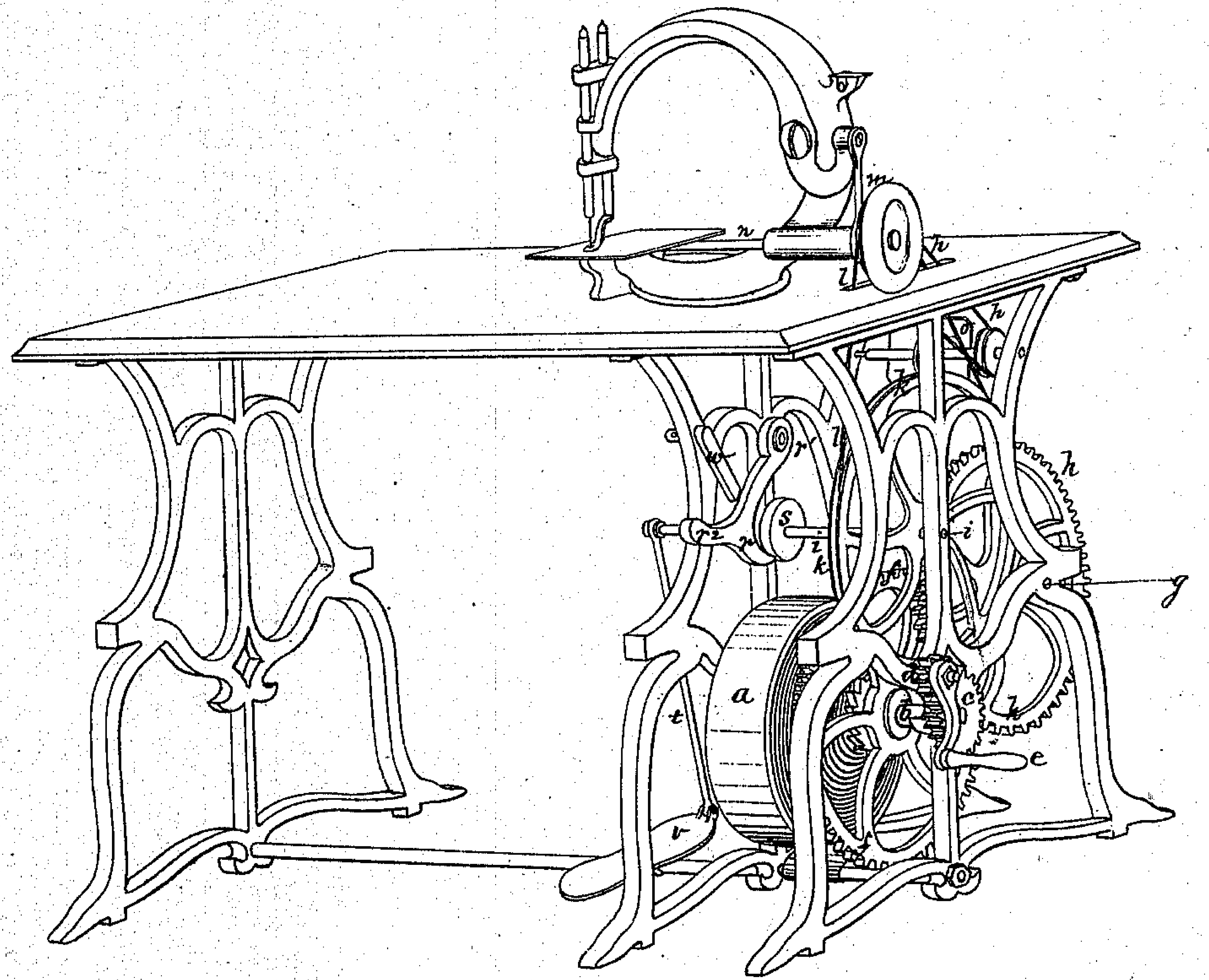
G. W. Manson,

Motor.

No. 104,610. Patented June 21. 1870.



Geo. W. Manson
by his attorney
A Pollok

Witnesses: { M. Bailey
Wm. H. McCabe

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UNITED STATES PATENT OFFICE.

GEORGE W. MANSON, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO HIMSELF, CHARLES M. VANDERVOORT, AND RICHARD B. WESTBROOK.

IMPROVED MOTIVE POWER FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **104,610**, dated June 21, 1870.

To whom it may concern:

Be it known that I, GEORGE W. MANSON, of Jersey City, in the county of Hudson and State of New Jersey, have invented a certain new and useful Improvement in Motive Power for Sewing and other Machinery; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which represents a perspective view of a sewing-machine to which my improvements are applied.

My invention relates to a spring-power mechanism for driving sewing-machines and other like machinery, and it constitutes an improvement upon that mechanism for which Letters Patent were issued to me on the 23d day of August, 1869.

I am, of course, aware that it is not new to drive sewing-machines by spring-power, and my invention is directed solely to an improved and simplified arrangement of the parts through the medium of which the power is applied and regulated, the object being to produce a compact and cheap but effective mechanism which can readily be applied to any sewing-machine, or other like machine of ordinary or suitable construction.

The nature of my invention will be readily understood by reference to the accompanying drawing, in which it will be seen that the driving mechanism is all arranged on one side of the machine-stand, so as to admit of the operator occupying the usual position at the table without being incommoded.

Motion is communicated to the various parts of the machine from the spring *a*, which is to be mounted on a shaft and inclosed in a barrel in the usual way. The winding-shaft *b* of the spring is combined with the ordinary retaining click and ratchet, and upon its end, which projects from the side of the stand, carries a small toothed wheel, *e*, which engages with a gear, *d*, mounted on a stud in the side of the frame, and provided with a crank or handle, *e*. By means of this handle, which can be removed from or placed upon the square end or hub of the gear whenever desired, and through the medium of the two wheels *c* and *d*, the spring can be readily and quickly wound up.

Upon the shaft *b* is fixed the large toothed wheel *f*, which engages with a small gear on the shaft *g*, and the latter shaft carries also a toothed wheel, *h*, which engages with a small gear on the shaft *i*.

The shaft *i* carries a large pulley, *k*, around which passes the band or belt *l*, which also passes over a pulley, *m*, on the main shaft *n* of the sewing-machine. Thus, through the medium of these few wheels, motion is readily and surely imparted from the spring to the sewing-machine.

The whole arrangement is at once compact and very simple, there being no complication of parts, and therefore little or no liability of the mechanism getting out of order.

Gear or toothed wheels are employed in that part of the mechanism where the movement is comparatively slow, while pulleys are employed where the movement becomes accelerated, thus avoiding the rattle and chatter which would result were toothed wheels employed throughout.

In order to regulate and steady the movement of the spring mechanism, the ordinary regulating or fly wheel *o* is employed, the same being mounted upon a rotating shaft in the usual manner, and receiving motion from the pulley *m* by means of the band *p*, which passes around a pulley on the fly-wheel shaft.

To control the movement of the mechanism, I employ a brake whose peculiar arrangement is fully shown in the drawing. It is hinged or pivoted, at r^1, to the inner side of the frame in which the driving mechanism is held, and has a projecting beak, *r*, curved or otherwise suitably shaped, so as to be brought in proper contact with the periphery of a wheel or disk, *s*, on the shaft *i*. This brake has also an arm, r^2, provided with a pin, to which is hinged the upper end of a rod, *t*, whose lower end is hinged to the toe of the treadle *v*.

The foot of the operator is placed on this treadle, and by moving the toe or heel up or down the brake may be caused to press upon the wheel *s* with more or less force, thus retarding or accelerating the movement of the mechanism, as desired, and putting the machine under the complete control of the operator.

I also provide a button or hinged finger, *w*, arranged so that it may be turned to press the brake firmly and tightly against the wheel *s* whenever desired, thus locking the mechanism and allowing the operator, although the

spring may be fully wound up, to leave the machine without danger of its being put in motion so long as the button remains in position.

The above-described parts constitute all that is needed to operate the machine. The mechanism is simple, uncomplicated, and therefore little liable to derangement and injury, and it serves admirably to work the machine, its movements, by means of the brake and stop-button, being under perfect control.

Having now described my invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

The herein-described combination and arrangement of the spring, the train of toothed wheels and pulleys for communicating the power to the sewing or other machine, the brake and its operating-treadle, and the stop or locking button, said parts being constructed substantially as shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

GEORGE W. MANSON.

Witnesses:
M. BAILEY,
WM. H. MCCABE.