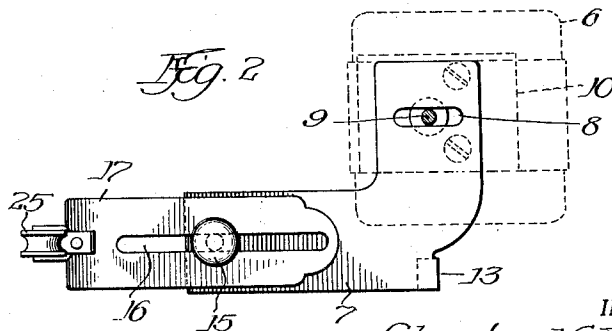
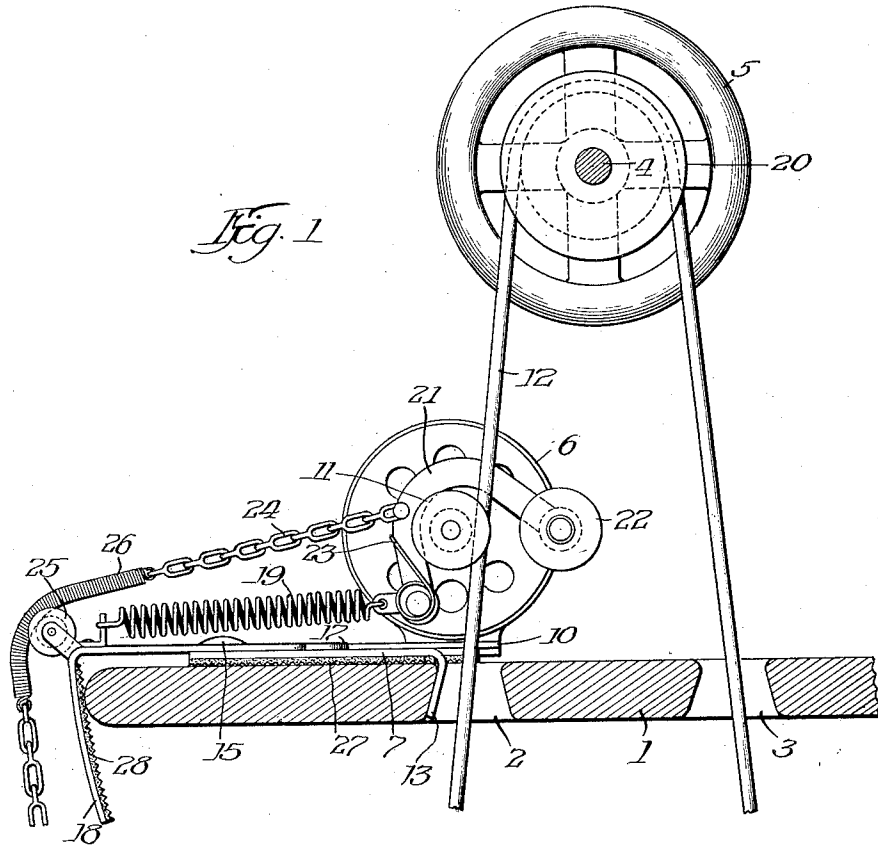


C. H. BEACH.
 MEANS FOR MOUNTING SEWING MACHINE MOTORS.
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1,292,995.

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MEANS FOR MOUNTING SEWING-MACHINE MOTORS.

1,292,995.

Specification of Letters Patent.

Patented Feb. 4, 1919.

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To all whom it may concern:

Be it known that I, CHESTER H. BEACH, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented a certain new and useful Improvement in Means for Mounting Sewing-Machine Motors, of which the following is a full, clear, concise, and exact description.

My invention relates to improvements in means for mounting sewing machine motors or other small motors.

The object of the invention is to provide a combined sewing machine motor and supporting bracket or clamp, which may be readily applied to and removed from the top of the usual sewing machine without necessitating any change in the latter or mutilating the wood of the table top. More particularly, the object of the invention is to provide a device of this character which coöperates with one of the belt holes in the sewing machine table to properly position the motor with respect to the head of the sewing machine.

Other objects are: to provide a support for a sewing machine motor comprising a clamp arranged to engage the edge of the table and one of the belt holes therein; to provide a sewing machine motor arranged to drive the usual belt on the sewing machine and to control the speed by allowing a varying amount of slip between said belt and the driving pulley; and to provide a device of this character in which the speed may be readily controlled from the usual foot treadle of the sewing machine. Other objects and advantages will be apparent without specific enumeration thereof.

The present application is a division of my Patent No. 1,272,189, issued July 9, 1918. The embodiment of the invention illustrated herein is identical with one of the forms of the invention illustrated in said earlier application and will serve to illustrate the novel features claimed herein. It is to be understood however, that the invention may be embodied in various other forms.

Referring to the drawings: Figure 1 is an elevation of the combined sewing machine motor and supporting base therefor, the sewing machine table and the hand wheel being shown in section; and Fig. 2 is a top

plan view of the support for the motor, the latter being shown in dotted outline.

The sewing machine motor is provided with a base consisting of clamping members which in the form shown, are designed preferably to grip the rear edge of the table and the wall of the rear belt hole, whereby said motor is supported on the rear part of said table out of the way of the operator and whereby it may be conveniently and quickly applied to or removed from the table whenever desired.

The table or top of the sewing machine is indicated by reference character 1, and is provided with the usual openings 2, 3, through which the driving belt passes when the machine is operated by the foot treadle. The sewing machine head comprises the usual pedestal (not shown), which supports a horizontal shaft 4, having a hand wheel 5 mounted thereon. The motor 6, which may be of any suitable type, has secured upon the under side of its base, one member 7 of a clamp. This member is L-shaped and the foot of the L is provided with a transverse slot 8, which receives a screw or pin 9 by which said member 7 and a base plate 10 are attached to the under side of the motor-frame. Said member 7 extends rearwardly from the motor, and hence the slot 8 permits of the motor being adjusted to a slight extent either forwardly or rearwardly in order to locate the motor shaft pulley 11 in proper position with respect to the driving belt 12 of the sewing machine. The member 7, at its elbow, is provided with a downwardly extending portion 13, constituting one of the jaws of the clamp, said jaw, as shown most clearly in Fig. 1, projecting through the opening 2 provided in the table top 1 for the belt 12, without interfering with said belt. At its rear end, the member 7 is provided with a headed stud 15 which passes through a slot 16 in the other member 17 of the clamp, thereby holding the two members 16 and 17 together, with the member 17 slidable longitudinally of the member 16. At its rear end the member 17 is provided with a downwardly extending jaw 18 adapted to engage over the rear end of the table top, and affording a convenient hook to be grasped by the hand when positioning the motor on the table or when removing it. A coiled

spring 19 serves to hold the jaws 13 and 18 in clamping relation with the table top 1. It will be seen that by merely pulling the jaws 13 and 18 apart and inserting one of the jaws in the opening 2, and lowering the other over the rear edge of the table top and then releasing the jaws, the tension of the spring 19 will securely clamp the motor in position upon the machine.

The groove in the periphery of the motor shaft pulley 11 is in position to receive the driving belt 12 of the machine, said driving belt normally extending into the groove but out of operative engagement with said pulley. That is to say, the periphery of the pulley 11 is in substantial alinement with the peripheries of the hand wheel pulley 20 and the belt pulley (not shown) of the sewing machine. Pivoted upon the end of the motor-frame, near the base thereof, is a lever 21 which extends upwardly and is curved forwardly over the motor-shaft. At its free end the lever 21 carries a pulley 22, adapted, when the lever 21 is operated, to engage the belt 12 and move the same into operative relation with the pulley 11. The pulley 22 thus controls the operative engagement of the belt 12 with the pulley 11, whereby the driving of the belt 12 by the pulley 11 and the speed at which the sewing machine is driven are dependent upon the position of the pulley 22. When the pulley 22 is out of engagement with the belt 12, said belt is out of coöperative relation with the pulley 11. The lever 21 is normally held by a spring 23 in the inoperative position shown in Fig. 1. A flexible member in the form of a chain 24, secured at one end to the lever 21 and at its other end to the treadle (not shown) of the machine, permits of the lever 21 being operated through the medium of the treadle and being held at any position of its operation. The treadle may be, and preferably is, the usual foot treadle of the machine. The flexible member 24 extends over a guide-pulley 25 conveniently mounted upon the member 17 of the clamp, and the portion of said flexible member which runs over the pulley is preferably in the form of a coiled spring 26 which provides a more suitable running surface and at the same time renders the said member 24 somewhat yielding. By suitably pulling upon the chain 24, the belt 12 may be more or less tightened with respect to the pulley 11, thereby controlling the speed at which the sewing machine is driven. This method of control eliminates the necessity for a rheostat.

It will be understood that when the motor is utilized for operating the sewing machine in the manner just described, the usual connection between the drive-wheel of the sewing machine and the treadle will be made

inoperative, such connection as is well known, consisting of a pitman extending from the treadle to the crank-shaft of the drive wheel. If it be desired to operate the machine by foot-power in the usual manner, this may be done merely by restoring the operative connection between the treadle and the drive-wheel and disconnecting the lower end of the chain from the treadle. The position of the electric motor is such that it does not interfere with the driving of the machine by foot-power, though it may be readily removed from the table top and with equal readiness be replaced when desired.

The base of the motor is elevated above the table top by means of a pad 27, of rubber or other suitable material, which, together with a suitable pad 28, prevents injury to the woodwork and aids the clamping members in holding the motor in position without slipping.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A portable driving means for sewing machines comprising an electric motor, a base upon which said motor is mounted, said base having means thereon for clamping it to a sewing machine table between an edge of said table and one of the belt holes therein, said motor being mounted on said base so that it can be moved into and out of driving connection with the machine.

2. A portable support for sewing machine motors comprising a base for supporting an electric motor, a member projecting from said base adapted to hook over the edge of a sewing machine table, and a second member projecting from said base adapted to hook in one of the belt holes in said table.

3. The combination with a sewing machine having a head, and a table provided with belt holes, of an electric motor adapted to drive said head, and a base on which said motor is mounted, said base having means fitting into one belt hole only to aid in alining the motor with the head of the sewing machine.

4. The combination with a sewing machine having a head, and a table provided with openings therein, of an electric motor adapted to drive said head, and a base on which said motor is mounted, said base having relatively adjustable projecting hook-shaped members, one of which engages the edge of said table and the other of which engages in one of said openings.

5. The combination with a sewing machine having a head and a table, of an electric motor adapted to drive said head, and an L-shaped base, said motor being mounted on one arm of said base, the other arm of said base having projecting members which clamp said table between the edge thereof and an opening therein.

6. The combination with a sewing machine having a head comprising a driven wheel and a supporting shaft therefor, and a table provided with belt holes, of an electric motor having a base supported on the rear of said table, said motor being arranged with its armature shaft substantially parallel to said supporting shaft, and means associated with said base constituting a clamp arranged substantially in alignment with said belt holes, part of said clamp engaging the rear belt hole and another part engaging the rear edge of said table to properly position said motor with respect to said driven wheel.

7. The combination with a sewing machine having a head, and a table provided with belt holes, of a small portable electric motor having a base supported on said table between said head and the rear of said table, and equipped with rubber pads to prevent marring said table, said base being substantially parallel to said rear edge and having an extension arranged at right angles thereto, said extension having a spring co-operating with relatively movable projecting members, one of which engages the rear edge of said table and the other of which engages the wall of the rear belt hole.

8. The combination with a sewing machine motor, of a supporting base therefor having means coöperating with a belt hole to position said base on its support, and means whereby adjustment of said motor with respect to said base may be effected.

9. The combination with a sewing machine motor, of a supporting base therefor having means coöperating with a belt hole to position said base on its support, said motor having sliding engagement with said base, means to limit said movement and means for securing said motor against such movement.

10. The combination with a sewing machine motor, of a supporting base therefor having means coöperating with a belt hole to position said base on its support, said motor having sliding engagement with said base by virtue of a slot and pin connection, whereby said motor may be adjusted toward and away from the member driven thereby.

11. The combination with a sewing machine having a head, a belt for driving the same and a table provided with belt holes through which said belt passes, of an electric motor, a base on which said motor is mounted, means on said base co-operating with one of said belt holes to position said motor, a pulley on said motor, and means for adjusting said belt toward and away from said pulley to permit a variable speed friction drive of said belt.

12. The combination with a sewing machine having a head and a table provided with belt holes, of a sewing machine motor

having a base with means arranged to grip the table between the rear belt hole and the rear edge thereof, and means whereby adjustment of said motor on said base may be effected.

13. The combination with a sewing machine having a head and a table provided with belt holes, of a sewing machine motor having a base with means arranged to grip the table between the rear belt hole and the rear edge thereof, and means whereby adjustment of said motor with respect to said base may be effected.

14. The combination with a sewing machine motor, of a base therefor, consisting of a pair of relatively slidable members, one of said members being secured to said motor and a spring also secured to said motor and to the other of said members to draw said members toward each other.

15. The combination with a sewing machine motor, of a supporting base therefor, and projections on said base, one of said projections being narrow to fit into one of the belt holes and the other of said projections being wider to fit over the edge of said table top and steady said base.

16. A sewing machine motor having a base, the latter consisting of a plate secured to said motor, a second plate arranged to slide over said first plate, and having a slot therein, a stud passing through said slot and secured to said first plate, each of said plates being provided with a downward extension, a spring for drawing said extensions toward each other, a rubber pad beneath said first plate and a rubber pad on the side of the extension on said second plate.

17. A sewing machine motor having a base comprising a pair of relatively movable plates, one of which is secured to said motor and has a narrow hook extending downwardly therefrom and the other of which is bent downwardly to provide a wide hook long enough to be conveniently grasped by hand.

18. A sewing machine motor having a base comprising two relatively movable members and means for adjusting said members toward each other, the forward member being secured to said motor.

19. In a device of the class described, a driving element of a sewing machine, a sewing machine motor base having a projection to engage a belt hole, a motor slidably mounted on said base, and means adapted, when operated, to cause a relative movement of said motor and said driving element whereby the latter may be driven by said motor.

20. In a device of the class described, a driving element of a sewing machine, a sewing machine motor base having a projection to engage a belt hole, a motor movable thereon, guiding means for limiting the

movement of said motor with respect to said base, and means adapted, when operated, to cause a relative movement of said motor and said driving element whereby the latter may

5 be driven by said motor.

21. A sewing machine motor comprising a base having depending projections, an electric motor, and means connecting said motor and said base, said means having slid-
10 ing engagement with said base to permit relative adjustment of the two.

22. A sewing machine motor comprising a pair of arms arranged to slide one over the other, the ends of said arms projecting

downwardly to form gripping means, a 15
spring normally drawing said ends toward each other, a base member associated with said arms, a sewing machine motor supported on said base, and means permitting relative adjustment of said motor and said 20
base.

In witness whereof, I, hereunto subscribe my name this 14th day of March A. D., 1917.

CHESTER H. BEACH.

Witnesses:

L. H. HAMILTON,

G. A. ZIMMERMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."