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2,409,758

CONVERTIBLE SEWING AND DARNING MACHINE

Filed Feb. 25, 1943

3 Sheets-Sheet 1

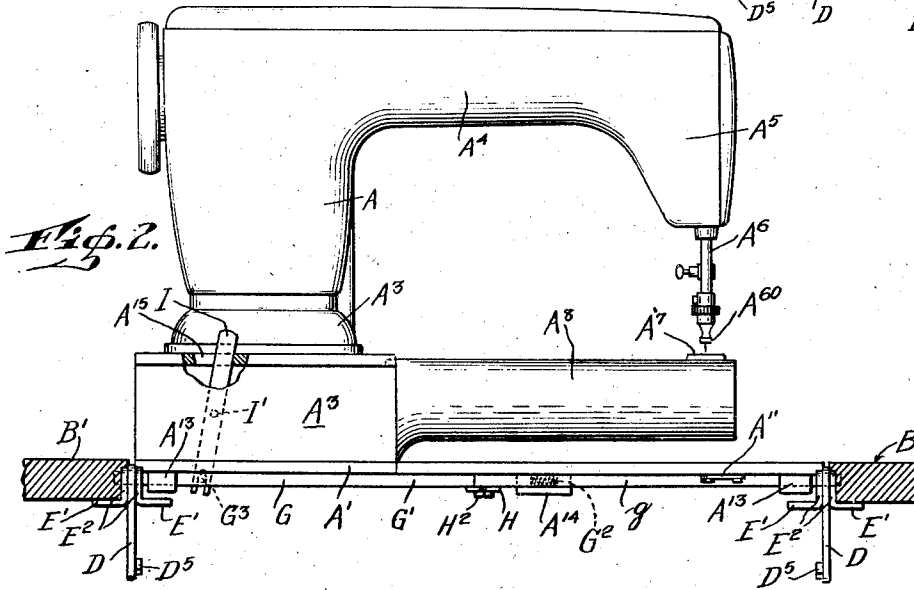
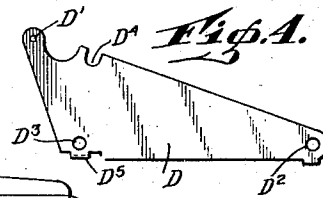
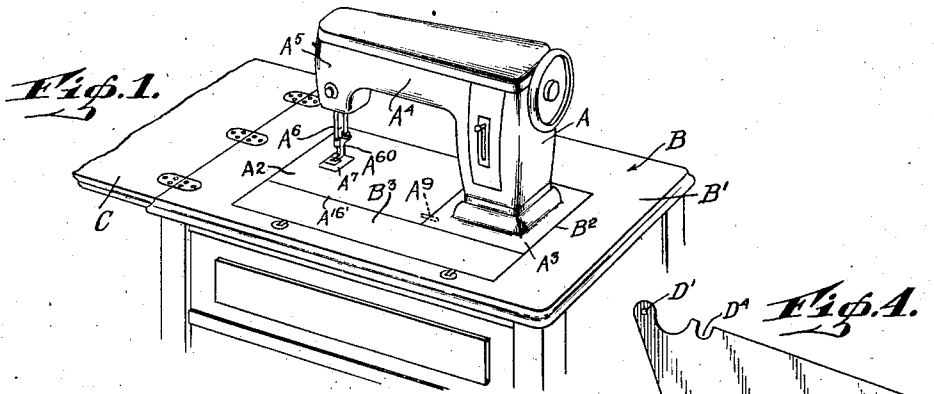
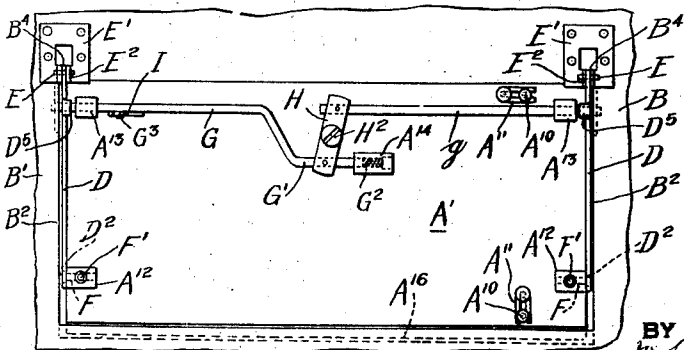


Fig. 3.



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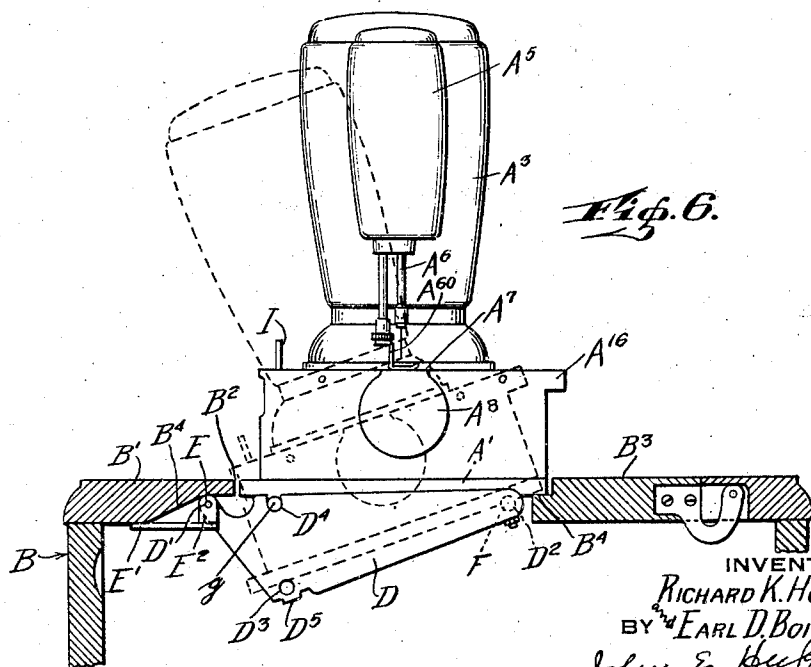
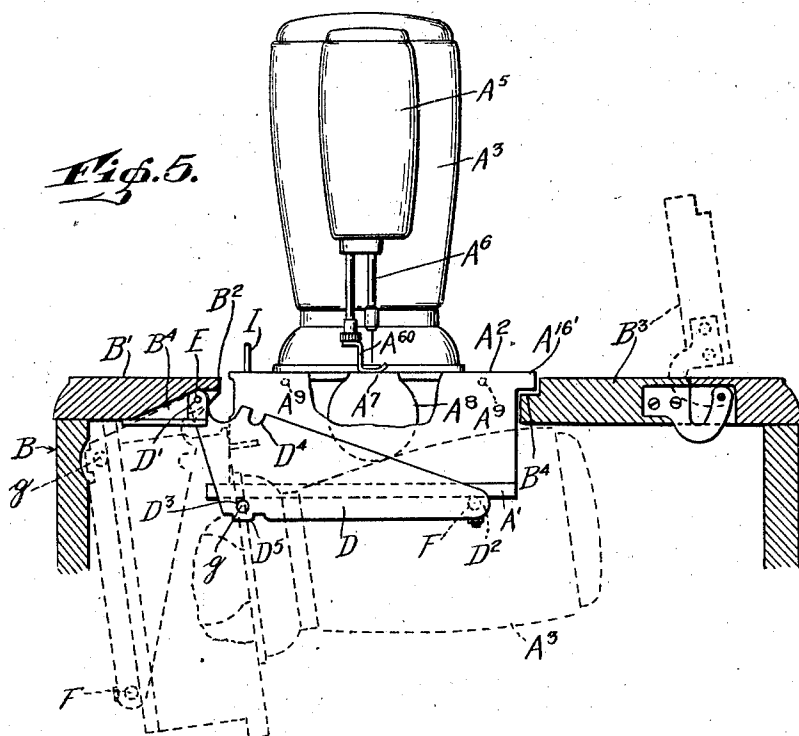
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CONVERTIBLE SEWING AND DARNING MACHINE

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3 Sheets-Sheet 2



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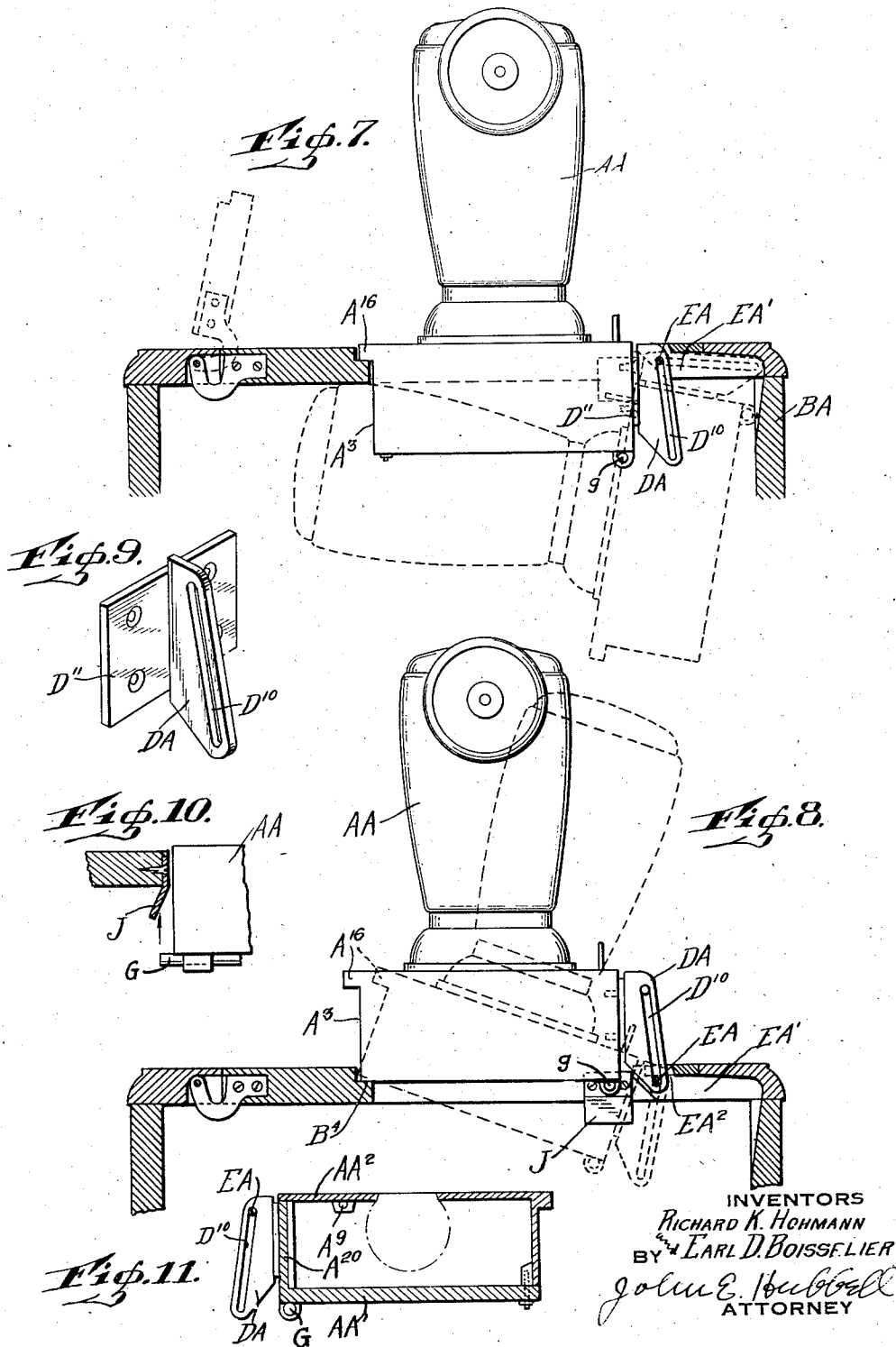
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CONVERTIBLE SEWING AND DARNING MACHINE

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UNITED STATES PATENT OFFICE

2,409,758

CONVERTIBLE SEWING AND DARNING
MACHINE

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5 Claims. (Cl. 112—260)

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The present invention relates to sewing machines of the general type disclosed in Patent 2,247,379, granted July 1, 1941, and known as convertible sewing and darning machines. A machine of the above mentioned type comprises a removable flat work bed or cloth plate member and is adapted to operate like a sewing machine of the usual type when said member is in place, and comprises a cylinder arm work support which is beneath the flat work bed member when the latter is in place, and which on the removal of said member is made accessible for use in darning operations and in sewing operations on tubular work parts surrounding the cylinder arm work support, which cannot be performed readily and efficiently, if at all, when the work rests on an ordinary flat work bed or cloth plate.

As a matter of convenience, we herein refer to the operative condition of a sewing machine of the type specified when its flat work bed member is in use, as its sewing condition, and refer to the operative condition of the machine when said flat work bed member is removed as its darning condition, although it is practically possible to use the machine in effecting some sewing operations and some darning operations both when the flat work bed member is in place and also when that member is removed.

The general object of the present invention is to provide a sewing machine of the above mentioned type with improved means for maintaining the machine in its sewing condition in a position well adapted for plain sewing operations, and when in its darning condition to maintain the machine in a different position well adapted for darning operations.

A more specific object of the present invention is to combine a sewing machine of the above mentioned type with a drop head cabinet in such manner, that the sewing machine may be readily maintained in any one of three different positions relative to the cabinet, namely, an idle position in which said frame is enclosed in said cabinet, a lower operative, or sewing, position in which the frame projects up through an opening in the top wall of the cabinet to the extent required to make the upper surface of its removable flat work bed member substantially flush with the top surface of the top wall or table member of the cabinet, and an upper operative, or darning, position higher than said sewing position in which the machine extends upward through the table far enough for the cylinder arm work support to be above the top surface of the cabinet table and

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readily accessible when the flat work bed member is removed.

A still more specific object of the present invention is to provide a simple and effective hinge connection between the sewing machine element and the cabinet element of the above mentioned combination, permitting the sewing machine to be adjusted between its idle and sewing positions by simple turning movements, and which permits adjustment of the sewing machine between its sewing and darning positions to be effected by a combination of simple turning movements of the sewing machine element in opposite directions relative to the cabinet element, and an adjustment of said hinge connection relative to one of said elements.

The various features of novelty which characterize our invention are pointed out with particularity in the claims annexed to and forming a part of this specification. For a better understanding of the invention, however, its advantages, and specific objects attained with its use, reference should be had to the accompanying drawings and descriptive matter in which we have illustrated and described preferred embodiments of the invention.

Of the drawings:

Fig. 1 is a perspective view of a preferred embodiment of the invention in its flat work bed sewing condition;

Fig. 2 is a side elevation, partly in section of a portion of the apparatus shown in Fig. 1, in its normal darning condition;

Fig. 3 is an inverted plan view of the machine shown in Figs. 1 and 2;

Fig. 4 is an elevation of a hinge member of the apparatus shown in Figs. 1, 2 and 3;

Fig. 5 is an end elevation partly in section of the apparatus shown in Fig. 2 illustrating the adjustment of the sewing machine between its idle and normal sewing positions;

Fig. 6 is a view similar to Fig. 5 illustrating the adjustment of the sewing machine between its normal sewing and normal darning positions;

Fig. 7 is a view taken similarly to Fig. 5 illustrating the adjustment of the sewing machine between its idle and normal sewing positions in a modified form of the invention;

Fig. 8 is a view taken similarly to Fig. 7 illustrating the adjustment of the machine shown in Fig. 7 between its normal sewing and normal darning positions;

Fig. 9 is a perspective view of a hinge member used in the construction shown in Figs. 7 and 8;

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Fig. 10 is a partial section taken at right angles to Fig. 7; and

Fig. 11 is a partial transverse section of the machine shown in Figs. 7 and 8.

In Figs. 1-6 a convertible sewing and darning machine A is mounted in a drop head sewing machine cabinet B which in most respects is of conventional type and form. The cabinet B comprises a boss like upper portion with a top wall or table B' formed with an opening B² through which the sewing machine extends when in its operative positions. The cabinet table or top wall B' comprises a hinged part B³ which normally closes a front side portion of the opening B² and serves purposes hereinafter described. In its idle or inoperative position, the machine A is wholly within the cabinet as shown in dotted lines in Fig. 5 and the opening B² may then be closed by a cover member C which is hinge connected to the table B' and forms an extension of the latter in the normal use of the machine, as is shown in Fig. 1, when the machine is in its operative positions. In its darning, or upper operative condition, shown in Fig. 2 and in full lines in Fig. 6, substantially all of the sewing machine frame A is above the top of the table B', except its bottom or base plate portion A'. In its normal sewing condition shown in Fig. 1 and in full lines in Fig. 5, the sewing machine frame A occupies a lower operative position in which its removable cloth plate or flat work bed member A², then in place, has its top surface substantially flush with the top surface of the table B'.

In its form illustrated by way of example, the frame of the sewing machine A comprises a pedestal portion A³ rigidly connected to and extending upward from the base plate portion A', at one end of the position occupied by the removable work bed or cloth plate member A², when the latter is in place. The pedestal A³ is rigidly connected to and directly supports the uprising frame standard portion, to the upper end of which one end of the usual horizontal overhanging arm A⁴ is integrally connected. At its opposite end the arm A⁴ carries a needle head A⁵ supporting a needle bar A⁶ and associated parts including a presser foot A⁶⁰ cooperating with under bed stitch forming mechanism A⁷ mounted in the horizontal cylinder arm work support A⁸ which has one end rigidly connected to the pedestal A³. The cylinder arm A⁸ is spaced above the base plate A', so that a stocking or other tubular work piece may be moved over the free end of the cylinder arm when the removal of flat work bed part A² makes said cylinder arm accessible, as shown in Fig. 2.

The removable flat work bed member A² may take various forms and as shown is of a form illustrated in said prior patent which comprises parts like the top, sides and one end of a metallic box and has a top wall opening in which the work engaging portion of the mechanism A⁷ extends. At its end adjacent the pedestal A³ the member A² may carry horizontal dowel pins A⁹ adapted to enter pedestal openings provided for the purpose and extending into the pedestal from its front side. Adjacent its end remote from the pedestal, the member A² is provided with vertical dowel pins A¹⁰, each of which is adapted to pass downward through a corresponding opening formed in the base member A' into yielding locking engagement with a corresponding spring retaining member A¹¹ secured to the underside of the base member. As shown, each member A¹¹

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is a hairpin shaped spring with each of its resilient legs received in grooves formed in the corresponding pin A¹⁰ when the bed member A² is in use. It is noted, however, that the present invention is not concerned with the particular form and character of the mechanism housed in the sewing machine frame A, or with details in form of the sewing machine frame or with the form of the removable work bed member A².

In the form of the invention shown in Figs. 1-6, the table A' and the frame of the sewing machine A are connected by means comprising two similar hinge members D, one at each end of the lower portion of said frame, and each pivotally connected at one end to the cabinet by a corresponding horizontal pivot pin or pintle E and pivotally connected at its other end to the sewing machine frame by a corresponding pivot pin F. Each pintle E has its end portions anchored to the cabinet table B' at opposite sides of a corresponding slot or kerf B⁴ extending into the portion of the table adjacent the rear edge of the opening B², i. e. the edge of the opening B² remote from the position customarily occupied by the user of the machine. Each pivot pin E extends through and is journaled in an opening or bearing passage D' formed for the purpose in the corresponding hinge member D at one end of the latter. The sides of each kerf B⁴ adjacent the inserted end of the corresponding hinge member D, are lined by spaced apart flat plate portions E² of a hinge member E', which as shown, is rigidly secured by screws to the table B'. The plate portions E² of each hinge member E' are formed with aligned openings in which the ends of the corresponding hinge pintle E are anchored. At its end remote from its openings D', each hinge member D is formed with a second opening or bearing passage D² which receives the corresponding hinge pintle F, which is secured as by means of a set screw F', in a corresponding tubular boss A¹² portion of the sewing machine frame at the underside and adjacent a corresponding corner of the latter.

Means are provided for releasably securing the sewing machine frame and associated hinge members D in each of two different relative angular positions. The means shown for this purpose, comprise an opening D³ and an opening or notch D⁴ formed in each hinge member D at a considerable distance from its opening D². Each member D has its opening or notch D⁴ laterally displaced from its opening D³, but has both of those openings at the same distance from its opening D². A bolt G longitudinally movable in a tubular boss A¹³ at the underside of the sewing machine frame is adapted to enter the opening D³ of the adjacent hinge member D, and thereby lock said hinge member and frame together when in their relative angular positions shown in full lines in Fig. 5. The bolt G is also adapted to enter the notch or opening D⁴ and thereby lock the frame and adjacent hinge member together when in their relative angular positions shown in full lines in Fig. 6. A second locking member g in alignment with the hinge engaging portion of the member G, is slidably mounted in a second boss A¹³ adjacent the opposite end of the frame base from the first mentioned boss A¹³, and is adapted to enter the opening D³ or D⁴ of the adjacent hinge member D when the relative angular positions of said hinge member and the frame permit.

Preferably, means are provided for simultaneously moving the bolts G and g into and out of engagement with the hinge members D. To

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this end in the arrangement shown, the bolt G is formed with an offset inner end portion G' which overlaps the inner end portion of the bolt g, and the overlapping end portions of the two bolts are pivotally connected to the opposite ends of a lever H journaled on a pivot H² secured to the base portion of the sewing machine frame. With their described connection *d* movement of one of the bolts G and g into or out of locking engagement with the adjacent hinge member D, will be accompanied by a corresponding movement of the other locking bolt into or out of locking engagement with the other hinge member D.

The portion G' of the bolt G has its free end received in a spring chamber formed in a boss A¹⁴ attached to the underside of the sewing machine frame, and receiving a compression spring G². The latter biases each of the bolts G and g for movement into locking engagement with the corresponding hinge member D. Each of the hinge members D is formed with a lug or projection D⁵ at its side facing the other hinge member and underlying the corresponding opening D³, so that as the sewing machine frame moves from its position relatively to the hinge members D shown in full lines in Fig. 6, into its position relative to said members shown in full lines in Fig. 5, the projections D⁵ prevent over-travel and guide the bolts G and g into the openings D³ in the respectively adjacent hinge members. As shown, a manually operable release lever I is provided to move the bolts G and g out of locking engagement with the hinge members D when a change in the angular position of the sewing machine relative to the hinge members is to be made. The lever I is shown as vertically disposed and extends through a slot A¹⁵ in the top wall or shoulder portion of the pedestal A³ with its upper end at the rear of the uprising standard portion A⁴ of the sewing machine frame, so that it can be readily grasped by the hand of the operator. The lever is connected intermediate its ends to the adjacent side of the hollow pedestal by a pivot I', and the lower end of the lever is bifurcated and straddles a transverse pivot pin G³ secured to the bolt G.

In the idle or inoperative position of the sewing machine in which the latter is received within the box portion of the cabinet G as shown in dotted lines in Fig. 5, the locking bolts G and g extend through the openings D³ in the corresponding hinge members D. To adjust the sewing machine into its lower working or normal sewing position shown in full lines in Fig. 5, the sewing machine frame A and hinge members D are turned without movement relative to each other, clockwise about the axis of the hinge pintles E through the full line position shown in Fig. 5, far enough to permit the hinged table member B³ to move from its dotted line position, shown in Fig. 5, back into its full line position. The sewing machine is then turned counter-clockwise into its full line position shown in Fig. 5, further counter-clockwise movement of the sewing machine being then prevented by the engagement of a projecting ledge or rib portion A¹⁶ of the sewing machine frame A with the hinged table part B³. The rib A¹⁶ projects rearwardly away from the upper end of the rear side of the pedestal A³.

The table part B³ is recessed or rabbetted at its free edge to provide a shoulder B⁴ in position to be engaged by the underside of the rib A¹⁶ when the upper side of that rib and the upper side of the flat work bed member A² are substantially flush with, though preferably slightly above the

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top surface of the table B'. Advantageously and as shown, the flat work bed member A² is provided with a rib portion A^{16'} in alignment with the pedestal rib A¹⁶ when said member A² is mounted on the sewing machine frame. Only engagement of the rib A¹⁶ with the shoulder B⁴ is needed to maintain the sewing machine in its position shown in full line in Fig. 5, and to avoid risk that engagement of the shoulder B⁴ with the rib A^{16'} of the bed member might dislocate the latter, the parts may be shaped to provide some clearance between the rib A^{16'} and the shoulder B⁴ when the sewing machine frame is in the position shown in full line in Fig. 5.

As shown, the table part B³ is connected to the main table part by hinges B⁵ and the parts are arranged to prevent counter-clockwise movement of the part B³ below its position shown in full lines in Fig. 5. The table part B³ may be manually turned into its dotted line position and the user may then grasp the upper horizontal arm portion A⁴ of the frame and give the latter the movements needed to adjust the frame into either of the positions shown in full lines in Figs. 5 and 6, with the hinged table part B³ occupying its full line position. In the Fig. 6 position the lower rear corner portion of the sewing machine frame is seated in the recess B⁴.

In the normal contemplated mode of adjusting the sewing machine frame into its full line position shown in Fig. 6, from either the idle position or the sewing position, respectively shown in dotted lines and in full lines in Fig. 5, the frame is turned about the common axis of the hinge pintles E in the clockwise direction, far enough to permit the return of the hinge table part B³ into its full line position from which it must be displaced to avoid interference with the ribs A⁶ and A^{16'} when the sewing machine frame is being moved through its position shown in dotted lines in Fig. 6. After the parts have been so adjusted that the table part B³ occupies the position shown in full lines while the sewing machine frame occupies the position shown in dotted lines in Fig. 6, the sewing machine frame may be readily adjusted into its position shown in full lines in Fig. 6, by first actuating the release lever I to retract the bolts G and g from the hinge openings D³, and then turning the sewing machine frame clockwise about the common axis of the pintles E, to bring the bolts G and g into position to snap into the recesses D⁴ of the respectively adjacent hinge members D, and thus secure the latter and the sewing machine frame together in their relative positions shown in full lines in Fig. 6.

In turning the sewing machine counter-clockwise as just described, the rear edge of the frame base plate portion A' may bear against the recess shoulder B⁴ of the table member B³, which thus serves as a fulcrum on which the sewing machine frame turns under the leverage force manually impressed on the frame. It is possible, of course, to provide mechanism facilitating the adjustment movements of the sewing machine frame and reducing the manual force required to effect such movements, but the manual force required to effect the above described titling movements of the frame is relatively small and will not be found objectionable by the ordinary user.

In the adjustment of the apparatus shown in full lines in Fig. 5, the relation of the cloth plate portion of the sewing machine frame to the table portion B' of the cabinet B, is exactly like that existing in the sewing condition of the most usual form of conventional drop head cabinet sewing

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machine, and the sewing machine is then usable exactly as is a sewing machine of the most usual and conventional type and form. When the sewing machine is adjusted into the position shown in Fig. 2 and in full lines in Fig. 6, and the removable flat work bed part A² is removed, the cylinder arm work support A³ is accessible and conveniently disposed for sewing and darning operations in which use of the cylinder arm work support A³ is necessary or desirable.

To facilitate those darning operations, the sewing machine may advantageously include provisions for maintaining the sewing machine pressure foot A⁶⁰ in an elevated position, and for temporarily interrupting the feeding movements of the cooperating work feeding mechanism, as is disclosed in the above mentioned patent and in the related Patent 2,247,382 of July 1, 1942. However, as such provisions are not claimed as novel herein and are fully disclosed in the above mentioned patents, they need not be illustrated or further referred to herein.

As will be apparent, the general principles of the present invention may be embodied in apparatus differing in form from that shown in Figs. 1-6, and in Figs. 7-11 we have illustrated by way of example an embodiment of our invention differing somewhat in form and operating characteristics from the embodiment shown in Figs. 1-6.

The apparatus shown in Figs. 7, 8 and 11 comprises a cabinet BA and a sewing machine frame AA which need not differ from the previously described parts B and A, except in respect to their hinge connection. In Figs. 7 and 8 the end of the sewing machine frame AA shown is that at which the uprising standard portion of the frame is located, whereas in Figs. 5 and 6 the needle head portion of the frame A is shown foremost. The essential characteristic of the hinge connection between the sewing machine frame AA and the cabinet BA, is that each of a pair of aligned hinged pintles EA anchored in the cabinet BA, passes through a slot D¹⁰ formed in a hinge part DA shown as comprising a plate like portion D fitting against and rigidly secured to the frame casting by screws. As shown, one of the hinged parts DA bears against and is screw connected to the rear wall of the pedestal portion A³ of the frame AA while the other hinge part DA, adjacent the end of the sewing machine frame remote from the pedestal, is screw connected to a frame portion A²⁰. While this is not essential, the frame portion A²⁰ may conveniently take the form of an integral flange of the base portion AA' of the frame AA, extending upwardly from the rear edge of said base portion as shown in Fig. 11.

As shown, each hinge part DA comprises a plate-like portion transverse to the axis of the pintles EA and in which the corresponding pintle receiving slot D¹⁰ is formed. When the frame is in its operative position each slot D is inclined to the vertical, with its lower end farther than its upper end from the vertical plane touched by the adjacent end of the shoulder B⁴, so that the rear edge of base portion AA' of the frame may rest on said shoulder when the machine is in its upper operative position shown in Fig. 8. The pintles EA have their ends anchored in plate-like portions EA² of a hinge member EA' like the portions E² of the hinge members E', but as shown, the members EA' are shaped to adapt them to seat in recesses formed in the upper side of the cabinet table B'. The difference in form

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between the hinge members EA' and E' is not an essential feature of difference between the sewing machine arrangement shown in Figs. 1-6, and that shown in Figs. 7-11, and either form of hinge member may be used in each of said arrangements.

As will be apparent, the inclusion in the frame AA of an uprising wall portion A²⁰ at the rear of its cylinder arm A³, is not essential to the use of the type of frame and cabinet hinge connection employed in the Figs. 7-11 arrangement, though said wall portions form a convenient means for attaching to the sewing machine frame, the hinge member DA remote from the pedestal portion of the frame. With the wall portion A²⁰ included in the sewing machine frame structure, the removable bed plate AA² may conveniently be an L shaped part which differs from the removable bed member A² of the construction first described, in that it includes nothing corresponding to its end and front side walls of the member A².

In the normal contemplated use of the apparatus shown in Figs. 7-10, the sewing machine frame is moved from its idle position, shown in dotted lines in Fig. 7, into its normal sewing position shown in full lines in that figure, by simple turning movements of the sewing machine frame about the common axis of the pintles EA, exactly similar to the previously described movements employed to adjust the sewing machine frame A between its idle and full line positions shown in Fig. 5. During such simple turning movements of the frame AA, the pintles EA are engaged by the upper end walls of the respective slots D¹⁰. To move the sewing machine frame AA from its sewing position shown in full lines in Fig. 7, into its upper operating, or darning, position shown in Fig. 8, the sewing machine frame is first turned clockwise about the pintles EA into the position shown in dotted lines in Fig. 8 without movement of the pintles longitudinally of the slots D¹⁰. In its position shown in dotted lines in Fig. 8, the rear edge of the base portion AA of the frame, engages the shoulder B⁴ of the hinged table part B³ of the frame BA. To complete the movement of the frame into its position shown in full lines in Fig. 8, the frame is turned counter-clockwise about the fulcrum surface formed by the shoulder B⁴ in the rear edge portion of the hinged table part D³. During this counter-clockwise movement of the sewing machine frame AA, the hinge parts DA are raised relative to the pintles EA, and at the conclusion of the movement said pintles are at the lower ends of the slots D²⁰.

To anchor the sewing machine frame in the position shown in full lines in Fig. 8, locking bolts G and g and an operating lever I are mounted in the frame AA, as they are mounted on the frame A. As the frame AA is turned into the position shown in full lines in Fig. 8, the locking end of each of the bolts G and g engages the inclined surface of a corresponding metallic cam member J secured to the table portion of the cabinet BA at the adjacent end of its opening B². Each of said bolt ends snaps into an opening J formed for the purpose in the corresponding member J when the sewing machine frame reaches the position shown in full lines in Fig. 8. Preparatory to movement of the frame AA out of the position shown in full lines in Fig. 8, the handle J must be operated to retract the bolts G and g from their locking positions in the cam plate openings J' which they are normally held by spring biasing means, which may be like those shown in Fig. 3, but the lever I does not need

to be manipulated in adjusting the frame AA into the position shown in full lines in Fig. 8.

As will be apparent, the sewing machine frame of Figs. 7-11 may occupy idle, sewing, and darning positions, respectively, like the corresponding positions occupied by the sewing machine frame element of the construction shown in Figs. 1-6. Furthermore, as has been made apparent, in the arrangement illustrated in Figs. 7-11, as in that illustrated in Figs. 1-6, the elevation of sewing machine frame is varied by angular adjustments relative to the table about a horizontal axis at one side of the table opening, and is angularly adjusted about a second axis laterally displaced from the first mentioned axis as required to hold the frame upright with its work supporting arm A⁸ at either of its two predetermined working levels. Moreover, the simple turning movements required to adjust the frame between its idle position and its working position may be readily effected by one having no more strength than is customarily possessed by a domestic sewing machine user. The provisions of the uprising rear flange A²⁰ of the base member AA' of the sewing machine frame shown in Figs. 7-11, does not reduce the accessibility of the cylinder arm A⁸ to an extent which is objectionable, but said flange may be cut away to provide greater accessibility when desired.

While in accordance with the provisions of the statutes, We have illustrated and described the best forms of embodiment of our invention now known to us, it will be apparent to those skilled in the art that changes may be made in the forms of the apparatus disclosed without departing from the spirit of our invention as set forth in the appended claims, and that in some cases certain features of our invention may be used to advantage without a corresponding use of other features.

Having now described our invention what we claim as new, and desire to secure by Letters Patent, is:

1. A drophead sewing machine comprising in combination, a table formed with an opening, a sewing machine frame including work supporting means, means for adjusting said frame at will into an idle position in which it is wholly below said opening, a low working position in which the frame extends through said opening and has the upper portion of its supporting means substantially flush with the top of the table and an elevated working position in which the top of said work supporting means is substantially above the table level, and a part hinged to said table to turn into and out of a normal position in which it is within said opening and forms an extension of the portion of the table at one side of said opening, said frame comprising one portion having a flat under surface which overlaps and rests upon said part when the latter and said frame are in their respective normal and low working positions and comprising a second portion having a flat under surface which overlaps and rests upon said part when the latter and said frame are in their respective normal and elevated working positions.

2. A drophead sewing machine comprising in combination, a table formed with an opening, a sewing machine frame including work supporting means, and means for adjusting said frame at will into and maintaining it in an idle position in which it is wholly below its opening, a low working position in which the frame extends through said opening and has the upper portion

of its supporting means substantially flush with the top of the table and an elevated working position in which the top of said work supporting means is substantially above the table level, said means comprising a hinge pintle supported by said table adjacent one side of said opening, a part rigidly connected to said frame and formed with a vertically extending slot through which said pintle extends whereby said frame may be angularly adjusted about said pintle when the latter engages the upper end of said slot, and parts carried by said table and frame which cooperate to hold the portion of said frame adjacent said pintle against down movement from a position in which said pintle extends through a lower portion of said slot.

3. A sewing machine as specified in claim 1 in which said frame is spaced closer to said one side of said opening when in its elevated working position than when in its low working position and in which said frame comprises laterally displaced upper and lower portions at its side adjacent said one side of said opening which are respectively in abutting relation with the adjacent side of said opening when said frame is in its lower and elevated working positions respectively.

4. A drop head sewing machine comprising in combination, a table formed with an opening, a part hinged to said table to turn into and out of a normal position in which it is within said opening and forms an extension of the portion of the table at one side of said opening, a sewing machine frame, a hinge member pivotally connected to said table to turn about one axis at the opposite side of said opening from the first mentioned side thereof, and pivotally connected to said frame for relative turning movement about a second axis laterally displaced from said one axis, said hinge member being proportioned and arranged relative to said part so that in all operating positions of the hinge member there is a clearance space between the latter and said part when the latter is within said opening, means releasably securing said frame and hinge member together in two different relative angular adjustments about said second axis, said frame comprising a horizontal work supporting arm parallel to said axes and also comprising two table engaging portions at its side remote from said one axis, one of said engaging portions overlapping and resting on said part when the latter is in its normal position and said frame is in one of its said angular adjustments and thereby maintaining the top of said arm at about the level of the top of said table and the other of said engaging portions overlapping and resting on said part when the latter is in its normal position and said frame is in the second of its said angular adjustments and thereby maintaining said arm above said table.

5. A drop head sewing machine comprising in combination, a table formed with an opening, a part hinged to said table to turn into and out of a normal position in which it is within said opening and forms an extension of the portion of the table at one side of said opening, a sewing machine frame comprising a bottom plate and work supporting means above said plate, a hinge member pivotally connected to said table to turn about one axis at the opposite side of said opening from the first mentioned side thereof, and extending beneath and pivotally connected to said bottom plate for relative turning movement about a second axis laterally displaced from said one axis, said hinge member being proportioned and

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arranged relative to said part so that in all operating positions of the hinge member there is a clearance space between the latter and said part when the latter is within said opening, means releasably securing said frame and hinge member together in two different relative angular adjustments about said second axis, said work supporting means including a horizontal arm above said bottom plate and parallel to said axes and also comprising a table engaging portion at its side remote from said one axis which overlays and rests on said part when the latter is in its

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normal position and said frame is in one of its said angular adjustments and thereby maintains the top of said arm at about the level of the top of said table, and said bottom plate overlaying and resting on said part when the latter is in its normal position and said frame is in the second of its said angular adjustments and thereby maintaining said arm above said table.

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