

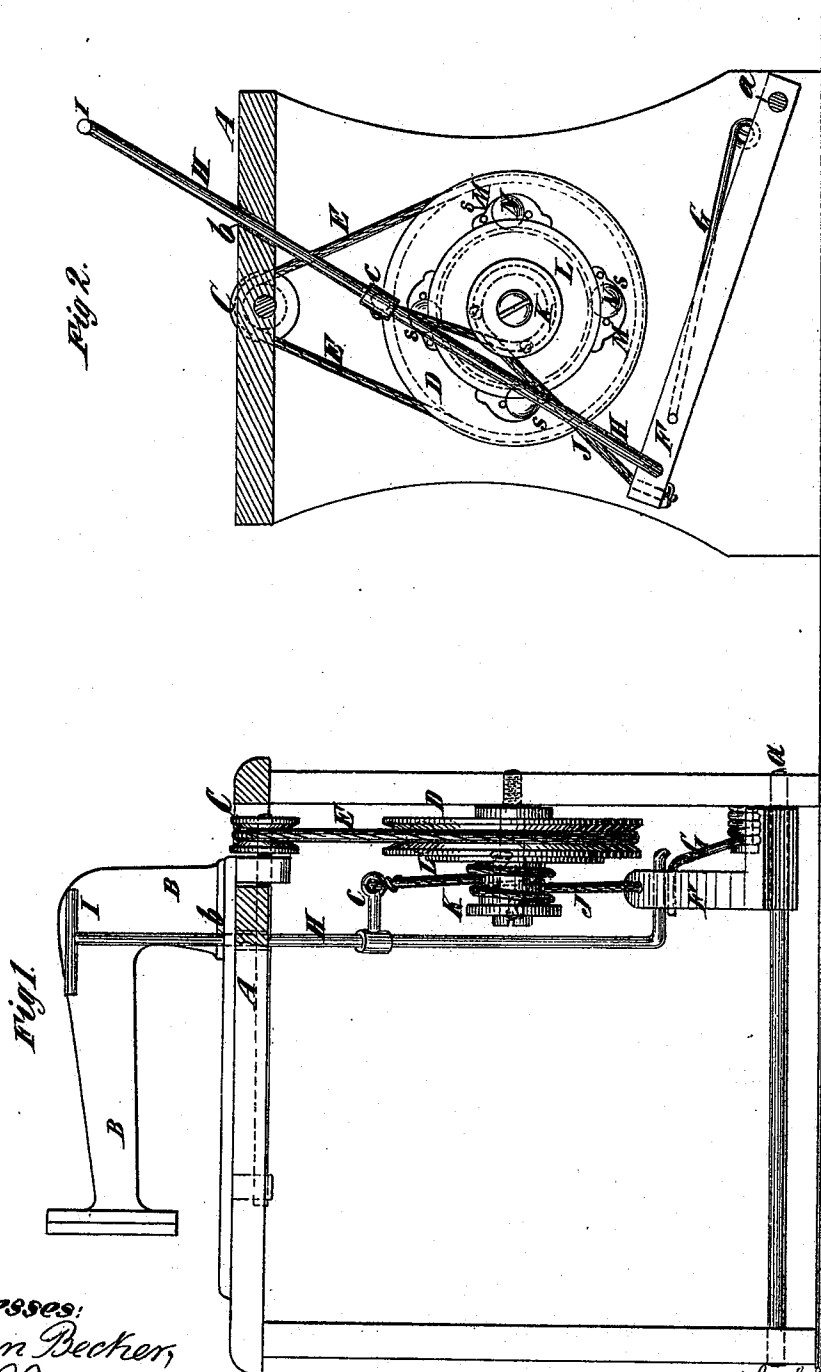
(No Model.)

C. L. FRENCH.

Driving Mechanism for Sewing-Machines.

No. 227,515.

Patented May 11, 1880.



Witnesses:
John Becker,
E. P. Jessup.

Inventor: C. L. French.
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UNITED STATES PATENT OFFICE.

CHARLES L. FRENCH, OF BROOKLYN, NEW YORK.

DRIVING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 227,515, dated May 11, 1880.

Application filed March 13, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. FRENCH, of Brooklyn, in Kings county and State of New York, have invented certain new and useful Improvements in Driving Mechanisms for Sewing-Machines, of which the following is a specification.

The object of my invention is to afford facility for driving a sewing-machine either by hand or foot power, as may best suit the wish or convenience of the operator, and so that when tired of working it by the foot the operator may, without changing the driving mechanism in any way, work it by the hand, or vice versa.

To this end my invention consists in the combination, with a sewing-machine table and its treadle, of a hand-rod connected with the treadle and with the fly-wheel shaft by a cord passing around a clutch-pulley, one end of the cord being connected with the treadle and the other with the hand-rod, all of which will be hereinafter more fully described.

In the accompanying drawings, Figure 1 represents a side elevation, partly in section, of a sewing-machine table and its driving mechanism; and Fig. 2 represents a transverse section through said table and an end view of the said driving mechanism.

Similar letters of reference designate corresponding parts in both figures.

A designates a sewing-machine table, and B designates the outline of a sewing-machine frame mounted thereon.

C designates a driving-pulley, and D designates a fly-wheel for imparting motion to said driving-wheel by means of a belt, E.

F designates a treadle; pivoted at *a* to the side of the frame of the table, and preferably provided with a spring, G, to effect its return movement after being depressed by the foot or hand of the operator.

H designates the hand-rod, connected below the table to the driving mechanism and extending upward through the table. As represented in Fig. 2, the hole *b* in the table A, through which the rod works, fits said rod closely, and constitutes a guide for said rod in its vertical movement; but the rod is sufficiently loose in said guide to admit of its vibration. The said rod is provided above the

table A with a handle, I, which may be conveniently grasped in the hand and by which the rod may be reciprocated. This rod is connected with the treadle F. The treadle is connected with the fly-wheel by a cord, J, one end of which is secured to the treadle, and which passes one or more turns around the pulley K, and is secured at the other end to the rod H or an arm, *c*, extending therefrom.

While the pulley K is alternately rotated in opposite directions the fly-wheel should rotate continually in one direction, and hence the pulley K must have a clutch-connection with said fly-wheel. As here represented, the pulley is permanently attached to the drum L, and the fly-wheel fits loosely upon the periphery of said drum. Recesses M, with inclined surfaces *s*, are formed in the inner periphery of the fly-wheel, and in these are inserted spherical rollers N. As the drum L is rotated in one direction the rollers N are clamped between the drum and the inclined surfaces *s* and the fly-wheel rotated. As the drum turns in the other direction, or backward, it is freed from the fly-wheel, and the fly-wheel is carried forward by its momentum until it receives further impulse from the drum L.

When the rod H is pushed down by hand it is returned or elevated by the action of the spring G upon the treadle, and hence it is only necessary to give said rod a succession of pushes downward, the hand being carried back or upward with the rod by the spring G.

By my invention I provide a driving mechanism in which convenience is afforded for operating the machine by hand or foot power, and hence, when tired of operating by foot, the operator may use the hand, bringing two sets of muscles into play and preventing fatigue induced by working the machine either with the foot or hand continuously.

I am aware that motors have been made in which the connecting-rod for imparting motion to a crank from a treadle was prolonged above the crank and provided with a handle, so that the motor could be operated either by hand or foot power, or by both at the same time, and I do not therefore claim such as my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the treadle of a sew-

ing-machine table, and a hand-rod connected
at one end with the treadle and the other end
extending up above the table, the cord passing
around a pulley on the shaft of the fly-wheel,
5 with one end fastened to the treadle and the
other to the hand-rod, substantially as and for
the purpose specified.

2. The combination of the table A, rod H,

treadle F, and spring G, cord J, pulley K,
drum L. and fly-wheel D, connected to drum 10
L by a clutch-connection, all substantially as
specified.

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Witnesses:

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