

G. H. W. CURTIS.
Sewing-Machine.

No. 213,548.

Patented Mar. 25, 1879.

Fig. 1.

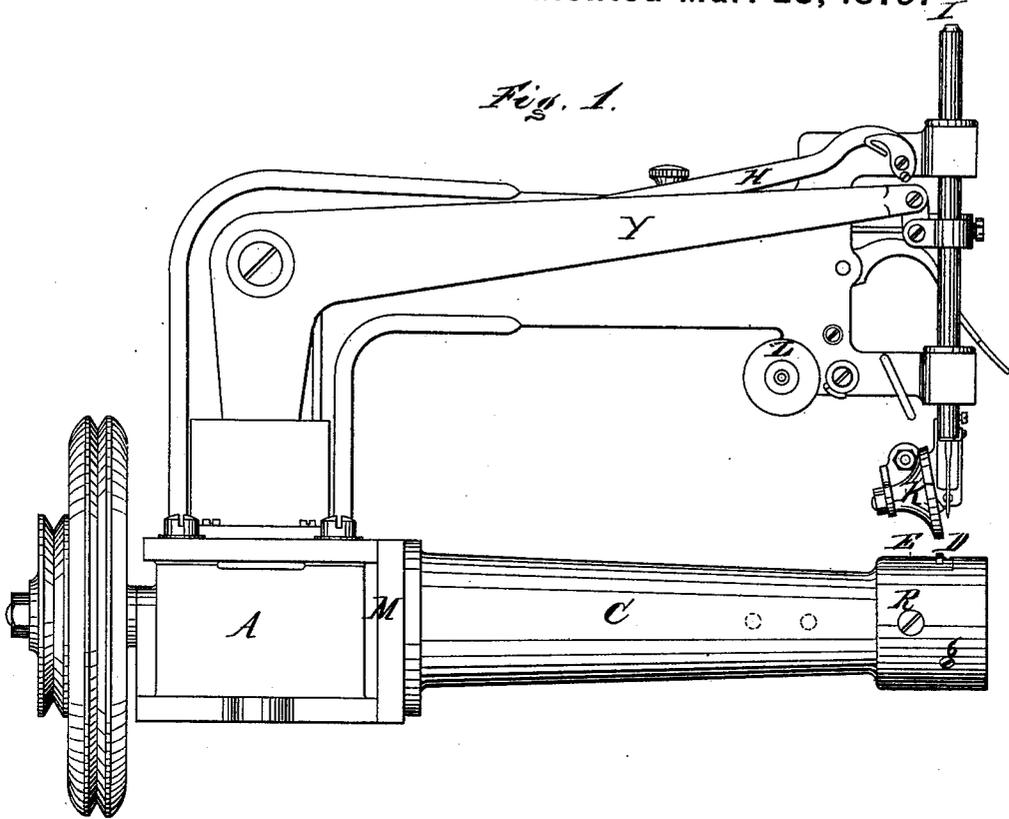
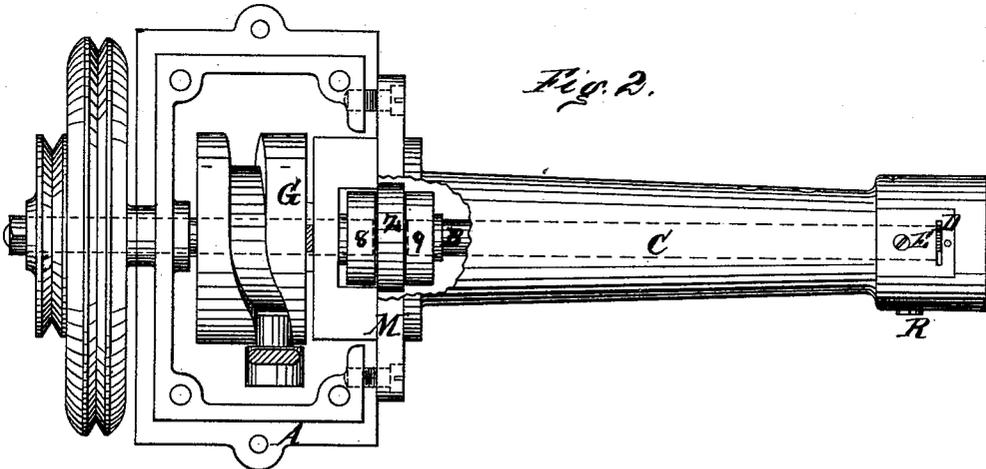


Fig. 2.



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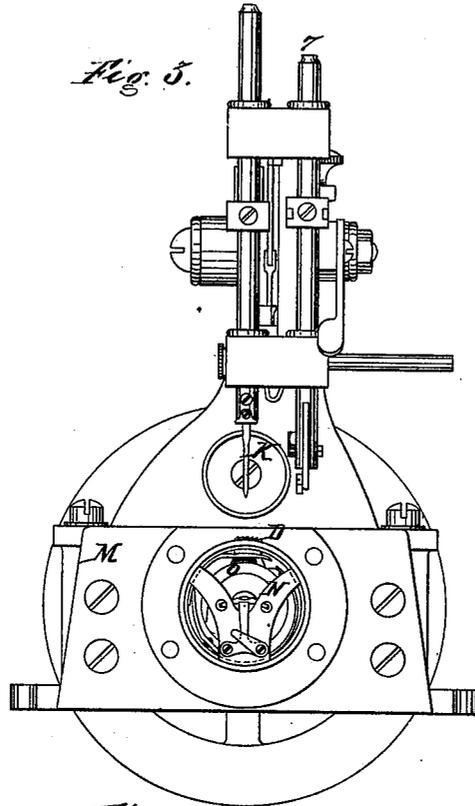


Fig. 7.



Fig. 8.

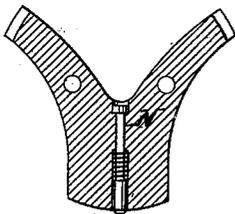


Fig. 9.

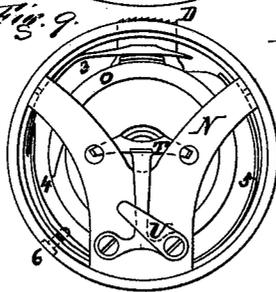


Fig. 10.

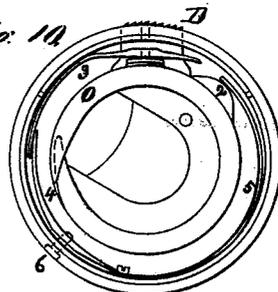
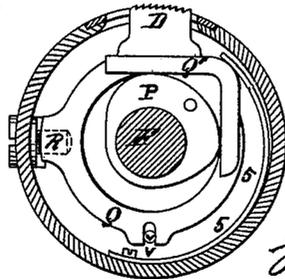


Fig. 11.



Fig. 12.



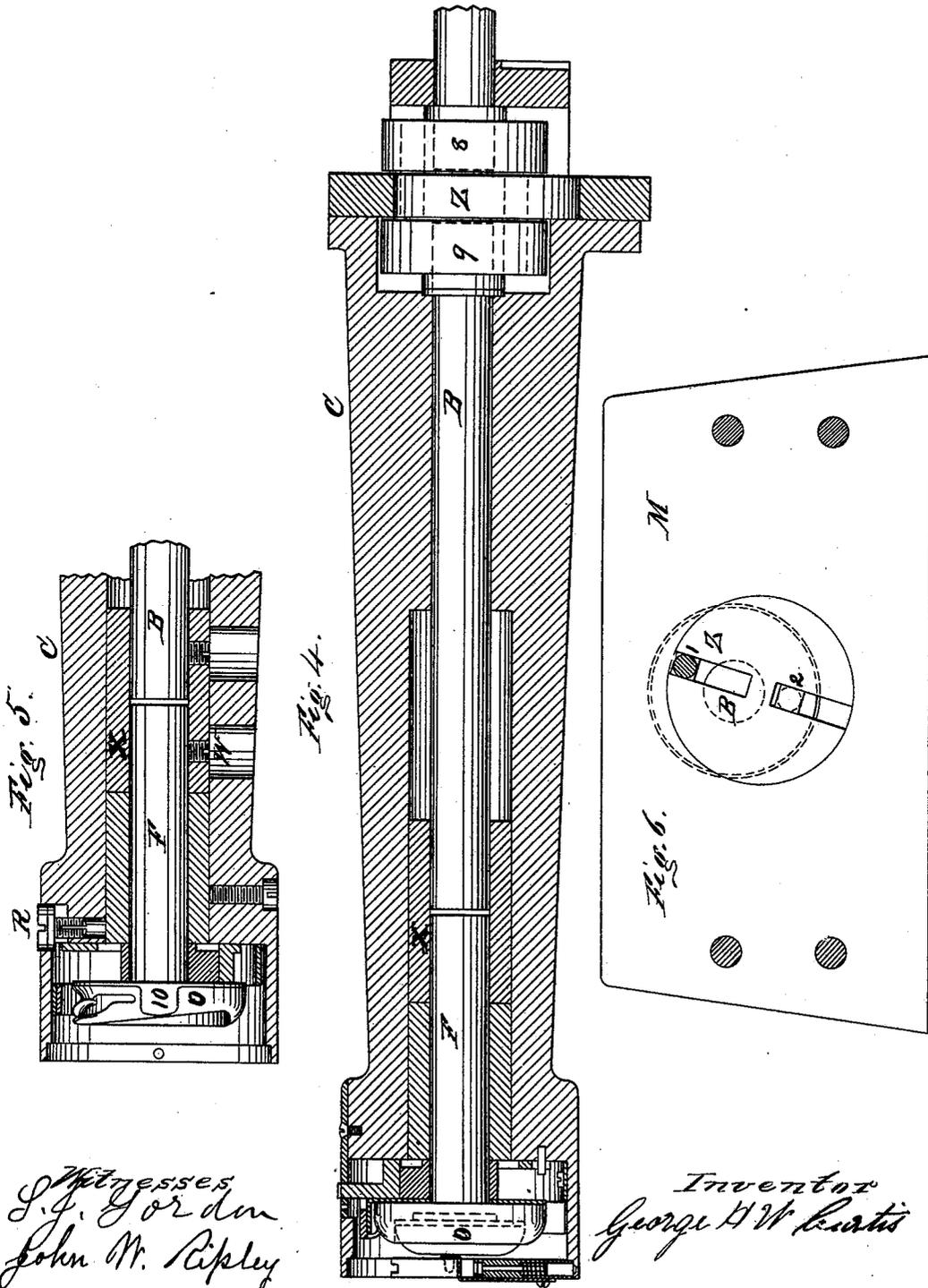
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UNITED STATES PATENT OFFICE.

GEORGE H. W. CURTIS, OF BROOKLYN, NEW YORK, ASSIGNOR TO WHEELER & WILSON MANUFACTURING COMPANY, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **213,548**, dated March 25, 1879; application filed January 30, 1878.

To all whom it may concern:

Be it known that I, GEORGE H. W. CURTIS, of Brooklyn, county of Kings, State of New York, have invented a new and useful Improvement in Sewing-Machines, which is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of my improved machine; Fig. 2, a plan view of the arm thereof, with a portion cut away; Fig. 3, a front elevation thereof; Fig. 4, a central section, in part, of the arm, showing interior mechanism; Fig. 5, a fragmentary portion of the same; Figs. 6, 7, 8, 9, 10, 11, and 12, detached views of various parts.

The object of my invention is to enable shoe-fitters to stitch various seams in shoe-uppers and other articles which could not be stitched on a table machine, such as the boxings after the front and back seams are closed, or seams in boots after they are made, and a variety of work necessary to be got at from the inside; and my improvement consists in adapting a rotary hook, straight needle, and a four-motion feeding mechanism, carrying and stitching work across a tubular arm.

A represents the bed of the machine; B, the main shaft; C, the tubular arm; D, the four-motion feed; E, the throat-plate; F, the hook-shaft; G, the needle-cam; H, the take-up; I, the needle-bar; K, the rotary presser-wheel; L, the tension-wheel; M, the connecting-plate; N, the ring-slide; O, the rotary hook; P, the feed-cam; Q, the feed-bar. Q' is a right-angular projection attached to feed-bar; R, the stitch-regulating screw; S, the spiral spring that secures the ring-slide in position; T, the bobbin-spring; U, the lever to regulate its pressure; V, the pin on which the feed rocks; W, the hook-adjust-

ing screw; X, the sleeve; Y, the needle-lever; Z, the variable motion disk; 1 and 2, the pins thereof; 3, the tension-finger; 4, the tension-spring; 5, the feed-spring; 6, the tension-adjusting screw; 7, the presser-foot bar; 8 and 9, the collars on the shaft, in which are the variable-motion pins; 10, the tension-pad.

It is not necessary to state in detail the action of the parts common to previous well-known rotary-hook machines whereby motion is given to the hook, needle, and feeding mechanism, save as they are peculiar to this machine.

The main shaft B obtains a variable motion by the action of disk Z and pins 1 and 2 in the shaft-collars 8 and 9 on each side of the disk, to impart a slower movement to the hook at the time it is entering the loop, and a quick movement when it is casting it off.

The hook-shaft F is connected to the main shaft B by sleeve X, with a set-screw, whereby the rotary hook may be adjusted so that its point shall reach the loop sooner or later, as desired.

As the tubular arm for the necessities of shoe-work must be small, new means of operating the feed and tension are required. Feed-cam P lifts feed D, rocking on pin V, and carries it forward; curved spring 5 brings it down and back.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the tubular arm C, feed-bar Q, provided with the right-angled projection Q', cam P, pin V, and spring 5, substantially as and for the purposes set forth.

GEORGE H. W. CURTIS.

Witnesses:

S. J. GORDON,
JOHN W. RIPLEY.