits of said sewing machine for supplying thread to said sewing machine, said table board being cut away in the region of said thread stand so that said board and stand are separately removable from said pan.

3. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end, and extending in cantilever fashion from said column, securing means for said pan enabling vertical and horizontally angular adjustment of the pan in relation to said column, a sewing machine mounted directly on said pan, said pan extending beyond the horizontal limits of said sewing machine, vibration isolating elements interposed between said sewing machine and said pan, a motor and clutch unit, means for attaching said unit to said pan independently of said sewing machine, said attaching means having elements therein for isolating vibrations developed by said unit, a treadle rockably mounted on said base member, connections from said treadle to said unit for controlling the operation of the latter means for transmitting power from said unit to said sewing machine, a table board associated with said sewing machine and having a clearance opening surrounding said sewing machine, and vibration isolating means for connecting said table board to said pan at points beyond the horizontal limits of said sewing machine, said table board being removable independently of said sewing machine and said unit.

4. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end, a sewing machine, a motor and clutch unit and a table board carried by said lubricant pan, said pan extending beyond the horizontal limits of said sewing machine and said table board having a clearance opening surrounding said sewing machine, separate means for mounting said machine, said unit and said table board on said pan, each independently of the others, each of said separate mounting means being adapted to isolate vibrations, and power transmitting connections between said machine and said unit.

5. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end, a sewing machine, a motor and clutch unit and a table board carried by said lubricant pan, means for separately mounting said machine, said unit and said table board directly on said pan, a treadle mounted on said base member and adjustable from front to rear thereof to accommodate the physical characteristics of the operator in relation to the sewing machine and table board, adjustable connections from said treadle to said motor and clutch unit to control the operation thereof, and connections from said unit to said sewing machine for driving the latter.

6. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting

pan secured to said column adjacent its upper end, a sewing machine, a motor and clutch unit and a table board carried by said lubricant pan, means for separately mounting said machine, said unit and said table board directly on said pan, a treadle, means for mounting said treadle on said base member comprising a shaft about the axis of which said treadle rocks, means for retaining said shaft in a plurality of different positions on said base member from front to rear thereof to accommodate the physical characteristics of the operator in relation to the sewing machine and the table board, connections from said treadle to said motor and clutch unit for controlling the operation thereof, and connections from said unit to said sewing machine for driving the latter.

7. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end, a sewing machine, a motor and clutch unit and a table board carried by said lubricant pan, means for separately mounting said machine, said unit and said table board directly on said pan, a treadle, means for mounting said treadle on said base member comprising a shaft about the axis of which said treadle rocks, means for retaining said shaft in a plurality of different positions on said base member, from front to rear thereof, means for retaining said treadle in different positions of axial adjustment along said shaft, adjustment of the position of said shaft and of the treadle in relation to said shaft serving to accommodate the physical characteristics of the operator in relation to the sewing machine and table board, adjustable connections from said treadle to said motor and clutch unit for controlling the operation thereof, and connections from said unit to said sewing machine for driving the latter.

8. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end, securing means for said pan enabling vertical and horizontally angular adjustment of the pan in relation to said column, a sewing machine, a motor and clutch unit and a table board carried by said lubricant pan, means for separately mounting said machine, said unit and said table board directly on said pan, a treadle, means for mounting said treadle on said base member comprising a shaft about the axis of which said treadle rocks, means for retaining said shaft in a plurality of different positions on said base member from front to rear thereof to accommodate the physical characteristics of the operator in relation to the sewing machine and table board, adjustable connections from said treadle to said motor and clutch unit for controlling the operation thereof, and connections from said unit to said sewing machine for driving the latter.

9. Sewing apparatus which comprises a metallic pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed metallic lubricant collecting pan secured to said column adjacent its upper end and projecting in cantilever fashion therefrom, a plate having vibration isolating feet removably mounted in said pan, sockets in said pan to receive said feet and retain the same, and a sewing machine mounted on said plate.



10. Sewing apparatus which comprises a metallic pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed metallic lubricant collecting pan secured to said column adjacent its upper end and projecting in cantilever fashion therefrom, said pan having a plurality of sockets extending upwardly from the bottom thereof, and a sewing machine mounted on said pan, said sewing machine having a plurality of spaced vibration isolating foot elements extending downwardly therefrom, each of said elements being arranged to fit into one of said sockets and being retained thereby.

11. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end and projecting in cantilever fashion therefrom, said pan having a plurality of sockets in the bottom thereof, a plate removably mounted in said pan and having a plurality of vibration isolating foot elements each seated in one of said sockets, and a sewing machine mounted on said plate, said machine and plate having cooperating pivot means arranged to enable said machine to be swung rearwardly to provide access to the lower portion thereof.

12. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end and projecting in cantilever fashion therefrom, said pan having a plurality of sockets in the bottom thereof, a plate removably mounted in said pan and having a plurality of vibration isolating foot elements each seated in one of said sockets, and a sewing machine mounted on said plate, said machine and plate having cooperating pivot means arranged to enable said machine to be swung rearwardly to provide access to the lower portion thereof, the axis of said pivot means being disposed well forward of the rearward face of said machine.

13. Sewing apparatus which comprises a pedestal having a floor engaging base member and a vertical column extending upwardly from said base member adjacent one end thereof, a horizontally disposed lubricant collecting pan secured to said column adjacent its upper end and projecting in cantilever fashion therefrom, said pan having a plurality of sockets in the bottom thereof, a plate removably mounted in said pan and having a plurality of vibration isolating foot elements each seated in one of said sockets, and a sewing machine mounted on said plate, said machine having a plurality of lubricant housings, means projecting laterally from said housings intermediate the forward and rearward faces thereof cooperating with portions of said plate, thereby providing cooperating pivot elements for enabling the rearward tilting of the machine on the plate.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 1,295,133 | DeVoe | Feb. 25, 1919 |
| 1,299,143 | DeVoe | Apr. 1, 1919 |
| 2,477,433 | Webb | July 26, 1949 |
| 2,496,230 | Peterson | Jan. 31, 1950 |
| 2,587,887 | Peterson et al. | Mar. 4, 1952 |