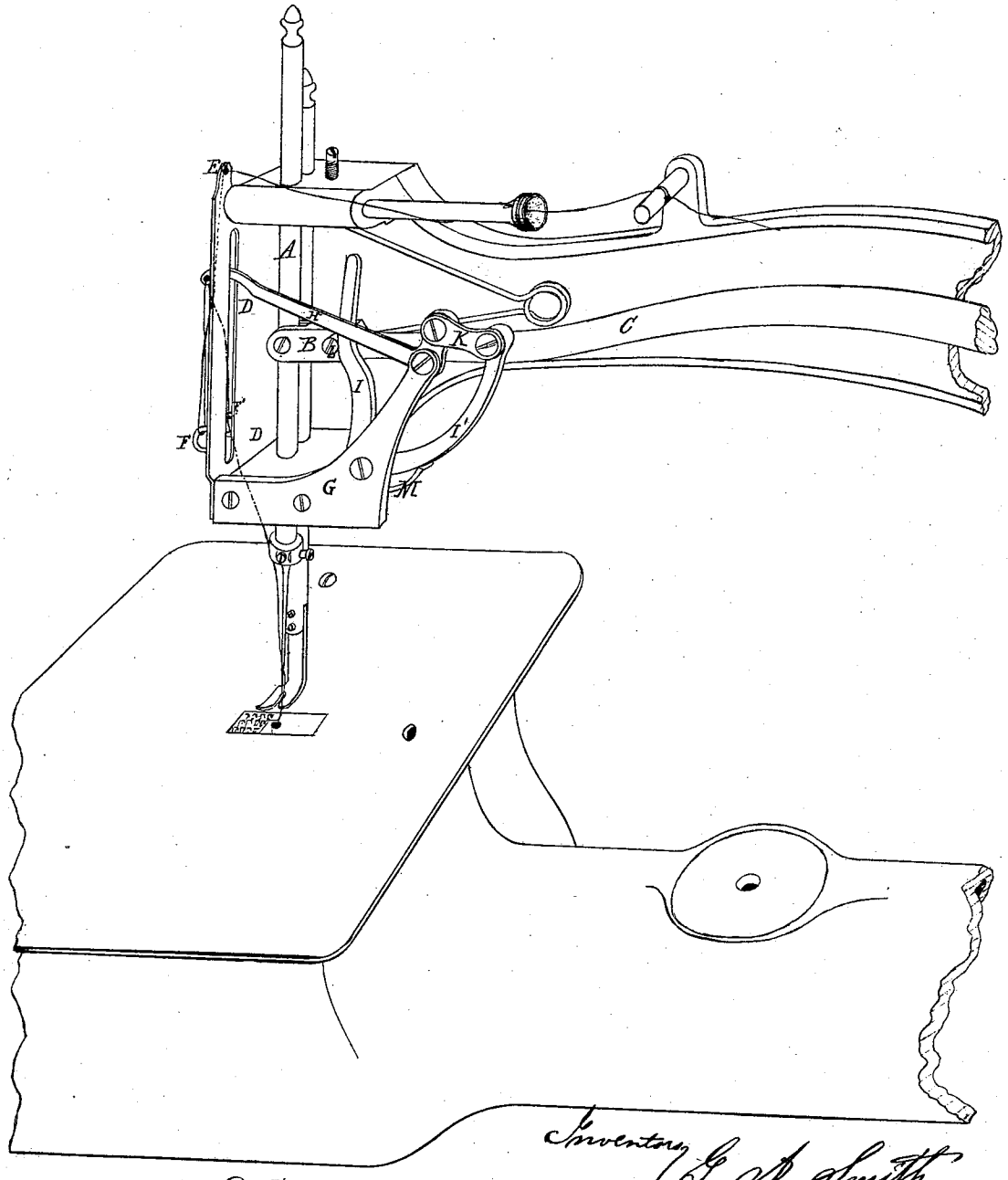
G. A. SMITH & E. L. MILLER.

Sewing Machine.

No. 102,170. Patented April 19, 1870.



Witnesses: George E. Buckley, William J. Burtz.

Inventors: G. A. Smith, E. L. Miller

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United States Patent Office.

GEORGE A. SMITH AND EDWARD L. MILLER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 102,170, *dated April* 19, 1870.

IMPROVEMENT IN SEWING-MACHINE.

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

To all whom it may concern:

Be it known that we, GEORGE A. SMITH and EDWARD L. MILLER, both of the city of Philadelphia, in the State of Pennsylvania, 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 thereof, which will enable others skilled in the art to which it appertains to make and use our invention, reference being had to the accompanying drawing, which forms a part of this specification, and which is a perspective view of so much of a sewing-machine as is necessary to show our improvement.

Our invention consists in an improved means for taking up the thread immediately after the stitch is formed.

A represents the needle-bar, pivoted to the head B of the needle-arm C.

D is the face-plate, provided with an eye, E, and two staples, F F'.

G is the take-up stand, to which are pivoted the take-up lever H and bent lever I I', connected by the link K.

On the head B is a pin, L, against which the bent lever I I' is pressed by the spring M.

The arm I of the bent lever I I' is made with a cam-face, as shown in the drawing.

The operation is as follows:

The thread passing from the spool, thread-check, and tension device, through the eye E, staple F, eye of the take-up lever, staple F', needle-clamp, and eye, successively, when the needle-arm begins to descend from its highest position, the arm I of the bent lever remains stationary, being pressed by the spring M against the pin L, which slides against the straight portion of the cam-face without moving the lever. The take-up lever, therefore, likewise remains stationary, and the thread slips through the eye of the needle until the point of the needle has entered the cloth and the needle-arm reaches the position shown in the drawing, bringing the pin L opposite the curved portion of the cam-face.

As the pin descends, the bent lever is pressed against it by the spring, and the consequent movement of the arm I' operates the link and depresses the long arm of the take-up lever with a quick motion, so as to allow the thread slack enough for forming the stick.

When the needle-arm rises, the take-up lever remains stationary until immediately after the stitch has been formed, when the pin is again brought against the curved portion of the cam-face, so as to move the bent lever, and thereby raise the long arm of the take-up lever with a quick motion, so as to tighten the stitch in advance of the movement of the needle-bar.

Having thus described the construction and operation of our improvement,

What we claim as new therein, and desire to secure by Letters Patent, is—

The combination of the take-up lever, link, and bent lever, constructed with a cam-face and operated by the movement of the needle-arm, as described.

G. A. SMITH.
E. L. MILLER.

Witnesses:
WM. J. BURNS,
GEORGE E. BUCKLEY.