To all whom it may concern:

Be it known that we, EMIL A. KOFF, of Newark, and MARTIN HEMLEB, of Elizabeth, New Jersey, citizens of the United States, residing, respectively, at Newark, in the county of Essex and State of New Jersey, and Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Electric Sewing-Machine Cabinets, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has for its object to provide a sewing machine cabinet of simplified construction including means for driving and controlling the sewing machine either electrically or manually, the parts of which cabinet may be shifted or folded in such a manner, when not in use, as to inclose the sewing machine and practically conceal the same together with the various controlling and driving devices therefor, whereby the complete outfit will have the neat and trim appearance of, and be adapted for use as, an ordinary table.

Further objects of the invention will appear from the following description and claims.

The invention, in its preferred embodiment, comprises a four-legged table, the top of which is apertured to receive and support a sewing head, preferably of the type disclosed in the application of Dohc and Hemleb, Serial No. 157,948, filed December 20, 1916, which includes a built-in electric motor for driving the sewing mechanism. Means are provided whereby the sewing head may be dropped or swung below the table-top; the latter including end-leaves which may be folded over to meet along the center line extending transversely of the table-top. A treadle is supported near the floor within the space defined by the table-legs and is adapted for connection by a pitman to a drive-wheel journaled at the underside of a lower leaf or shelf member which is hinged at one end to a cross-piece carried by an end pair of the table-legs and is adapted to be swung from a substantially horizontal position, concealing said treadle and drive-wheel, to an upright position exposing said treadle and drive-wheel and positioning the latter in operative relation to said treadle and the driven pulley of the sewing head, with which said drive-wheel may be connected by means of the usual belt.

The cabinet is provided with a motor-supply circuit including a motor-controller, preferably in the form of a rheostat, which is located below the plane of the closed position of the drive-wheel supporting leaf and is concealed by the latter. The treadle is provided with a device or connection which is preferably under the control of the operator's foot and may be readily moved or shifted from operative position to a position in engagement with said controller when it is desired to drive and control the machine electrically. A safety switch is preferably incorporated in the motor-control circuit and, in the present instance, is adapted to be actuated by said lower leaf or shelf to close the motor circuit when said shelf is in open or running position and open the circuit when said shelf is in closed position; the purpose being to prevent accidental starting of the sewing motor when the parts are not in running position.

In the accompanying drawings Figure 1 is an elevation of the invention with the parts in open or running position. Fig. 2 is a similar view with the parts folded into closed or inoperative position. Fig. 3 is a vertical section on the line 3—3, Fig. 1. Fig. 4 is a rear elevation of the treadle-control mechanism showing the operative connection between the treadle and rheostat. Fig. 5 is a vertical section on the line 5—5, Fig. 4. Fig. 6 is a plan view of the parts shown in Fig. 4. Fig. 7 is a perspective view of the retaining latch for the treadle concealing leaf or shelf. Fig. 8 is a detail view of the safety switch and its actuating means, and Fig. 9 is a sectional view showing the means for supporting one of the extension leaves of the table-top in the position shown in Fig. 1.

The present cabinet, in its preferred embodiment, includes a table having a table-top supported at its four-corners by legs 2, the end pairs of which are connected by upper and lower end braces or cross-bars and 4, respectively, which support the spaced and vertically disposed end-slats 5.

The means incorporated in the cabinet for supporting the sewing-head so that it may be swung or dropped from the position shown in Fig. 3 to a position below the level of the table-top are constructed substantially in accordance with the disclosure in the United States patent to Diehl et al., No. 644,474; the rear side of the machine bed-plate being supported by the usual hinged pins, one of which is shown at 6, and the...
front side of said bed-plate resting upon the lip 7 of the hinged leaf 8. When the machine is to be dropped below the table-top 1 the hinged leaf 8 is first lifted to carry its lip 7 out of range of the front edge of the machine-base, whereupon the machine may be lowered in the usual manner into the receptacle beneath the table-top. The usual counter-balancing spring 9 acts to partially support the machine-head, all as more fully described in the said Diehl et al. patent.

In the present instance, the cabinet is equipped with a sewing-head including a bracket-arm having a hollow supporting standard 10 and preferably including a built-in electric motor 11 such as disclosed in the aforesaid Doehl and Henpel application; the terminal wires 11" of which motor preferably extend downwardly within the standard 10. It is to be understood, however, that in so far as the present improvement in its broader aspects is concerned, the electric motor may be constructed and mounted independently of the sewing-head and connected to drive the latter in any desired manner.

Hinged to the opposite ends of the table-top 1 are the extension-leaves 12, 12, the left-hand one of which, Fig. 1, is supported in open position by the rod 13 which is slidably received within the sheath 14 screwed to the under side of the table-top 1, as shown in Fig. 9. When the cabinet is closed, the extension leaves 12, 12, are folded over upon the table-top 1 and meet at the center of the latter to conceal the aperture for the sewing-head and form a smooth flat top for the cabinet which then has the appearance of a simple table.

Secured to the cross-bars 4 are brackets 15 formed with socketed bosses 16 in which are fixedly secured the opposite ends of the round tie-rod 17 which supports the treddle 18; the latter being formed with the depending apertured ears 19 entered by said tie-rod and held in position longitudinally of the latter by suitable collar 20.

Hinged to the ledge 21 which projects inwardly from the right hand cross-bar 4 is the lower leaf or shelf member 22 on the inner side of which is rotatably mounted the grooved drive-wheel 23 carrying a ball crank-pin 24 embraced by the socketed upper end of the pitman 25, the lower end of which carries a ball 26 embraced by the socketed extension piece 27 which is detachably secured to the treddle 18 by screws 28.

As will be observed, the socket of the extension piece 27 which embraces the ball 26 is formed of two separable disks 27" and 27" secured together and to the extension 27 by screws 27; said disks being cut away at one side to afford a clearance space 27" permitting the pitman 25 to assume the down turned position illustrated in Fig. 2.

The leaf 22 is retained in upright or running position by means of the latch 29 mounted to turn upon the stud-pin 30 carried by the plate 31 screwed to the upper end of the cross-bar 3, Figs. 1 and 3. The latch 29 comprises a stop 32 adapted to arrest the upward and outward movement of the leaf 22 and a retaining projection 33 adapted to be turned so as to project below the upper edge of the leaf 22 when in upright position, as shown in Fig. 1. When the leaf 22 is lowered to closed or inoperative position, Fig. 2, the treddle and drive-wheel are substantially concealed from view; the ball-and-socket connections at the opposite ends of the pitman 25 permitting closure of the leaf 22 without disconnection of said pitman from the treddle and driving wheel.

The cabinet is provided with suitable drawers for accessories and attachments. The large center drawer 34 is hinged at 35 to swing outwardly and downwardly to open position, while the smaller end drawers 36 are sidewardly mounted in the usual manner.

The motor-control equipment comprises, in the present instance, a junction-box 37 mounted on the back-piece 38, Fig. 1, and adapted to receive the attachment-plug 39 connected with the source of electrical energy. A second attachment-plug 40 may conveniently be used to detachably connect the motor terminals 11" with the junction-box. This detachable connection 40 may be of any desired or well known type permitting ready disconnection of one portion of a circuit from another portion.

A motor-controller comprising, in the present instance, a rheostat 41 having the usual contacts 42 and swinging contact-arm 43, is secured to the left hand lower cross-bar 4, Figs. 1, 5 and 6, below the level of the closed position of the leaf 22. The contact arm 43 is provided at its free end with a recess or slot 44 which is adapted to receive the free end of a bolt 45 slidably mounted in the depending apertured ears 46 formed on the treddle 18. Secured to the bolt 45 in the present instance is an upwardly extending foot-piece 46" whereby the bolt 45 may be readily connected to or disconnected from the rheostat contact-arm 43 by a simple movement of the foot of the operator, as will be readily understood.

Leading from the controller or rheostat 41 are the connecting wires 47 which extend upwardly through one of the legs 2 and horizontally along the back-piece 38 within a suitable conduit 47" to the junction-box 37.

Mounted on the end-piece 48, Fig. 3, is the 120 safety switch 49 which may be of the common push-button variety, adapted to close the circuit when the button 50 is pushed inwardly and open the circuit when pressure upon the button 50 is relieved. Hinged 50.
to the switch 49 is a depending lever-arm 51 the intermediate portion of which is adapted to engage the push-button 50 and the lower end of which carries the pad 52 adapted to be engaged by the upper end of the leaf 22 when the latter is elevated to effect inward movement of the push-button 50 and closure of the circuit controlled thereby. The safety switch is connected with the junction-box by suitable wires inclosed in the conduit 53. The various circuits leading to the junction-box 34 are, in the present instance, connected in series. While the rheostat is shown connected in series with the sewing motor for controlling the speed of the latter, it is not intended to limit the present improvement to this particular type of controller as it is realized that various other well known types of motor-speed controllers may, if desired, be used.

When it is desired to drive the machine electrically, the treadle extension 27, pitman 25 and drive-wheel 23 may, if desired, be entirely removed from the cabinet and regarded as accessories to be employed when it is desired to drive the machine by foot-power. Obviously, however, these parts need not be removed as they do not interfere with the treadle-control of the rheostat 41.

The specific embodiment of the invention shown and described is not intended to limit the scope of the appended claims as it will be apparent to those skilled in the art that the described construction is susceptible of material modification both in the form and arrangement of the various parts within the spirit of the invention.

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

1. An electric sewing machine cabinet adapted to sustain a sewing head and a driving motor therefor, said cabinet comprising a table including supporting legs, a treadle sustained by said legs, a motor-circuit including a motor-controller, and coupling means carried by said treadle and adapted to be shifted from inoperative position to a position in operative engagement with said controller.

2. An electric sewing machine cabinet adapted to sustain a sewing head and a driving motor therefor, said cabinet comprising a table including supporting legs, a treadle sustained by said legs, a motor-circuit including a motor-controller, and coupling means carried by said treadle and adapted to be shifted from inoperative position to a position in operative engagement with said controller.

3. An electric sewing machine cabinet adapted to sustain a sewing head and a driving motor therefor, said cabinet comprising a table including supporting legs, a treadle sustained by said legs, a motor-circuit including a motor-controller, and coupling means carried by said treadle and adapted to be shifted from inoperative position to a position in operative engagement with said controller.

4. An electric sewing machine cabinet adapted to sustain a sewing head and a driving motor therefor, said cabinet comprising a table including supporting legs, a treadle sustained by said legs, a motor-circuit including a motor-controller, and a slidable bolt carried by said treadle and adapted to be shifted into operative engagement with said controller.

5. An electric sewing machine comprising a sewing head, a cabinet therefor and an electric motor connected to drive said sewing head, a motor-controller incorporated in said cabinet, said cabinet including an element movable from an inoperative or non-running position to an operative or running position, and a safety switch connected to said element to automatically close the motor circuit when said element is moved to the second of said positions and to open the motor circuit when said element is moved to the first of said positions.

6. An electric sewing machine cabinet adapted to sustain a sewing head and a driving motor therefor, a motor-circuit including a motor-controller incorporated in said cabinet, means concealing said controller and movable to an open position exposing said controller for operation, and a safety switch connected to said means to automatically close the motor-circuit when said controller is exposed for operation and open the motor-circuit when said controller is concealed.

7. An electric sewing machine cabinet comprising a table including a table top, a treadle secured to said table, an electric motor-supply circuit including a motor-controller adapted to be actuated by said treadle, said circuit also including a safety switch, a leaf hinged to said table to swing from a closed position concealing said treadle to an open position exposing said treadle, and operative connections between said leaf and safety switch whereby the latter is automatically actuated to close the motor-circuit when said leaf is swung to open position and to open the motor-circuit when said leaf is returned to closed position.

8. A sewing machine cabinet adapted to sustain a sewing head and a driving motor therefor, a treadle incorporated in said cabinet and suitable for use as a foot-power driving element, a motor-controller, and coupling means carried by said treadle and adapted to be shifted from inoperative position to a position in operative engagement with said controller.

9. A sewing machine cabinet comprising
table-top, pairs of supporting legs at the opposite ends of said table-top, end braces connecting the end pairs of supporting legs, a leaf forming a shelf disposed below said table-top and substantially filling the space within the rectangle defined by the table-legs, a treadle mounted below and concealed by said leaf, and sewing machine controlling means adapted for connection with said treadle, said leaf being hinged to one of said end braces to swing to an upright or open position at one end of the cabinet.

10. A sewing machine cabinet comprising a table-top, supporting means at the opposite ends of said table-top, a leaf forming a shelf carried by said supporting means below said table-top, a treadle mounted below and concealed by said leaf, said leaf being pivotally sustained by the supporting means at one end of the table and adapted to be swung to an upright or open position at one end of the table to expose said treadle, and a motor-circuit including a motor-speed controller incorporated in said cabinet and adapted for connection with said treadle.

11. A sewing machine cabinet adapted to sustain a sewing head and a motor for driving it, said cabinet including a table-top and a leaf forming a shelf disposed below said table-top, a treadle mounted below and concealed by said leaf, said leaf being adapted to be swung to an upright or open position exposing said treadle, a motor-circuit incorporated in said cabinet and including a motor-controller mounted below the horizontal position of said leaf, and an operative connection between said treadle and controller.

12. A sewing machine cabinet adapted to sustain a sewing head and a driving motor therefor, a treadle sustained by said cabinet, a leaf pivotally mounted in said cabinet to swing from an upright or open position to a substantially horizontal or closed position concealing said treadle, said leaf being adapted to support and conceal a driving wheel when the cabinet is equipped with a foot-power drive, a motor-circuit including a motor-controller incorporated in said cabinet, and an operative connection between said treadle and controller permitting said leaf to be moved to open or closed position without disturbing said connection.

In testimony whereof we have signed our names to this specification.

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MARTIN HEMLEB.