

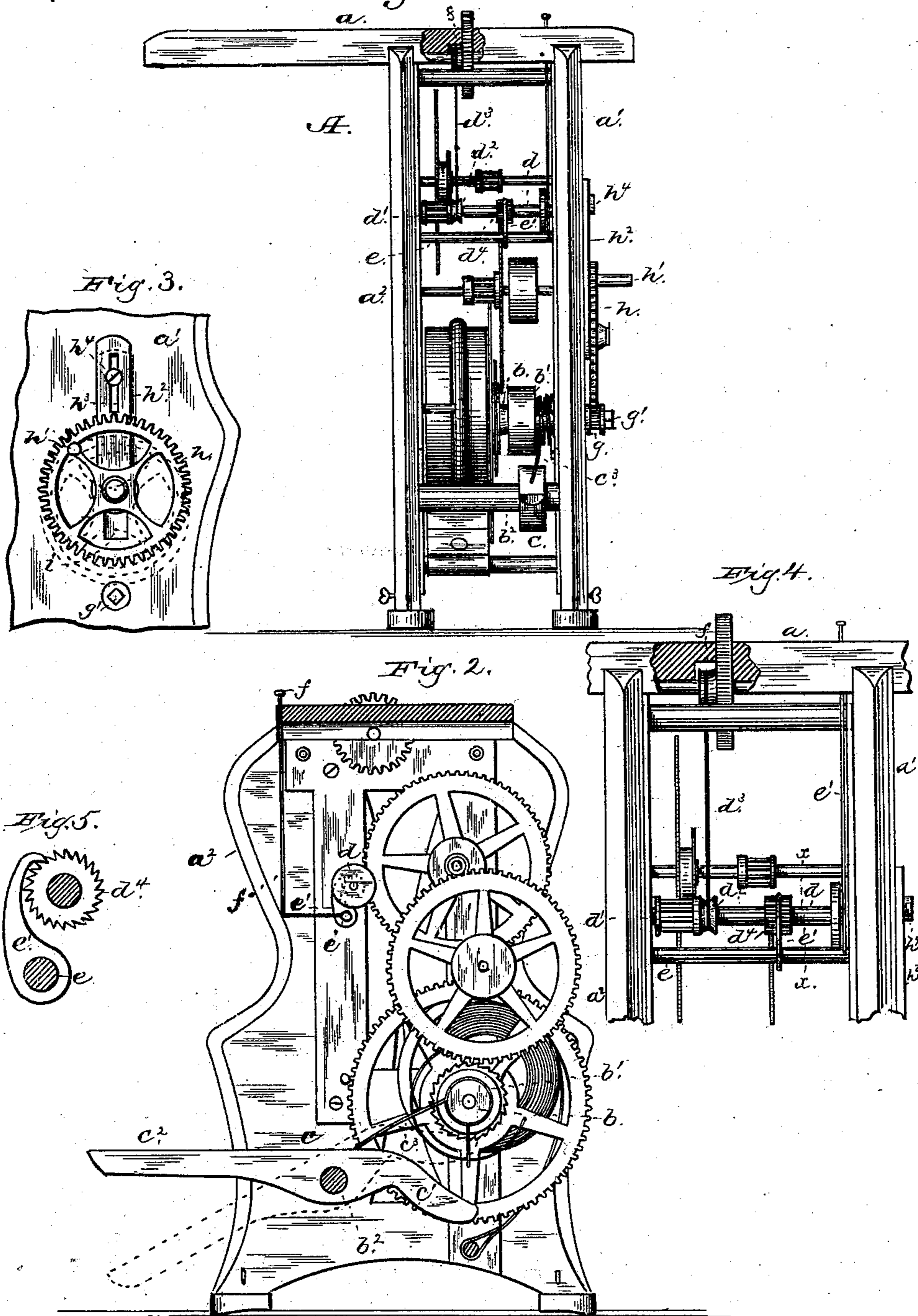
(No Model.)

W. H. SWARTOUT.

MOTOR.

No. 272,349.

Fig. 1. Patented Feb. 13, 1883.



WITNESSES;

J. E. Clark.  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. SWARTOUT, OF SALINEVILLE, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF THREE-FOURTHS TO CYRUS A. GREGG, OF MOORE'S SALT-WORKS, AND WILLIAM DALLAS, OF SALINEVILLE, OHIO.

## MOTOR.

SPECIFICATION forming part of Letters Patent No. 272,349, dated February 13, 1883.

Application filed July 5, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. SWARTOUT, a citizen of the United States, residing at Salineville, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Motors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention has relation to improvements in motors for sewing-machines; and it consists in the construction and arrangement of the several parts, as will be hereinafter fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is an elevation. Fig. 2 is a side view with the outer leg removed. Fig. 3 is a detail view of the winding mechanism. Fig. 4 is a detached view on an enlarged scale, showing the upper part of the motor; and Fig. 5 is a section on line *xx*, Fig. 4, showing the pawl and ratchet-wheel.

A represents a portion of the framing of a sewing-machine. *a* represents the table; *a'*, the outer leg, and *a''* an intermediate leg. Between these legs I arrange the operating mechanism hereinafter described.

B represents the clock-train, which furnishes the motive power, and it is composed of an ordinary number of gear-wheels properly connected.

*b* represents the shaft of the mainspring; *b'* represents a plain-faced circular brake block fixed to shaft *b*.

*b''* represents a rod secured between the legs *a'* *a''* below and in front of the shaft *b*.

*c* represents a brake-lever journaled on rod *b''*, at one side of the frame A and in line with the brake-block *b'*. The short arm *c'* of this lever is carried under the brake-block *b'*, and arranged to bear on the said brake-block when the long arm *c''* is pressed down, as indicated in dotted lines, Fig. 2, thus regulating the speed of the machine according to the pressure on the long arm of the lever. The long arm *c''*, I carry

out beyond the legs of the framing to give proper leverage, and also to bring it in proper position to be reached by the foot of the operator.

*c''* is a spring coiled around the shaft *b* and carried forward, and arranged to bear on arm *c'* of lever *c* and hold the same in the position shown in full lines, Fig. 2, clear of the pulley *b'*, when pressure is not applied to arm *c''*. The pulley *b'* being keyed to the shaft of the source of power, the regulating influence is applied directly to the same without any intermediate gearing, and is therefore more prompt and efficient.

*d* is a shaft journaled in the side plate of the clock mechanism near the top of same and in front of the top wheel of the train. *d'* is a pinion-wheel secured on said shaft, and arranged to mesh with the top gear-wheel of the train. *d''* is a pulley secured on shaft *d* and connected with the main shaft of the sewing-machine by band or cord *d'''*, passed around pulley *f*, secured on the said main shaft.

*d''* is a ratchet-wheel secured on shaft *d*.

*e* is a shaft journaled in the side plates of the clock-work below the shaft *d*.

*e'* is a pawl secured to shaft *e*, and arranged to engage ratchet-wheel *d''*, and thus stop the machine.

*f* is a rod secured to shaft *e*, and extended horizontally out in front of same a short distance, and then carried up through the table and provided with a button, *f'*, and arranged in convenient reach of the operator. Thus when the pawl and rod are in the position shown in Fig. 2, the pawl has stopped the machinery from working; but by pressing on the button *f'* the pawl is released from ratchet-wheel *d''*, and the machine moves again. The pawl may be operated by hand without the use of the rod *f*; but I prefer to use the same, as by that means the parts are more conveniently arranged to the operator. By the construction described it will be seen I may by the pawl and ratchet stop the machine entirely, and that by the regulating-lever the speed may be governed. These devices are both arranged, as described, within easy reach of the operator.

The shaft *b* is extended through the side leg

of frame, and is provided with a pinion next the said leg and a key-post,  $g'$ , beyond the said pinion.

$h$  is a gear-wheel provided with a crank-handle,  $h'$ , and journaled in the lower end of a sliding bar,  $h^2$ . This bar is constructed with an elongated slot,  $h^3$ , through which is passed a set-screw,  $h^4$ , the head of which bears against the bar  $h^2$  on either side of the slot  $h^3$ .

$i$  represents a groove or mortise cut in the side of the leg, and arranged to receive an extension of the shaft of the wheel  $h$ , or a lug fixed on the side of the lower part of bar  $h^2$ , and this slot is made long enough to permit the said wheel to be slipped up and down, as indicated in Fig. 3, and at the same time prevent any lateral motion of the lower end of bar  $h^2$ , as described hereinafter. The operation of this construction is as follows: When the clock-work has run down, and the wheel  $h$  is in position shown in full lines, Fig. 3, I unloose the set-screw  $h^4$ , lower the wheel and bar to the position shown in dotted lines, Fig. 3, when the wheel  $h$  is meshed with pinion  $g$ . The set-screw is then turned down tight, and as the wheel  $h$  is revolved by its crank-handle the clock-work is wound up. The lower end of the sliding-bar being held in the mortise in the leg of frame, as described. When it is not desired to use wheel  $h$  and the accompanying mechanism, a key may be applied directly to post  $g'$ .

The operation of my device will be readily understood on reference to the drawings and the description hereinbefore given.

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

1. In a motor, the combination, substantially as described, with the clock-train and the frame  $A$ , of the brake-block  $b'$ , fixed on shaft  $b$ , the brake-lever  $c$ , pivoted at one side of the frame  $A$ , and under the control of the operator, and spring  $c^3$ , arranged to bear upon the brake-lever, as and for the purposes set forth.

2. The combination, with the main shaft of the motor provided with pulley  $f$  and the clock-train, of the shaft  $d$ , provided with pinion  $d'$ , geared with the clock-train, the pulley  $d^2$  and the ratchet-wheel  $d^4$ , both secured on shaft  $d$ , the band  $d^3$ , passed around pulleys  $d^2$   $f$ , and the pivoted pawl  $e'$ , properly supported and arranged to engage the ratchet-wheel  $d^4$ , and under the control of the operator, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. SWARTOUT.

Witnesses:

THOMAS A. COLLINS,  
JAS. B. HULL.