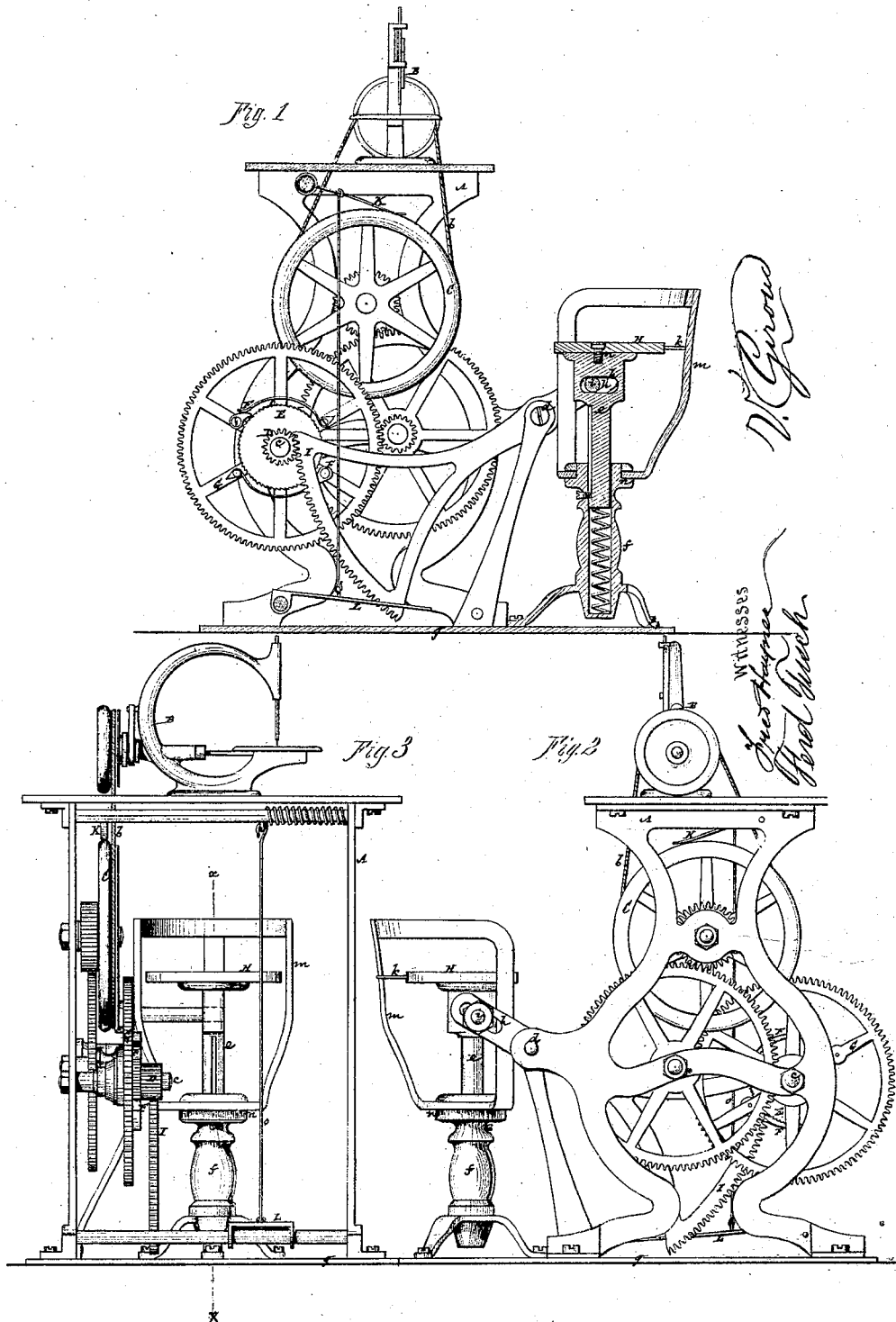


J. Girard,

Motor.

No. 108902

Patented Nov. 1. 1870.



UNITED STATES PATENT OFFICE.

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SAME PLACE.

IMPROVEMENT IN APPARATUS FOR OPERATING SEWING-MACHINES.

Specification forming part of Letters Patent No. **108,902**, dated November 1, 1870.

To all whom it may concern:

Be it known that I, VICTOR GIROUD, of the city, county, and State of New York, have invented a new and useful Improvement in Means of Driving Sewing and other Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a sectional elevation, taken mainly as indicated by the line *x x* in Fig. 3, of my improvement as applied to a sewing-machine. Fig. 2 is a side view of the same; and Fig. 3, an elevation at right angles to Figs. 1 and 2, looking toward the face of the operator.

Similar letters of reference indicate corresponding parts.

My invention, while applicable to operating various machines, is mainly designed to be used as a means of driving sewing-machines; and consists in mechanism for such purpose or purposes in which the weight of the operator, as thrown upon a rising and falling seat, is made to set in motion a train of gearing that drives the machine, and on the operator removing his weight from said seat the latter rises and the mechanism adjusts itself for a repetition of the driving action by the falling of the seat through the weight of the operator, as brought to rest again thereon.

The invention also includes various combinations of details for effecting such action in an advantageous manner, and for adjusting the mechanism to suit different weights of persons, likewise devices for stopping or controlling the speed of the mechanism as against the weight of the operator; also, a combination of swiveling seat with a rising and falling stem thereto, and devices through which the weight of the operator, as thrown upon the seat, is made to drive the machine.

Referring to the accompanying drawing, A represents a stand or table, on which is arranged a sewing-machine, B, driven by a belt or band, *b*, from a fly-wheel, C. Connected with this fly-wheel is a train of multiplying-gearing, that may be variously disposed or changed, and increased or diminished, as required, but that carries on its primary spindle

c a loose driving-pinion, D, which has fast on the face or one side of it a ratchet-wheel, E, into which bite one or more spring-pawls, F F, fast to the first or main wheel G of the gear, so that on operating the driving-pinion D in the one direction, it is caused to give motion, through the ratchet and pawls, to the train of gearing by which the machine is driven; but on operating said driving-pinion in a reverse direction it merely turns the ratchet without operating the train of gearing.

H is the rising and falling seat, on which the operator sits when working the machine, and by which, through a toothed segment-lever, I, that gears with the pinion D, and is connected on the opposite side of its fulcrum *d* with the seat, is motion, first in one direction and then in the other, communicated to the driving-pinion D, that by its ratchet-connection, as hereinbefore described, only operates the driving-train of gear in one direction, which action takes place during the lowering of the seat by the weight of the person resting thereon.

The seat H is shown as supported by a stem, *e*, which is fitted to slide in a socketed pedestal, *f*, that is secured to the floor or to a base-plate, *g*, on which the stand A rests.

The stem *e* is represented as resting on a spring arranged within the socketed pedestal, and which will serve to lift or return the seat to its normal position after the weight of the person has been removed; but such spring may be dispensed with, inasmuch as the weight of the forward segmental portion of the lever I will operate to lift the seat as required, without the aid of a spring.

The segment-lever I is connected in an adjustable manner with the stem *e* of the seat by means of perforations or slots *h h* and tie-bolt *i*, whereby the weight of the person, as applied to the seat, is made to operate with an increased or diminished effect upon the train of driving-gear, accordingly as the connection of the lever with the stem is made closer to or farther from the fulcrum *d* of the segment-lever. This provides for adjustment of the means to suit persons of different weight.

To facilitate the turning of the person when on the seat, as sometimes necessary in the

manipulation of the work, without interfering with the rising and falling action of the seat, said seat H is connected, as by a forked clip, *k*, or otherwise, with the frame *n* of the seat in such manner as to permit of the seat working up and down, and the seat and frame supported or attached, as at *n n*, so as to be free to swivel or turn in common.

K is an elastic brake, that may be of any suitable construction, and which is made capable of being applied to or released from the fly-wheel C by the foot of the operator through a treadle, L, and rod O, and whereby the operator while on the seat is able to counteract in a measure or altogether the effect of his weight, so as to check, or make uniform, or stop, if necessary, the running of the driving devices at any particular point or period in the lowering of the seat. By the means as here described there is no spring or weight to be wound up, nor any laborious action of the hands or feet to set the train of driving-gear in motion, but simply a slight lift of the person at intervals from the seat to permit of the seat's rising, and a subsequent throwing of the

weight of the person on the seat to produce its depression.

The lifting of the person at intervals may be effected or aided by bearing down with the arms on the sides of the independent frame of the rising and falling seat, thereby transferring the weight of the person to the frame.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the seat H, arranged to rise and fall with the toothed segment-lever I, and a train of gear-wheels or pulleys, for operation essentially as specified.

2. The segment-lever I and seat H, or its stem *e*, connected by an adjustable pin, *i*, in the slot *h*, substantially as and for the purpose set forth.

3. The combination of the seat H, constructed to swivel horizontally, with the lever I and driving wheels or pulleys G, substantially as shown and described.

V. GIROUD.

Witnesses:

FRED. HAYNES,
FERD. TUSCH.