

UNITED STATES PATENT OFFICE.

JOHN SIGWALT, JR., OF CHICAGO, ILLINOIS.

IMPROVEMENT IN TREADLE MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **155,471**, dated September 29, 1874; application filed April 16, 1874.

To all whom it may concern:

Be it known that I, JOHN SIGWALT, JR., of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mechanism for Operating Sewing-Machines, of which improvements the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part hereof, and in which—

Figure 1 is an elevation of the driving mechanism to which my improvements are applied; Fig. 2, a like view of a part of the same, and Fig. 3 a side elevation of the parts shown in Fig. 2.

Like letters of reference indicate like parts.

My invention relates to the driving mechanism shown and described in Letters Patent No. 142,544, dated September 2, 1873, and issued to Edmund Wright, for improvements in the mode of operating sewing-machines.

The driving-wheel in the mechanism referred to is rigidly mounted on a sleeve having grooves sunken therein. Two pulleys, each provided with a pawl, are loosely mounted on this sleeve. One pawl extends into one groove, and the other pawl into the other groove. The pawls and grooves are so constructed and arranged that the pawls will bite the sleeve and rotate it when the pulleys are rotated in one direction only. The treadles rock independently of each other, and are provided with a cord, arranged on the pulleys and on an anti-friction wheel suspended from the table. A spiral spring rests against the face of each pawl. By this means a contrary movement of the treadles imparts a continuous movement to the driving-wheel, and a dead-center is avoided.

My object is to improve the construction and operation of this device; and to that end my invention consists in extending the pawls into levers, the outer ends of which I connect to the driving-cord. I also provide the sleeve with a removable arm, which may be rigidly attached thereto, and in this arm I arrange an adjustable ring or thimble to receive the crank-arm of that class of machines driven by means of a crank extending from the driving-wheel; also, I provide with a head-piece the springs

which rest against the pawls, and I suspend the anti-friction wheel from the bearing on which the sleeve rests, all of which will be hereinafter more fully described, and particularly set forth.

In the drawing, A represents the driving-wheel, and B is the sleeve to which it is attached. *a* and *a'* are grooves in the sleeve. C and C' are pulleys loosely mounted on the sleeve. D and D' are levers pivoted to the pulleys, and extending into, but not to, the bottom of the grooves. The grooves are wider at the bottom than at the top, and that part of the levers which extends into them is beveled on its sides, and is narrower on one edge than on the other, as shown in Fig. 2. E E are sockets, in which spiral springs are arranged to retain the levers in contact with the sides of the grooves. The levers are so set as to grasp or bite the sleeve when the pulleys are turned in one direction, and to release it when they are turned in the other. B' is the rod on which the sleeve and its attachments are supported. F is an anti-friction wheel, suspended from the rod B' by means of an arm attached to the said rod. G is the driving belt or cord, arranged on the wheel F and on the pulleys C and C', in the manner represented in Fig. 1, and attached at each end to a separately-acting treadle. (Not shown.) G' G' are small cords, by means of which the outer ends of the levers are connected to the driving-cord. H is a head-piece, entering the sockets E E, and arranged between the springs and the levers, as shown in Fig. 3. I is a removable arm attached to the sleeve. I' is a small ring or thimble attached to a pin resting freely in a socket in the end of the arm I. This thimble is set on one side of the center of its pin, as shown in Fig. 2.

By making the parts D and D' operate as levers their bite upon the sleeve is more firm and certain.

By providing the springs with a head-piece, arranged in manner shown and described, the action of the former is improved, and they are prevented from being injured by the action of the levers.

By employing the removable arm I and the adjustable ring or thimble I', connection may be readily made to the crank of the driving-

wheel in that class of machines in which such cranks are employed. If the cranks in different machines vary in position with relation to the center of the wheel, the thimble may be adjusted to it, and if the cranks vary in length the thimble may be adjusted to meet this variation by being turned in its socket.

The levers may be bent over the pulleys, and bored to receive the driving belt or cord, as shown in Fig. 2.

By connecting the driving-cord to the parts D and D' in the manner described, the motion of the machine may be readily checked and stopped through the instrumentality of the treadles.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The yielding levers D and D', connected

to the driving-cord, and pivoted to the pulleys C and C', loosely mounted on the grooved sleeve B, all operating together substantially as specified, and for the purposes set forth.

2. The removable arm I, attached to the sleeve B, and provided with the thimble or ring I', set to one side of the center of a pin resting freely in a socket in the end of the said arm, substantially as and for the purposes specified.

3. The head-pieces H H, playing in the sockets E E, and arranged between the springs and the levers D and D', substantially as and for the purposes specified.

JOHN SIGWALT, JR.

Witnesses:

N. C. GRIDLEY,

F. F. WARNER.