2 Sheets—Sheet 1.

S. ARTLEY, OLE BERG & H. DIETERLEA.

SEWING-MACHINE MOTOR.

No. 189,010. Patented April 3, 1877.

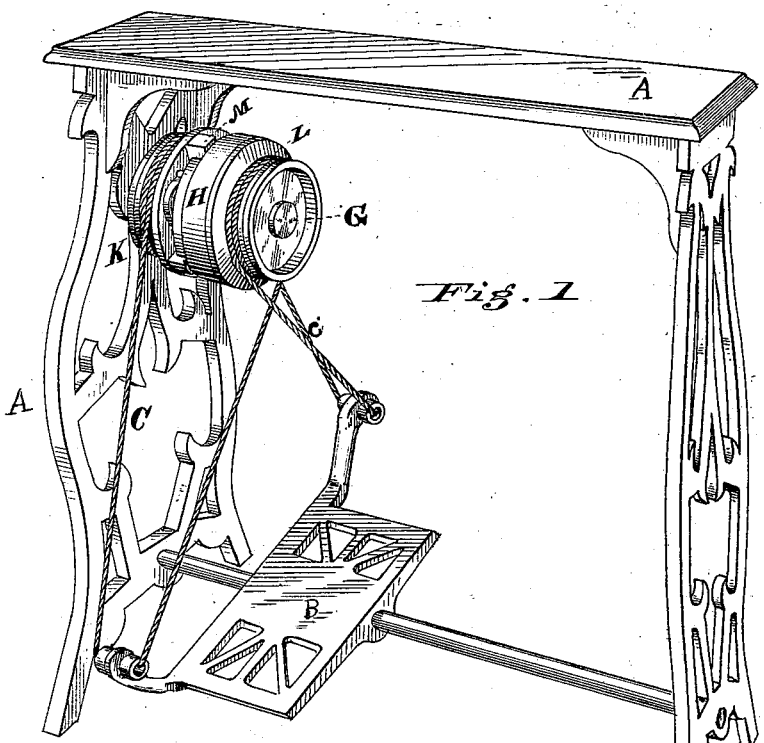

Fig. 1

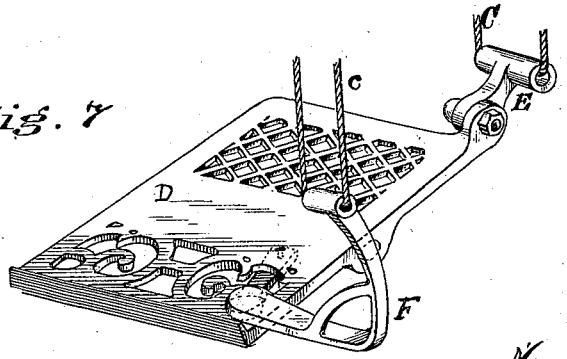

Fig. 7

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S. ARTLEY, OLE BERG & H. DIETERLEA

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Fig. 2

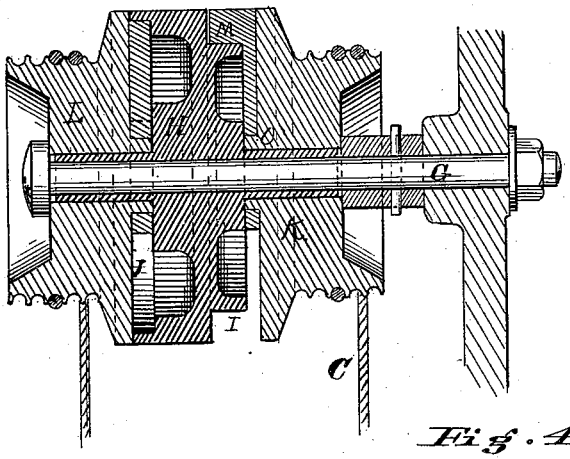
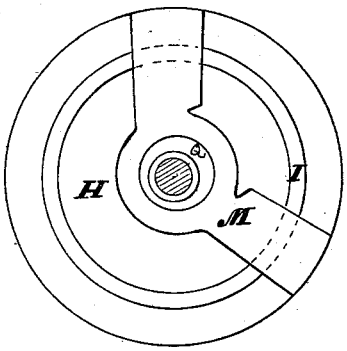


Fig. 3

Fig. 4



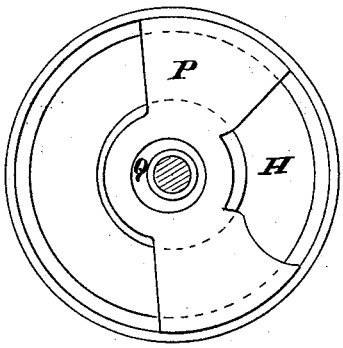


Fig. 5

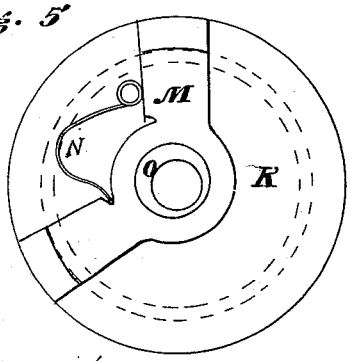
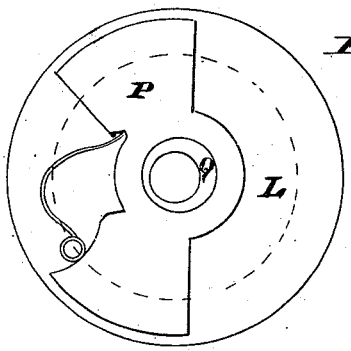


Fig. 6



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UNITED STATES PATENT OFFICE.

SYLVESTER ARTLEY, OLE BERG, AND HENRY DIETERLEA, OF CHICAGO, ILLINOIS; SAID BERG AND DIETERLEA ASSIGNORS TO SAID ARTLEY.

IMPROVEMENT IN SEWING-MACHINE MOTORS.

Specification forming part of Letters Patent No. **189,010**, dated April 3, 1877; application filed April 29, 1876.

To all whom it may concern:

Be it known that we, SYLVESTER ARTLEY, OLE BERG, and HENRY DIETERLEA, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sewing-Machine Motor, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of a sewing-machine stand with our motor attached. Fig. 2 represents a section of the band-wheel and clutch-wheels, showing a shaft on which they are placed with a part of the stand to which it is attached. Fig. 3 shows one side of the band-wheel with the clasping clutch or dog. Fig. 4 shows the opposite side of the same wheel, with a clutch. Fig. 5 shows the side view of the clutch-wheel which carries the eccentric clasping-clutch. Fig. 6 shows the side view of the wheel that carries the eccentric clutch; and Fig. 7 shows the detached view of a sewing-machine treadle with bracket attachments for converting it into one of our treadles.

Our invention consists in the construction of the treadle, also in the clasping-clutch, and in the combination of the clutches on each side of the wheel, so that one acts to turn the wheel when the other ceases action upon the the wheel; and, also, in the combination of the treadle and endless band with these double clutch wheels or pulleys, all as hereinafter fully set forth and described.

In the accompanying drawings, A represents any ordinary sewing-machine stand. B is our treadle, and C an endless belt, which communicates motion from the treadle to the clutch or dog wheels. D is a treadle now in use on some of the sewing-machines.

We have made attachments, which are shown in Fig. 1 as attached to the treadle D. E is an attachment connected to the treadle in place of the pitman. F is also a bracket attachment which is secured to the treadle, and made in such shape as to extend out therefrom to the side of the treadle about as far from its pivot on one side as the attachment E is on the other side. By these attachments we convert any ordinary treadle into our treadle B.

G is a spindle on which the band-wheel of the machine revolves. H is the band-wheel. This band-wheel has a projecting annular flange, I, on one side, and an annular recess, J, on its other side. K is a pulley or clutch-wheel. L is also a pulley or clutch wheel. M is a clasping-clutch, which is placed upon the face of the pulley K, and is held in position by a spring, N. It has an eccentric bearing, which is a projecting sleeve, O, upon the clutch-wheel K. P is a double clutch, which surrounds the eccentric bearing, which is a sleeve, Q, projecting upon the center of the pulley L. This double clutch P is so arranged upon its eccentric bearing as to fit within the recess J in such a manner that it will turn within the recess when the pulley L is turned in one direction, but when turned in the opposite direction the eccentric sleeve causes its ends to project and bear firmly against the rim on the wheel H, and turn the wheel with it.

The clasping-clutch M is so arranged upon its eccentric bearing, that when its pulley K is turned in one direction its clasping prongs clasp the annular flange I, and turn the wheel H. These pulleys K and L are arranged on the opposite sides of the wheel H in such a manner that they alternately turn it, as above described, so as to give it a constant revolution in the same direction, while the pulleys vibrate back and forth, thus changing a vibratory motion to a rotary motion without a crank.

The endless belt C passes through each arm of the treadle B, and over each of the groove-pulleys K and L. We preferably make these pulleys K and L with screw-shaped grooves, so as to keep the band separated wherever it crosses. It will be observed that the pulleys K and L, and their clutches with which they are connected, may not necessarily operate directly upon the band-wheel H, because the same result would be accomplished by attaching the wheel H to a sleeve or a re-

volving spindle, to which the band-wheel could be rigidly secured, so as to revolve with it.

The endless band yields, so as to keep equal tension from both pulleys, and we also communicate power from two points of the treadle, and have no dead point from which it is necessary to raise the treadle from, in order to start the machine. We consider that a double-pronged clutch placed upon an eccentric bearing, and made in one piece, as shown in the drawings, is new. And we also consider that the clasping-clutch, constructed substantially as shown, and operated by an eccentric bearing, is new. We contemplate using either kind, but we do not wish to be limited to our particular kinds of clutches, so far as the invention of placing a clutch on each side of the wheel H is concerned, and operating the same with pulleys.

Having thus fully described the construction and operation of our invention, what we claim, and desire to secure by Letters Patent, is—

1. The centrally-pivoted treadle B, in combination with the bracket attachments E and F, arranged one on each end of the treadle, substantially as and for the purpose set forth.

2. The centrally-pivoted single treadle B, in combination with the endless belt C, and the pulleys K and L, substantially as specified.

3. The pulleys K L and clutches M P, constructed and arranged, as described, to fit one upon the inside of one pulley, and the other on the outside of the other pulley in combination with the eccentrics O and Q, and the drive-wheel H, substantially as and for the purpose set forth.

4. A double-pronged clutch, having a central opening, and two bearing-points at some distance apart, in combination with an eccentric bearing, substantially as shown and described.

5. The wheel H provided with a flange, projecting from one side thereof, in combination with the clutch P constructed as described, to clasp the wheel upon the outside of said flange, substantially as shown and set forth.

SYLVESTER ARTLEY.
OLE BERG.
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Witnesses:
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L. M. HARRIS.