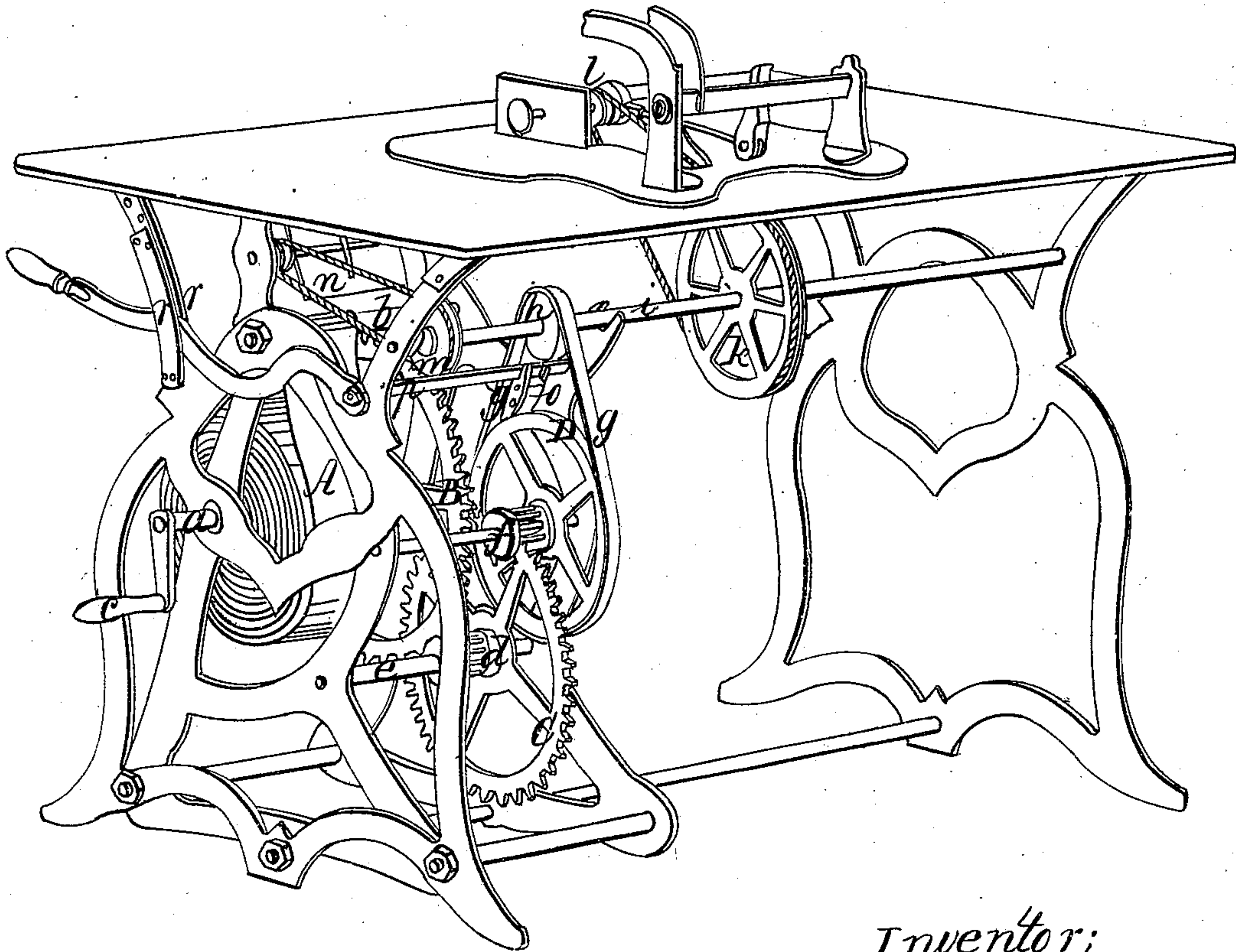


*G. W. Manson.*

*Motor.*

*Nº 93,214. Patented Aug. 3, 1869.*



*Inventor;*

*George W. Manson*

*by his Atty*

*A. Pollock*

*Witnesses;*

*Wm. C. Drake*

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# United States Patent Office.

GEORGE W. MANSON, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO HIMSELF, JOHN A. KNOELLER, AND MICHAEL BOWE, OF SAME PLACE.

*Letters Patent No. 93,214, dated August 3, 1869.*

## IMPROVEMENT IN MECHANISM FOR DRIVING SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To whom it may concern :*

Be it known that I, GEORGE W. MANSON, of Jersey City, county of Hudson, in the State of New Jersey, have invented certain new and useful Improvements in Motive-Power for Sewing and other like Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which represent, in perspective, my improvements used in connection with a sewing-machine.

I am aware that it is not new to employ spring-power to drive sewing and like machines, and I do not claim the employment of such power for the purpose.

The object of my improvement is to arrange the driving-mechanism so that it can be more readily and conveniently applied, without the noise made by the train of toothed gear ordinarily employed; and further, to construct and apply the brake for regulating the speed, so that it may be easily and conveniently used.

The nature of my invention can best be ascertained by reference to the accompanying drawings, which I shall now proceed to describe.

All of the driving-mechanism is arranged at the side of or rear of the stand, so as to leave the whole of the front free to be occupied by the operator.

The coiled spring A, which furnishes the power, is mounted upon a shaft, *a*, mounted in the frame on the side of the stand, and its outer end is secured to the rod *b*, in the upper part of the same frame.

The shaft carries the large toothed driving-wheel B, and the ordinary ratchet-and-pawl escapement, and is rotated, to effect the winding of the spring, by means of the crank *c*.

The wheel B engages with the pinion *d*, on the lower shaft *e*, which also carries a large gear, C, engaging with the pinion *f*.

This pinion is mounted on a shaft, which carries the driving-wheel D, and the latter, by means of the belt *g*, which passes over a small pulley, *h*, on the shaft *i*, rotates said shaft.

The shaft *i*, in order to carry the devices needed to communicate motion to the sewing-machine, and to the fan-wheel or regulator, extends entirely across the rear part of the stand, and has mounted upon it, beside the pulley *h*, the driving-wheel *k*, which, by means of a belt passing a pulley, *l*, on the cam-shaft of the sewing-machine, rotates said shaft, and thus actuates the needle-bar and the pulley *m*, which, by means of a belt, rotates the face-wheel *n*.

In order to stop the movement or regulate the speed of the machine, I employ a brake, composed of the friction-piece *o*, preferably made of steel, which hangs from a rod, *p*, and is capable of being vibrated, so as to be lowered into contact with or raised away from that portion of the periphery of the wheel D between the belt *g*.

In order to impart this vibratory movement to the brake, the outer end of the rod *p* carries a lever-handle, which extends along by the side of the machine, and projects from the front of the same, being held and steadied in position in the slot formed between the two strips *r r*, as shown plainly in the drawings.

I am aware that so far as concerns the driving of the machine, the pulley or friction-wheels are in some respects the equivalent of toothed gear, and I do not claim, broadly, substituting one for the other. But by my arrangement I use toothed gear where the revolution of the parts is slow, and where, consequently, a belt-connection would not be so sure, while at the same time, owing to the slow movement of the parts, the teeth of the gear, as they mesh and unmesh, make no noise. And after the revolution becomes rapid, I use the pulley and belt, which, under such circumstances, transmits the motion surely, while at the same time all noise is avoided, and especially at the point where motion is transmitted to the cam-shaft which actuates the needle-bar.

And again, under this arrangement, the greater part of the gearing is arranged compactly by the side of the machine, while the longer and topmost shaft, *i*, is arranged at the back of the stand, and out of the way of the operator, and there is none of the gearing just under the sewing-machine, which is usually found in machines of this kind.

By the use of the friction-gear as described, I am also enabled to apply the brake directly to the periphery of wheel D, where the speed can be most easily regulated, and the motion stopped instantaneously and without effort. And to the accomplishment of such results, the arrangement of the brake, its rock-shaft or rod *p* and lever-handle, is of much assistance, the handle being placed just where it can be manipulated most conveniently, and the rock-shaft and brake being so arranged that the degree of speed can be regulated most accurately and easily.

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 construction and arrangement, with relation to the stand and the machine to be driven, of the train of toothed gear and pulleys, actuated by spring-power, as described, and the brake, its rock-shaft, and handle, for regulating the speed or arresting the motion of said gear, in the manner herein shown and specified.

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

GEORGE W. MANSON.

Witnesses:

M. BAILEY,  
EDM. F. BROWN.