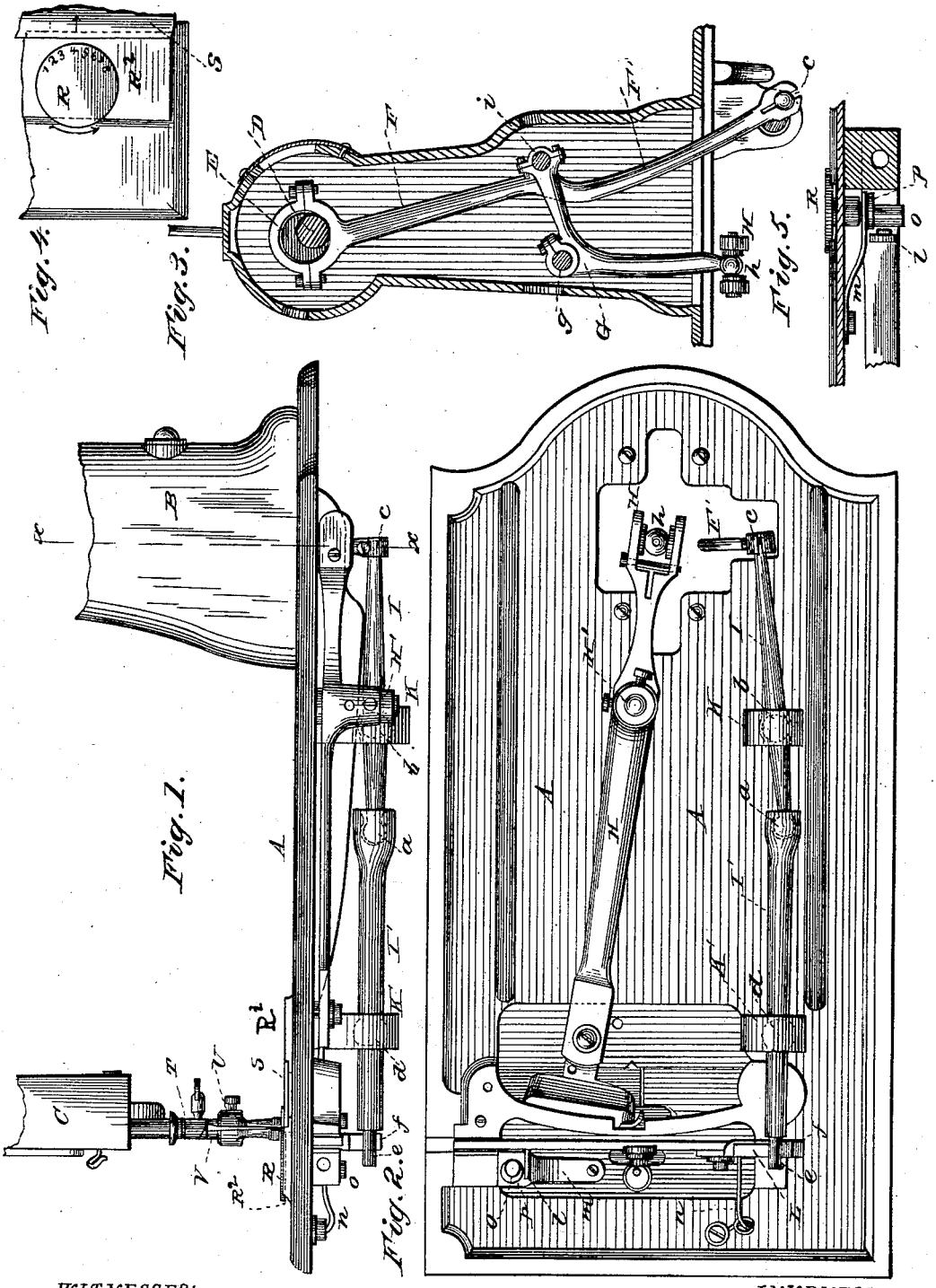
(No Model.)

T. A. MACAULAY.

SEWING MACHINE.

No. 265,684. Patented Oct. 10, 1882.



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THOMAS A. MACAULAY, OF NEW YORK, N. Y.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 265,684, dated October 10, 1882.

Application filed September 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. MACAULAY, of the city, county, and State of New York, have invented certain new and useful Improvements in Sewing-Machines, of which the following, with the accompanying drawings, is a specification.

Similar letters refer to like parts.

The object of my invention is to provide a simple, durable, and efficient feed and shuttle operating mechanism and improved means of changing the length of stitch, hereinafter more fully described.

In the drawings, Figure 1 is a side elevation of the bed-plate and a part of the arm and head of a sewing-machine. Fig. 2 is a bottom view of the bed-plate with parts attached. Fig. 3 is an end view of the arm through the line *x x* of Fig. 1. Figs. 4 and 5 are detail views.

A is the bed-plate. B is the arm. C is the face-plate or head. D is the main driving-shaft. E is an eccentric. F F′ is a pitman-lever. G is a bell-crank lever. *g* is a stud. *h* is a ball-and-slot joint. *i* is a pivot-joint. H is a shuttle-carrying lever. H′ is a stud. I I′ are vibratory levers. K K′ are journal-bearings. L is a feed-bar. *l* is a stop-bracket. *m* is a friction-spring. *n* is a feed-spring. *o* is an eccentric. P is a shaft. R is a milled dial-plate. R′ R^2 is a raised part of the bed-plate. S is the shuttle-slide. T is the needle-bar. U is the presser-foot. V is the presser-bar.

Motion being imparted to the main driving-shaft D, the eccentric E imparts a vertical and vibratory motion to the pitman-lever F F′ and an oscillating motion to the pivoted bell-crank lever G, which, being connected with the pivoted shuttle-lever H by ball-and-slot joint *h*, as shown, rocks it and moves the shuttle the requisite distance. The oscillating lever I being connected with the lower end of the pitman-lever F F′ at *c*, and lever I being connected to lever I′ at *a* by a universal joint, and both levers I I′ having universal-joint bearings at K K′, receive a vibratory and vertical motion from the pitman-lever F F′. The lower end of the pitman-lever F having an extent of motion corresponding to the throw of the eccentric E sufficient to throw the shuttle the requisite distance, but too great for operating the feed-bar, the levers I I′ are interposed and given such proportions of length from their fulcrums as to make the throw of I′ the requisite amount to operate the feed-bar, as shown in the drawings. The feed-bar L rests on the end *e* of the lever I′ by the force of the spring *n*, and receives its upward and forward motions from the lever I′, acting on the feed-bar and against the projection *f* of the feed-bar L.

It will be readily understood that as the lower end of the pitman-lever F′ describes nearly a circle the motions of the levers I I′ will be the same at the point *e*, only reduced in extent, and imparted to the feed-bar will give it the usual vertical and horizontal movements. The spring *n* keeps the feed-bar in contact with the lever I′ and forces the feed-bar back against the lever I′, as is common in other sewing-machines for the same purpose. The bed-plate A has a raised part, R′ R^2, at each side of the shuttle-slide S. The raised part R^2 at the left-hand side is countersunk to receive the milled dial-plate R. The center of the countersink is so placed that part of the milled dial-plate projects beyond the edge of the raised part (see Fig. 4) sufficient to apply the finger to turn it to any desired position. The friction-spring *m* is forked at one end and fits into a groove in the shaft P to hold the dial-plate in the countersink. Its other end is secured to the bed-plate by a screw. The shaft P, having the eccentric *o*, is rigidly secured to the dial-plate, and is turned with it when the eccentric *o* is brought to or from the end of the feed-bar to make a long or short stitch. The dial-plate is provided with a series of figures, and the shuttle-slide has an arrow pointing to one of the figures to indicate the length of stitch.

The advantages of my improved device for regulating the length of stitch are: The location is convenient for its manipulation. The milled-headed thumb-nut in the countersunk bed-plate is arranged so that the advancing material will not be caught between the nut and the bed-plate. The periphery of the thumb-nut, projecting sufficiently beyond the raised part, affords an easy means of permitting it to be turned in any direction to the extent required. It will be readily understood that the position of the countersink may be changed

to near the outer edge of the bed-plate, and that the milled head may project beyond the edge of the bed and answer the same purpose as the raised part of the head, R^2.

Having described my invention, I claim—

1. The combination of the main shaft D, eccentric E, pitman-lever F F′, bell-crank lever G, and shuttle-lever H with the levers I I′ and feed-bar L, substantially as set forth.

2. The combination of the milled-headed thumb-nut R, having a portion projecting beyond the raised part R^2, with the countersunk bed-plate, substantially as and for the purpose herein specified.

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

THOS. A. MACAULAY.

Witnesses:

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JNO. W. SIMS.