

G. WEBSTER, Jr. & J. F. WEBSTER.
Sewing-Machines.

No. 139,444.

Patented May 27, 1873.

Fig. 1.

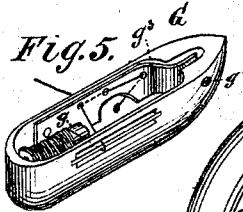
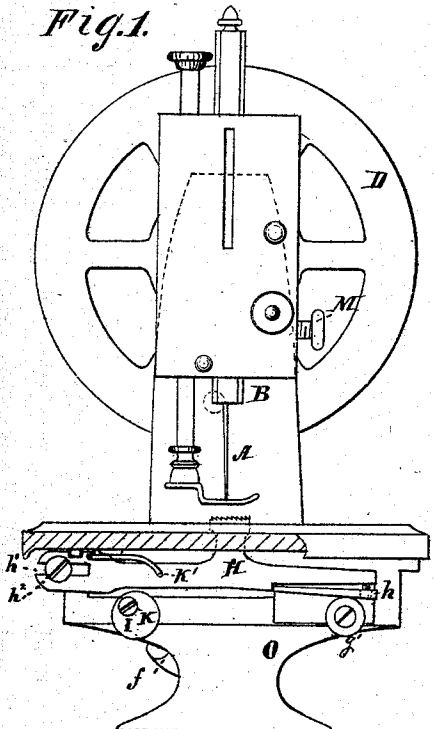


Fig. 4.

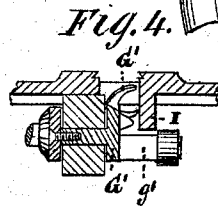
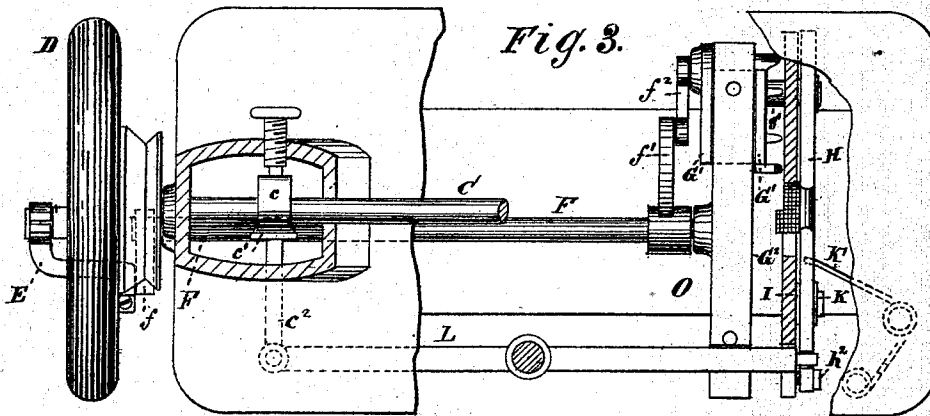
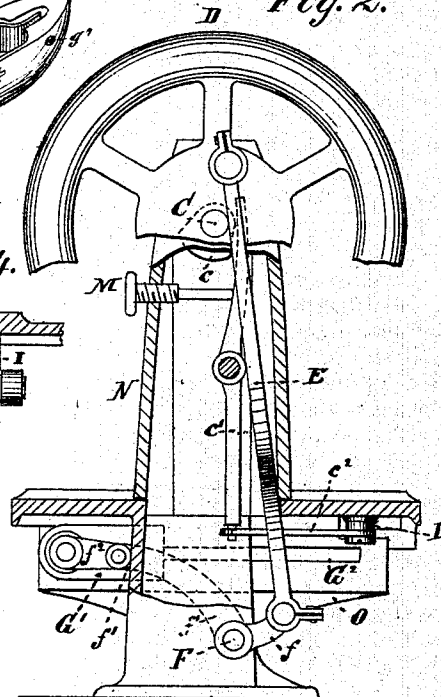


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE WEBSTER, JR., AND JOHN F. WEBSTER, OF HAMILTON CITY, CANADA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **139,444**, dated May 27, 1873; application filed February 27, 1873.

To all whom it may concern:

Be it known that we, GEORGE WEBSTER, Jr., and JOHN F. WEBSTER, of Hamilton City, Province of Ontario, in the county of Wentworth, and Dominion of Canada, have invented a new and useful Improvement in Sewing-Machines; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification:

The invention consists in the improvement of the feed mechanism as hereinafter described and pointed out in the claims.

In the drawing, Figure 1 is a front elevation. Fig. 2 is an end view with parts broken away. Fig. 3 is a top view with parts broken away. Fig. 4 is a cross-section through line *xx*, of Fig. 3. Fig. 5 is a perspective view of the shuttle.

A represents the needle of the sewing-machine, B the needle-bar, C the needle-shaft, D the crank balance-wheel, and E the rod that connects with the shuttle-shaft F, having the cranks *f f'*. G is the shuttle, G¹ its carrier, and G² its race. H is the feed-bar, placed under the cloth-plate and held loosely in position on an adjustable cam, I, under the head of screw K, and by a wire-spring, K¹. It is operated from the needle-shaft C by a cam *c*, pivoted rod *c'*, rod *c''*, and lever L. The feed-bar H has a bevel piece, *h*, which is adjustable downward on one end by a screw, to enable it to take up wear, and is acted on by a friction-roller of the projection *g'* on shuttle-carrier, which raises it at every motion forward. At the other end it has an open slot *h'* which receives the screw *h''*. M is screw which passes through the arm N, and against the rod *c'* so that by turning it inward or outward the stitch may be shortened or lengthened. The shuttle-carrier G¹ slides in a horizontal race G² which is solid with the frame O, and is operated by the link *f''* and crank-arm *f'* of the shaft F. It is an object to govern the tension of the thread

without putting it through so many holes in the shuttle, and to dispense entirely with the spiral spring usually employed at the pointed end of shuttle. On the inside of the shuttle is placed a metallic bar provided with one or two holes bent at *g''*, and which may be elastic or otherwise. On the opposite side is a screw, *g'*, which passes through the side of shuttle, and presses against the bent end of bar. The thread from the bobbin passes through an open slot in the side of the shuttle, then through a hole in the spring-bar, and thence out through a hole in shuttle, as clearly illustrated in Fig. 5 of the drawing. The thread in passing from bar to shuttle keeps the bar down to its proper position, so that the tension of the thread can always be regulated by the small adjusting-screw *g'*. The usual method of threading through a number of holes in the shuttle is thus avoided, while the tension of the thread from the bobbin is the same whether the bobbin is more or less full, and there is no spiral spring to be continually getting out of order.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A cam, *c*, on needle-shaft, a pivot-lever, *c'*, a rod, *c''*, and a lever, L, combined with the feed-bar in a sewing-machine, as and for the purpose described.

2. The combination, with mechanism *c c' c''*, and lever L that moves the feed-bar H, of the screw M, applied through the arm N, and to the part *c'* to regulate the extent of movement of said bar, as set forth.

3. The combination, with the feed-bar H, of the subjacent adjustable cam I as described, for regulating the vertical position of the feed-bar.

GEORGE WEBSTER, JR.
JOHN F. WEBSTER.

Witnesses:

JAMES OSBORNE,
DAVID TRAILL.