

GEORGE ROBERTS.

Improvement in Fly-Wheels for Sewing-Machines.

No. 127,799.

Patented June 11, 1872.

Fig. 1.

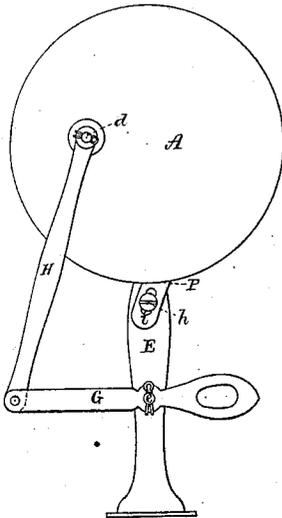


Fig. 2.

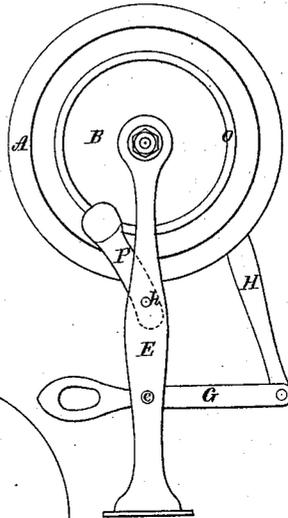


Fig. 4.

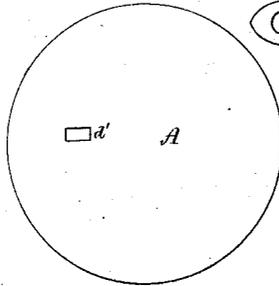


Fig. 3.

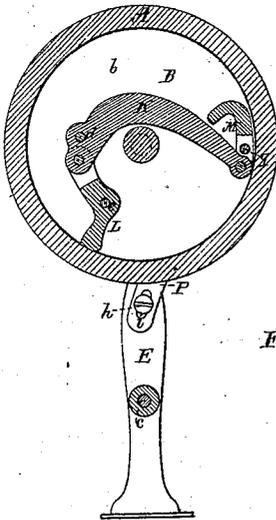


Fig. 5.

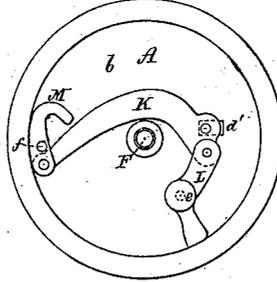


Fig. 6.

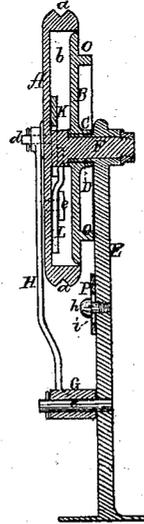


Fig. 7.

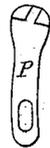
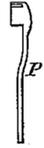


Fig. 8.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE ROBERTS, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN FLY-WHEELS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 127,799, dated June 11, 1872.

To all persons to whom these presents may come:

Be it known that I, GEORGE ROBERTS, of Lowell, of the county of Middlesex and State of Massachusetts, have made a new and useful invention having reference to the Fly-Wheels of Sewing or various other Machines; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, in which—

Figures 1 and 2 are opposite side views, and Fig. 3 a vertical and longitudinal section of a fly-wheel, its pedal and crank connecting rod or bar as provided with my invention. Fig. 4 is a side view of the wheel, showing the slot for the crank-pin. Fig. 5 is a view of the wheel as it appears when separated from its cap or brake-plate. Fig. 6 is a vertical and transverse section of the whole mechanism.

The purpose of the mechanism connected with the crank-pin, its connecting-rod, and pedal, is to enable the wheel to be revolved by such pedal and connecting-rod when the crank-pin is on either "dead-center," in which case the axis of the connecting-rod is in a plane passing through the axis of the wheel and that of the crank-pin. There is applied to the fly-wheel a friction-brake, to stop it from being moved backward, in order that when the treadle may be worked the machine connected with it may be correctly operated, or the fly-wheel be made to revolve in one direction only, the brake apparatus being applied so as to compensate for the wear of its rubbing parts.

In the drawing, A denotes the fly-wheel, which may be grooved on its periphery, as shown at *a*, to receive an endless band for transferring motion to a sewing-machine. The wheel has a cylindrical chamber, *b*, within it, concentric with it, and open on one side of the wheel to receive a circular cap or brake-plate, B, from whose center projects a tubular hub, C, to encompass and revolve on a tubular journal, D, supported by a post, E, and arranged therewith, as shown. A journal, F, extends from the center of the fly-wheel A, goes through the tubular journal D, and thereby serves to support the wheel. The pedal is shown at G as a lever, having its fulcrum at *e*, and being pivoted at one end to a connection-rod, H, which, near its upper end, turns on a crank-pin, *d*, which goes through a slot, *d'*, made in the fly-wheel, in manner as shown. The crank-pin projects from a lever, K, arranged in man-

ner as represented within the chamber of the fly-wheel. The said lever, formed as exhibited in the drawing, has its shooter-arm pivoted or jointed to a smaller or bent lever, L, arranged in the chamber, and to turn on a pivot, *e*, extended from its side. A bent arm, M, pivoted to the longer arm of the lever K, arranged as represented, is provided with a round hole, *f*, to receive a pin, *g*, projected from the inner side of the cap-plate B. Furthermore, a circular lip, O, extended from the outer side of the cap-wheel, enters a notched arm or brake, P, formed as shown in inner side elevation in Fig. 7 and in end view in Fig. 8, such brake being made to straddle the lip O, and arranged, as shown, upon a screw-pin, *h*, extended from the post, there being a slot, *i*, in the brake to receive the said pin. This slot enables the brake, however much it may become worn by the lip, to properly adjust itself thereto to estop the wheel.

The brake P and circular lip O, by their conjoint action, will prevent the cap-plate from being revolved backward, and will allow it to turn in the opposite direction. The cap-wheel being connected with the fly-wheel by means of the pin *g*, the curved arm M, lever K, and crank-pin *d* will, with the cap-plate, be estopped from revolving backward. When the crank-pin is at a dead center, the pressure of the connecting-rod will move the crank-pin in its slot, so as to cause the levers K L to act as toggles to force the wheel around a little, so as to cause the crank-pin to pass the dead-center, the cap-plate moving with the wheel. The curved arm M serves to so connect the lever K with the cap-plate as to admit of the proper movements of such lever, the arm swinging on its joint-pin and the pin of the plate.

I claim—

1. The crank-pin, movable in a slot of the wheel, as described, in combination with the two levers K L arranged within, and applied to the wheel and its cap-plate, as set forth, such cap-plate being provided with the lip to operate with the brake, as explained.

2. I also claim the clamp-brake, made with a slot, as described, to receive its pivot, and for the purpose as set forth.

GEORGE ROBERTS.

Witnesses.

R. H. EDDY,
J. R. SNOW.