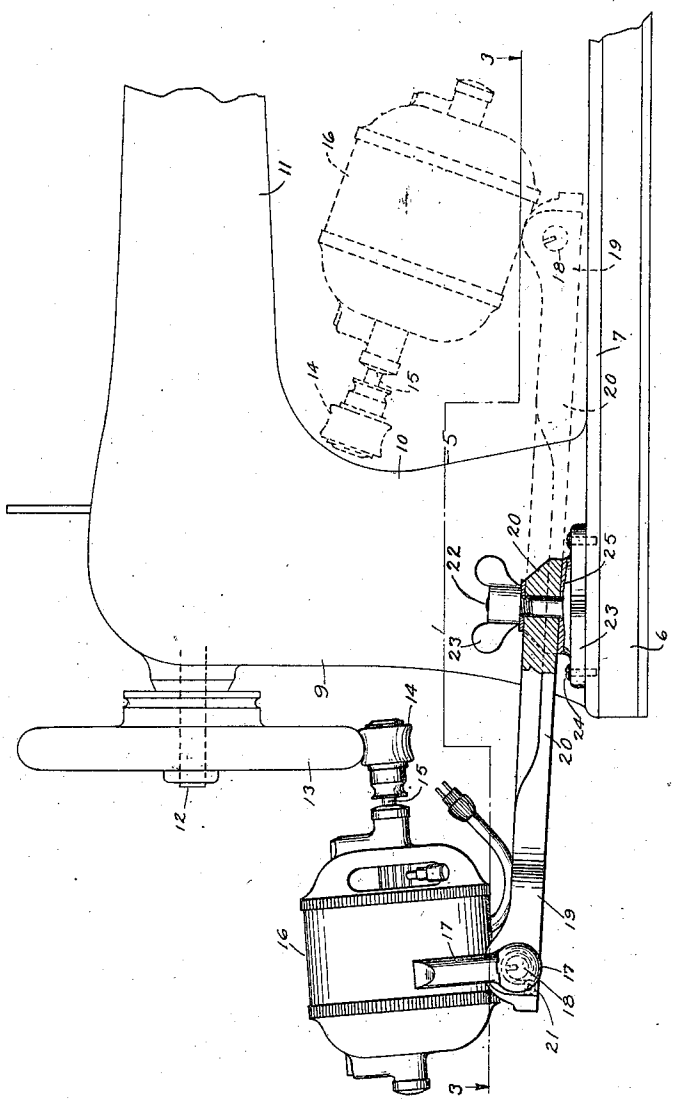
Nov. 20, 1923. 1,474,604

E. NIELSEN

SEWING MACHINE MOTOR

Filed Aug. 30, 1919 2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

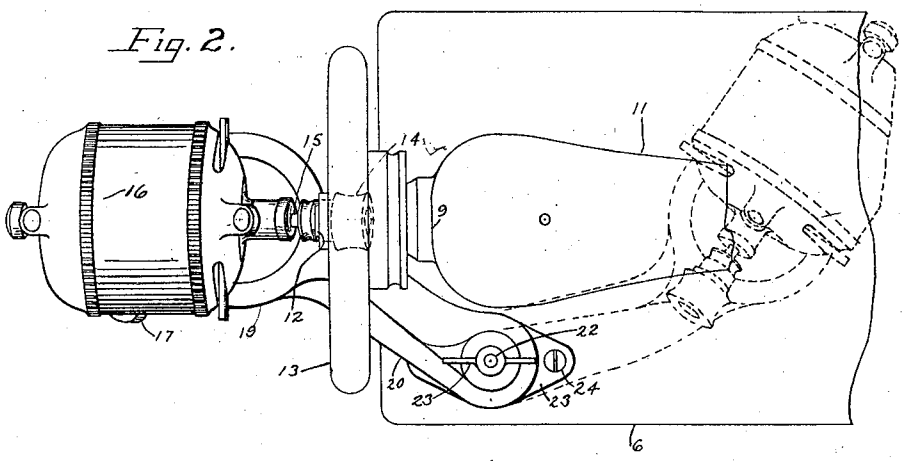
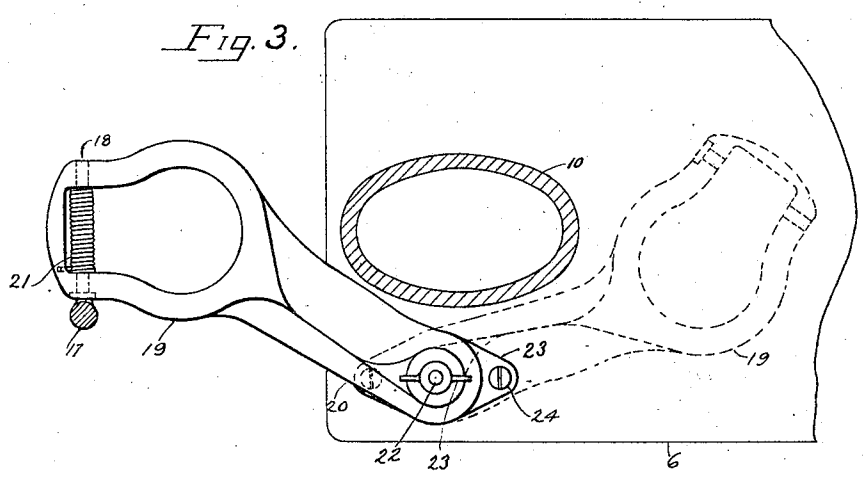


Fig. 3.



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UNITED STATES PATENT OFFICE.

EMANUEL NIELSEN, OF RACINE, WISCONSIN, ASSIGNOR TO HAMILTON-BEACH MFG. CO., OF RACINE, WISCONSIN, A CORPORATION OF WISCONSIN.

SEWING-MACHINE MOTOR.

Application filed August 30, 1919. Serial No. 320,893.

To all whom it may concern:

Be it known that I, EMANUEL NIELSEN, a citizen of the United States, and resident of Racine, in the county of Racine and State of Wisconsin, have invented new and useful Improvements in Sewing-Machine Motors, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in sewing machine motors more particularly adapted for sewing or other light machine use.

It is one of the objects of the present invention to provide a sewing machine motor which may be easily mounted on the base portion of the arm of any ordinary sewing machine and which when not in use may be swung to an out-of-the-way position beneath the arm to occupy the minimum amount of space when not in use, and to permit the closing of the top or arm of the machine into the table without removing the motor when said motor is used with a machine of the drop head or foldable type, or to permit the placing of a cover over the arm and motor when used with a machine of the covered type.

A further object of the invention is to provide a sewing machine motor which may be easily permanently fastened to the base portion of the sewing machine arm in such manner as to permit the motor to be swung from one of its positions of rest to the other with a minimum effort and which motor may be easily and firmly clamped in either position.

A further object of the invention is to provide a sewing machine motor which is yieldingly, pivotally mounted on its bracket to provide a frictional driving engagement between the motor wheel and the hand wheel of the sewing machine when the motor is in its outer driving position.

A further object of the invention is to provide a sewing machine motor which is of simple construction, is strong and durable and is well adapted for the purpose described.

With the above and other objects in view, the invention consists of the improved sewing machine motor and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawings in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a side view, partly in section, of an upper part of a drop head sewing machine showing one of the improved sewing machine motors mounted thereon;

Fig. 2 is a top view thereof; and

Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 1 and showing the motor in position to permit the folding of the drop head into the well of the frame or to permit the placing of a cover over the head.

Referring to the drawings the numeral 6 indicates a portion of the upper part of a a sewing machine table provided with the usual opening, 7 the hinged drop or base portion thereof, and 9 the head or arm of the machine which is mounted on the hinged drop portion and swings downwardly into the table top and is covered by the usual extension portion (not shown) in the ordinary manner common to drop head sewing machines. The sewing machine arm or head 9 comprises the upright column or standard 10 and the horizontally extending arm portion 11 projecting from the standard and through which the horizontal driving shaft 12 extends and has its bearings. A hand or driven wheel 13 mounted on the rear end of the shaft 12 is adapted to be yieldingly engaged and driven by a slightly grooved wheel 14 mounted on the armature shaft 15 of the improved sewing machine motor 16. The hand wheel engaging portion of the wheel 14 of the motor is preferably formed of cork or other like material to provide the necessary frictional engagement between the motor wheel and the hand wheel.

The motor 16 is provided with a downwardly extending projection 17 to which is rigidly fastened by a screw 17′ a horizontally extending pivot bolt 18. The bolt extends pivotally through the outer portions 19 of the curved supporting bracket 20. A coiled spring 21 surrounding the pivot bolt 18 and interposed between the end portions 19 has one end connected to the bolt and the other end connected to one of the portions 19 to yieldingly tilt the grooved wheel 14 of the motor upwardly and hold it in frictional driving engagement with the hand wheel 13.

The bracket 20 at its inner end 20′ is adjustably mounted on the vertically extending stud bolt 22 of the bracket base 23 and is

clamped in adjusted position by a thumb nut 23' threaded on the stud. Said bracket base 23 is firmly secured to the drop head base 7 by screws 24 which are tapped into the drop head base.

The engaging faces 25 of the two base members are angled with relation to a horizontal line to swing the motor to a slightly lower or higher plane when in inoperative position beneath the arm of the sewing machine, the lower position being indicated by dotted lines in Fig. 1. In some forms of sewing machines having lower hand wheels (not shown), the base members are turned a half revolution and in which case the motor will be swung to a higher plane when under the arm. It will be noted that in both positions of adjustment the front or driving wheel end of the motor extends generally in a direction towards the hand wheel of the sewing machine, thus protecting the driving wheel and occupying the minumum space when in inoperative position. Electric current is supplied to the motor by wires 26 leading to a source of electrical supply (not shown) and the speed of rotation of the motor is adapted to be controlled in any manner desired.

In operation the bracket base is secured to the sewing machine arm base in the manner shown and described and when it is desired to use the motor it is only necessary to loosen the thumb nut, swing the motor from its inoperative position beneath the sewing machine arm to its outer position with the motor wheel beneath the hand wheel. When thus adjusted the thumb nut is tightened and the motor will be firmly held in position. The motor is then started and controlled in the ordinary manner.

From the foregoing description it will be seen that the sewing machine motor is of very simple construction and may be easily clamped in either its operative or inoperative position, and when in its inoperative position beneath the sewing machine arm, the arm may be dropped into the well of the machine without removing the motor. Also when in inoperative position a top cover may be placed over sewing machine when used with a motor of this type.

What I claim as my invention is:

1. The combination with a sewing machine having a base portion and an arm portion and a wheel to be driven, of a motor member and its shaft and a driving wheel thereon, a bracket base member mounted on the base portion, a bracket member pivotally mounted at its inner end on the bracket base member and yieldingly connected at its outer end to the motor, said bracket being movable to swing the motor member sidewise from an inoperative out-of-the-way position closer to the sewing end of the machine to an operative position with the driving wheel of the motor yieldingly engaging the lower peripheral portion of the sewing machine wheel.

2. The combination with a sewing machine having a base portion and an arm portion and a wheel to be driven, of a motor member and its shaft and a driving wheel thereon, a bracket base member mounted on the base portion, a bracket member pivotally mounted at its inner end on the bracket base member and yieldingly connected at its outer end to the motor member, said bracket being movable to swing the motor member sidewise from an inoperative position closer to the sewing end of and to the base portion of the machine to an operative position on a higher plane with the driving wheel of the motor yieldingly engaging the lower peripheral portion of the sewing machine wheel.

3. The combination with a sewing machine having a base portion and an arm portion and a wheel to be driven, of a motor member and its shaft and a driving wheel thereon, means for pivotally mounting the motor member on the base portion in a position to swing from an inoperative position beneath the arm of the machine to an operative position in which the motor wheel drivingly engages the hand wheel, said motor wheel in both positions of adjustment extending towards the hand wheel, and a clamping member associated with the pivotal means for holding the motor in either position of adjustment.

4. The combination with a sewing machine having a base portion and an arm portion and a wheel to be driven, of a bracket member pivotally connected at its inner end to the base portion and having two positions of rest, a motor member pivotally mounted on the outer end portion of the bracket member and movable vertically and having a driving wheel on its inner end portion, means for yieldingly holding the motor member in its upper position, and means for holding the bracket in either one of its two positions of rest.

5. The combination with a sewing machine having a base portion and an arm portion and a wheel to be driven, of a bracket base member mounted on the sewing machine base portion and provided with an upstanding stud, a bracket member pivotally mounted at its inner end on the stud, a motor member pivotally mounted on the outer end portion of the bracket member and movable vertically and having a driving wheel on its inner end portion which is adapted to engage the lower peripheral portion of the hand wheel, a coiled spring for yieldingly holding the motor member in an upper position, and a thumb nut for clamping the bracket member in adjausted position on the stud, said motor member when in inoper-

ative position positioned beneath the arm of the sewing machine with the axis of driving wheel extending toward the hand wheel.

6. A bracket for a sewing machine motor, comprising a base member having means for connection with a sewing machine and provided with an upstanding stud, and a bracket member pivotally mounted at its inner end on the stud and at its outer end having means for yieldingly connecting a sewing machine motor thereto.

In testimony whereof, I affix my signature.

EMANUEL NIELSEN.