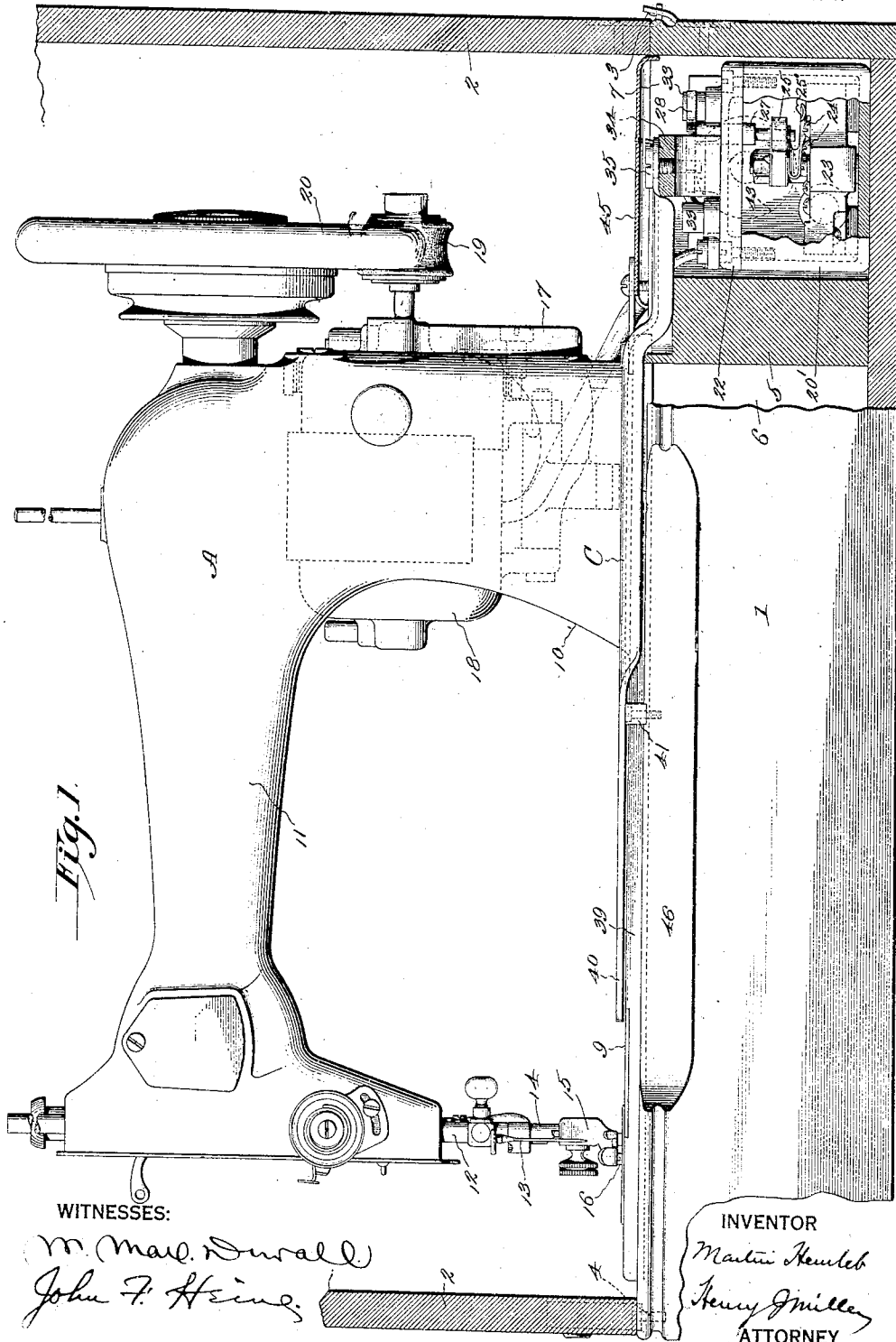


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MOTOR DRIVEN SEWING MACHINE.
APPLICATION FILED JULY 18, 1919.

1,409,950.

Patented Mar. 21, 1922.

3 SHEETS—SHEET 1.



WITNESSES:

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John F. Heine

INVENTOR

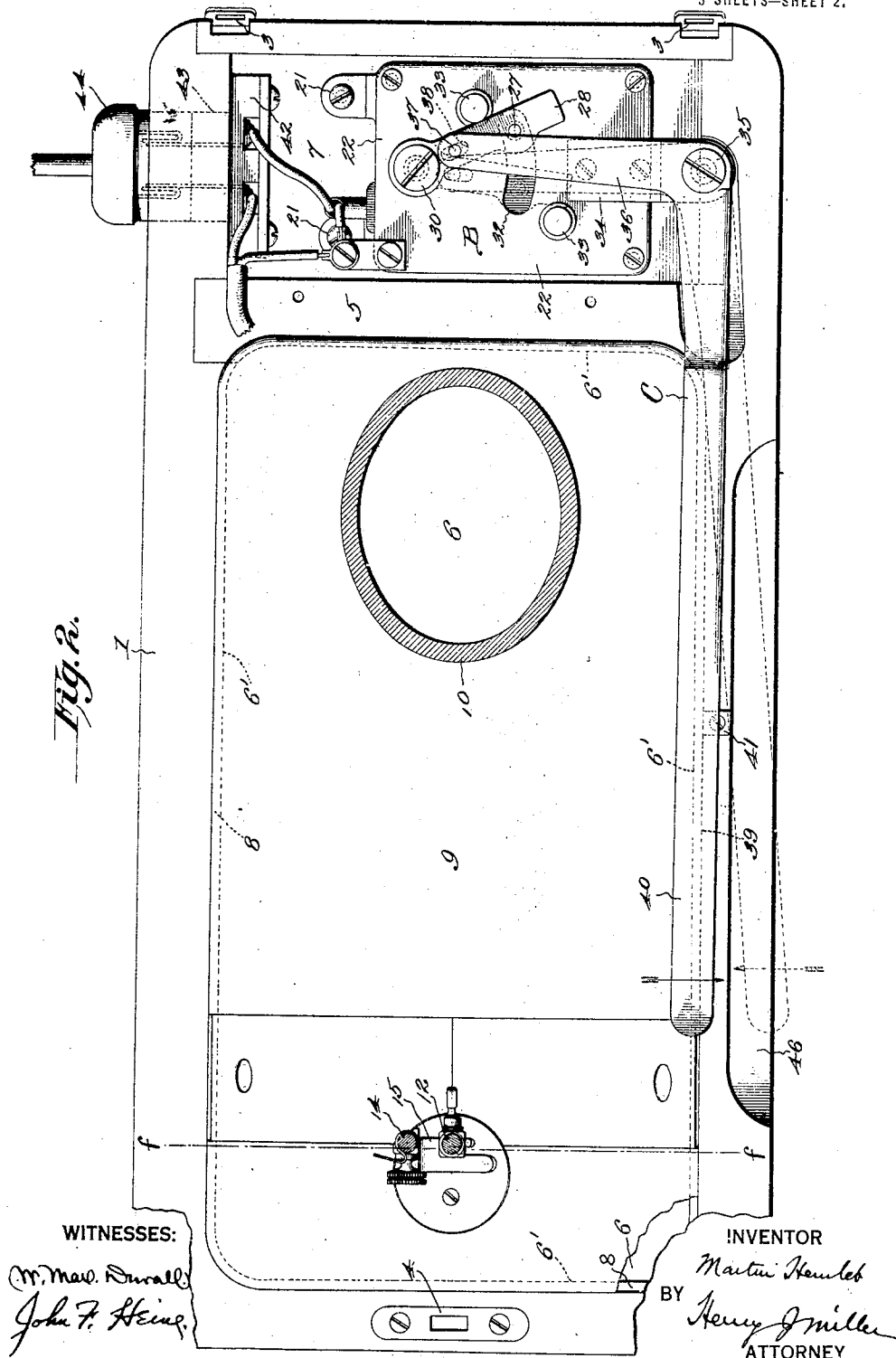
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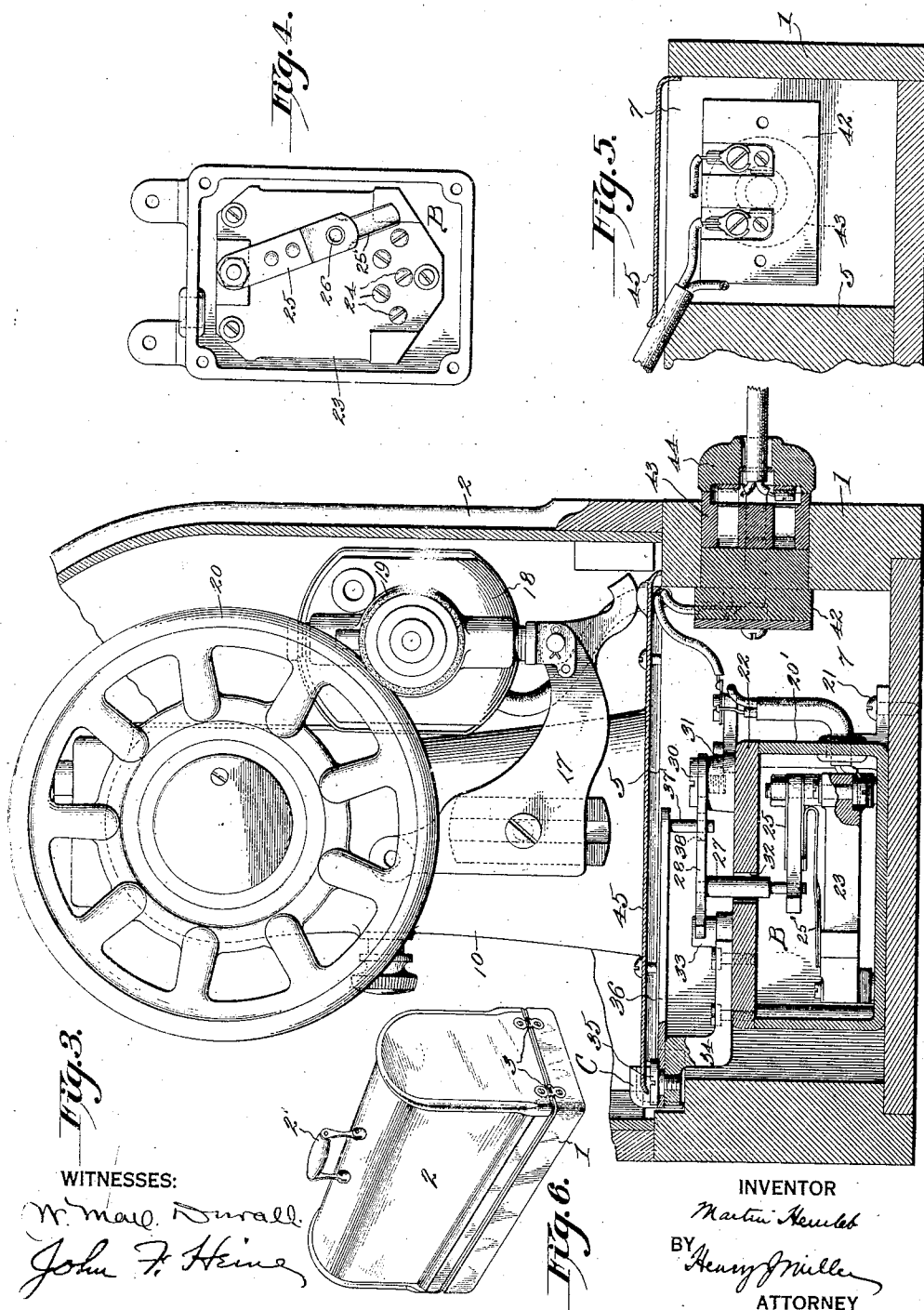


Fig. 3.
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MARTIN HEMLEB, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

MOTOR-DRIVEN SEWING MACHINE.

1,409,950.

Specification of Letters Patent. Patented Mar. 21, 1922.

Application filed July 18, 1919. Serial No. 311,350.

To all whom it may concern:

Be it known that I, MARTIN HEMLEB, citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful improvements in Motor-Driven Sewing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

As heretofore constructed, motor-driven sewing machines, more particularly of the portable type embodying the usual sewing head and carrying case therefor, have been provided with a motor speed controller in the form of a treadle operated rheostat which is adapted to be placed on the floor beside the table or other support for the sewing machine and within convenient reach of the operator's foot. When transporting the machine from one place to another, this controller together with the usual connecting wires must be made up into a separate and rather bulky package which renders the complete outfit troublesome to carry around. Moreover, a foot controller of the type indicated is easily shifted out of place and is not, under certain conditions, as sensitive or responsive to the wishes of the operator, as might be desired.

An object of the present improvement is to provide a power operated sewing machine with a motor speed controller which is easily manipulated and free from the foregoing and other disadvantages of prior sewing machine speed controlling devices.

More particularly, the invention has for an object to provide a portable electric sewing machine with a speed controller which is built into the machine and need not be made up into a separate package for carriage.

Further, the invention has for an object to provide a portable electric sewing machine with a manually operated speed controller which is housed entirely within the usual carrying case of the machine, thus making the complete outfit easy to carry.

To the attainment of the above and other objects, as will hereinafter appear, the invention is preferably embodied in a portable sewing machine including the usual carrying case, the base of which is preferably provided with a partition dividing it into two compartments, within the smaller of which

is situated a speed controller, preferably a rheostat, which is wired up to a sewing motor mounted on the sewing head seated over the larger of the two compartments.

The rheostat is preferably constructed as a unit and is detachably mounted within the said smaller compartment of the machine supporting base; the compartment being provided with a cover-plate to fully enclose the rheostat and protect it from an accumulation of dust, lint, oil etc., which might become ignited from sparks at the usual controller contact points.

An operating hand-lever is provided for manipulating the rheostat, and an important feature of the present invention is the disposition of the handle portion of this lever along the front edge of the sewing machine bed-plate, the handle terminating close to the line of seam-formation and being shiftable preferably back and forth, in and opposite to the direction of feed, to stop, start, or change the speed of the machine without necessitating relinquishment of full manual control of the fabric being stitched.

In the accompanying drawings, Fig. 1 is a side elevation, partly in section, of a portable electric sewing machine embodying the present invention. Fig. 2 is a horizontal section through the standard of the sewing head showing the base of the portable cabinet and motor controlling device in plan. Fig. 3 is a vertical section through the carrying case and controller and showing the rearward end of the sewing head in elevation. Fig. 4 is a plan view of the speed controlling device or rheostat. Fig. 5 is a detail elevation of a connection block mounted within the controller compartment of the carrying case and Fig. 6 is a perspective view of the complete outfit ready for transportation.

As a matter of preference the invention is disclosed as embodied in a portable sewing machine outfit, although it is to be understood that the invention, in certain aspects, is not limited to use with a sewing machine of the so-called "portable" type.

In the accompanying drawings 1 indicates the rectangular hollow base of a portable carrying case to which the usual arched cover 2 is secured by means of the hinge-like catches 3 and lock 4; said cover being provided with a handle 2'. The hollow base 1 is divided by means of the transverse par-

tion 5 into a relatively large compartment adapted to receive the plug 44 connected to 6 and a smaller compartment 7, the former being bounded by the four walls 6', Fig. 1, which terminate at their upper extremities in a rectangular ledge 8 upon which is seated the rectangular cloth or bed-plate 9 of the usual sewing head A which further includes the standard 10 and overhanging bracket-arm 11, in the enlarged free end of which is journaled the reciprocating needle-bar 12 carrying the needle 13. The bracket-arm also carries the presser-bar 14 to which the presser-foot 15 is secured in cooperative relation with the usual feed-dog 16, Fig. 1, which operates to feed the work along the line *f, f*, Fig. 2. The sewing head A is thus housed entirely within the base 1 and cover 2 of the carrying case.

Mounted upon the standard 10 is a rearwardly extending bracket 17 carrying the driving motor 18 having its driving pulley 19 in frictional engagement with the usual hand-wheel 20 of the sewing head A.

The motor controller, preferably in the form of a rheostat B, is detachably mounted as a unit within the smaller compartment 7 of the base 1. This rheostat consists of a metallic receptacle 20' which is secured to the bottom of the compartment 7 by means of screws 21 and which includes the removably fitted cover 22. Housed within the receptacle 20', is the resistance element 23 comprising the usual contact points 24 and swinging contact-arm 25 carrying the contactor 25' and formed with an aperture 26 which is loosely entered by the pin 27 depending from the arm 28 fulcrumed on the screw-pin 30 which is threaded into a boss 31 on top of the cover 22 in substantial alignment with the axis of pivotal movement of the arm 25. The cover 22 is provided with a slot 32 to admit the pin 27, and with stops 33 to limit the swinging movement of the arm 28.

Secured to the cover-plate 22 of the rheostat B is a bracket 34 to the upwardly and forwardly offset extremity of which is pivotally mounted at 35 the bellcrank controller hand-lever C, the rearwardly extending arm 36 of which carries a depending pin 37 which enters the slot 38 in the controller-arm 28. The other arm of the lever C extends horizontally along the front edge of the cloth-plate 9 and terminates in a handle 40 closely adjacent the line of feed *f, f*. The handle 40 of the controller-lever C is supported at an elevation slightly above the surface of the cloth-plate 9 by means of the block 41 which is secured on top of the front wall of the base 1.

The controller is wired up in any suitable or usual manner to the motor 18 and connection block 42 which includes a cylindrical portion 43 fitted within an aperture in the rearward wall of the compartment 7 and

adapted to receive the plug 44 connected to the source of electrical energy.

Preparatory to operation, the machine is stationed upon an ordinary table or other suitable support and the cover 2 is removed to expose the sewing head. Nothing further need be done preparatory to sewing than to connect the block 42 to the source of power. After placing the work in the machine the operator merely shifts the handle 40 from full line position, Fig. 2, toward the dotted line position, thus moving the contactor 25' across one or more of the contact points 24 until the desired speed is attained. The operator may readily thus manipulate the lever C by use of the third and fourth fingers of the right hand while the thumb and first two fingers are being used together with the left-hand for presenting and guiding the work to the needle.

After the machine has been started, control of the lever C may be relinquished and the operator's entire attention directed to guiding the work. If a change of speed is desired, it may be readily secured by movement of the handle 40 either in the direction of feed for a lower speed or in the opposite direction for a higher speed. By virtue of the described disposition of the lever C, these various movements of control may be exercised by the operator without relinquishing manual control of the work which should be accurately guided to the needle while the machine is in operation.

When nearing the end of the seam, the operator's hands are naturally moving in the direction of feed as the finger tips follow the work. When the end of the seam is reached, the palm of the operator's right hand comes naturally up to the handle 40 which is easily and naturally shifted in the direction of feed to full line position, Fig. 2 to stop the machine; the front corner of the base 1 being preferably beveled off at 46 to permit free manipulation of said lever in the manner described.

The controller compartment 7 is closed by means of a cover-plate 45 to exclude dust and lint; an accumulation of which would be likely to impair the efficiency of the controller and might become ignited from sparks at the contact points 24.

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

1. A motor driven sewing machine comprising, a sewing head including stitch-forming and straightaway feeding mechanisms, a driving motor, and a motor speed controller and connections including a shiftable device located adjacent the line of feed and within reach of the operator's forearm or hand without necessitating removal of the hand from its position in guiding the work.
2. A motor driven sewing machine comprising, a sewing head including stitch-

forming and straightaway feeding mechanisms, a driving motor, and a manually operated motor-speed controller and connections including a handle disposed adjacent the line of seam-formation and shiftable back-and-forth in and opposite to the direction of feed.

3. A motor driven sewing machine comprising, a sewing head having a flat cloth-plate and including stitch-forming and straightaway feeding mechanisms, a driving motor, and a manually operated controller and connections including a handle disposed substantially parallel to the front edge of the cloth-plate.

4. A motor driven sewing machine comprising, a sewing head formed with a bracket-arm standard and including stitch-forming and straightaway feeding mechanisms, a driving motor, and a horizontally operating motor controller and connections including an operating lever fulcrumed on a vertical axis adjacent said standard and extending toward the line of feed at the front of the machine to a point within reach of the operator's hand, without necessitating removal of the hand from its position in guiding the work.

5. A motor driven sewing machine comprising, a sewing head including stitch-forming and straightaway feeding mechanisms, a driving motor, and a motor controller and connections including an operating lever in the form of a bell-crank having an operating handle extending toward the line of feed and within reach of the operator's hand, without necessitating relinquishment of full manual control of the work being stitched.

6. A portable motor driven sewing machine comprising a rectangular supporting base, a sewing head seated upon said base, a cover for the sewing head adapted to be secured to said base, a driving motor, and a motor controller and connections including an operating handle located entirely within the periphery of said base when viewed from

a position vertically thereabove and adapted to be housed within said cover.

7. A motor driven sewing machine comprising, a supporting base, a sewing head seated upon said base, a driving motor, a motor controlling element including a pivoted contact arm mounted within said base and an operating lever pivoted independently of said contact arm and operatively connected to the latter.

8. A motor driven sewing machine comprising a sewing head equipped with stitch-forming and feeding mechanisms, a driving motor, a motor-controller including a pivoted contact arm, an operating lever pivoted independently of said contact-arm and shiftable back and forth in and opposite to the direction of feed, and a motion multiplying connection between said lever and contact-arm.

9. A motor driven sewing machine comprising, a hollow supporting base, a sewing head seated upon said base, a driving motor, and a motor controller including contact points and a swinging arm, said controller being detachably mounted as a unit within said base.

10. A motor driven sewing machine comprising, a hollow supporting base, a partition dividing said base into compartments, a sewing head seated upon said base over one of said compartments, a driving motor, and a motor controlling element housed within the other of said compartments.

11. A motor driven sewing machine comprising, a hollow supporting base, a partition dividing said base into compartments, a sewing head seated upon said base over one of said compartments, a driving motor, and a motor controlling rheostat including contact points and a movable contactor detachably mounted as a unit within the other of said compartments.

In testimony whereof, I have signed my name to this specification.

MARTIN HEMLEB.