

T. J. McARTHUR.

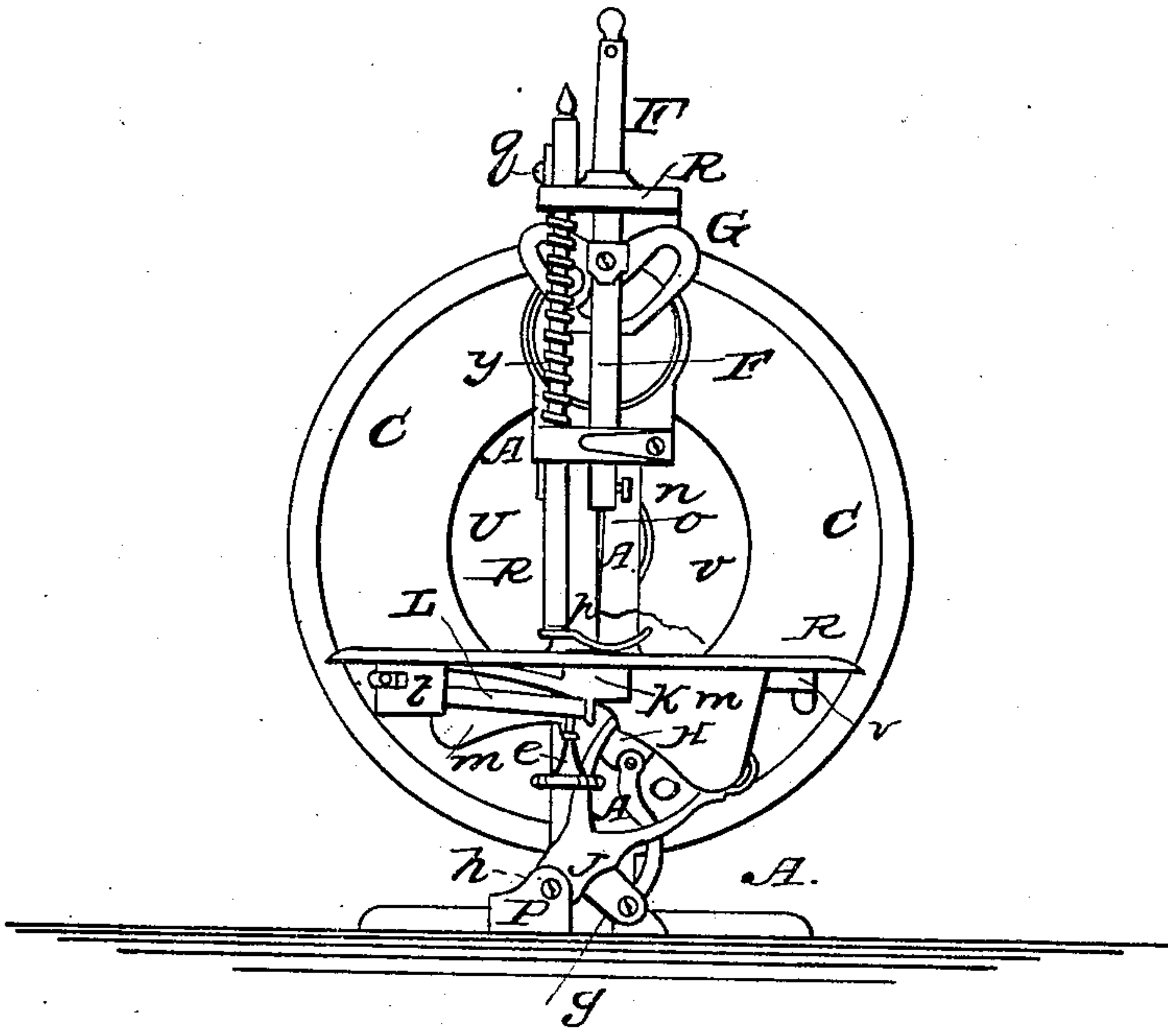
Sewing Machine.

2 Sheets—Sheet 1.

No. 89,417.

Patented April 27, 1869.

Fig. 1.



WITNESSES

Edw L Osborn,

INVENTOR

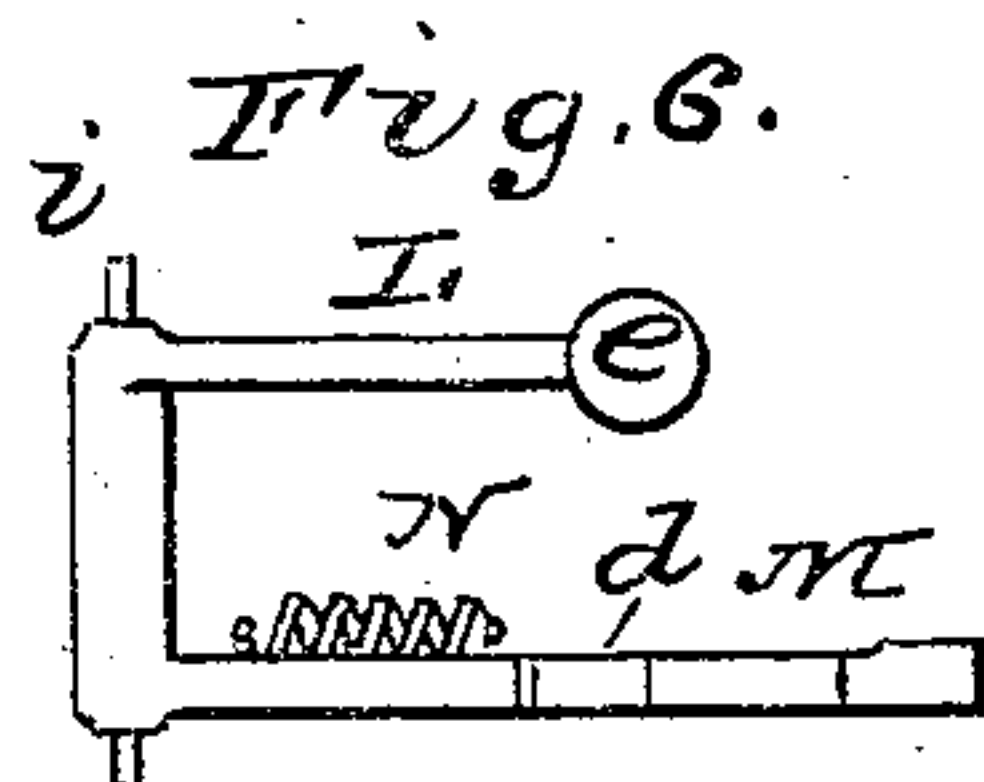
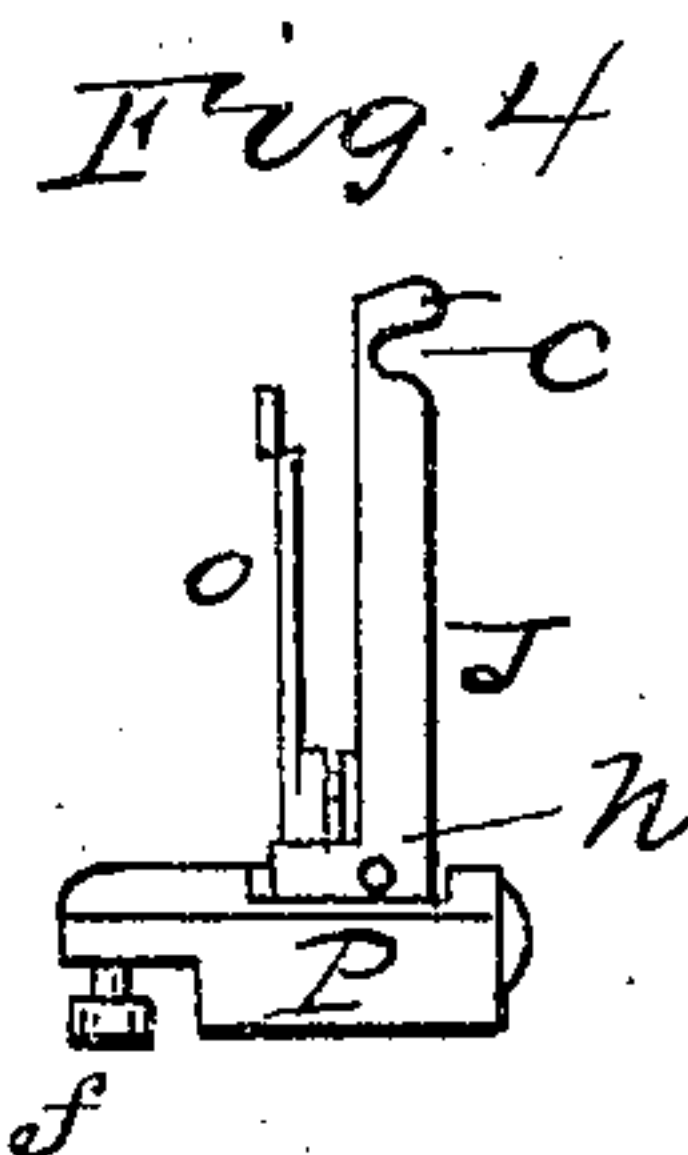
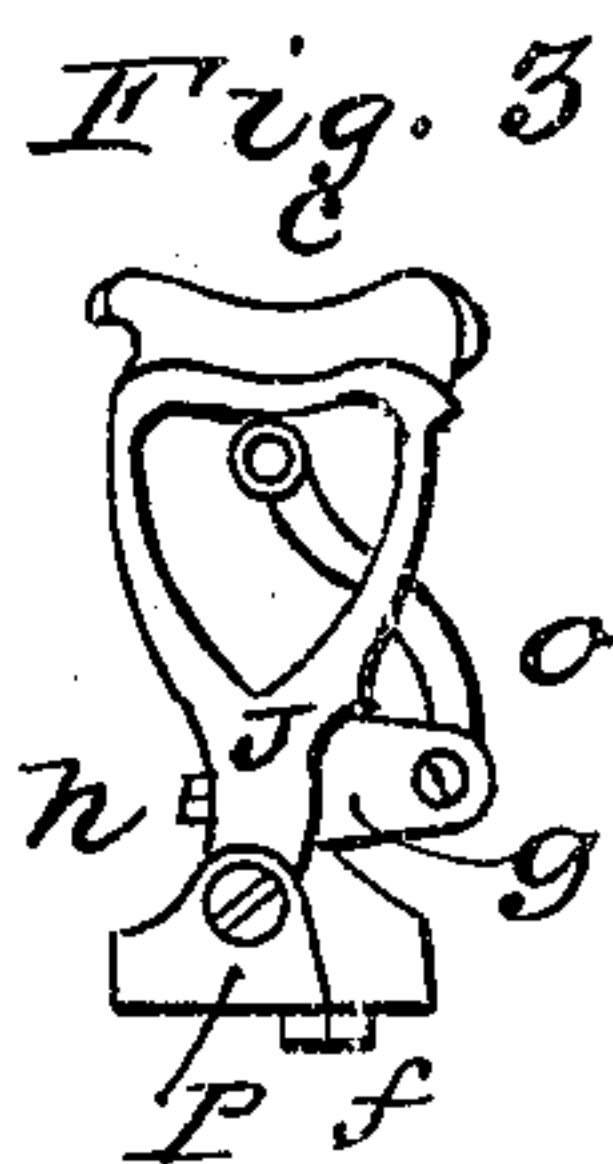
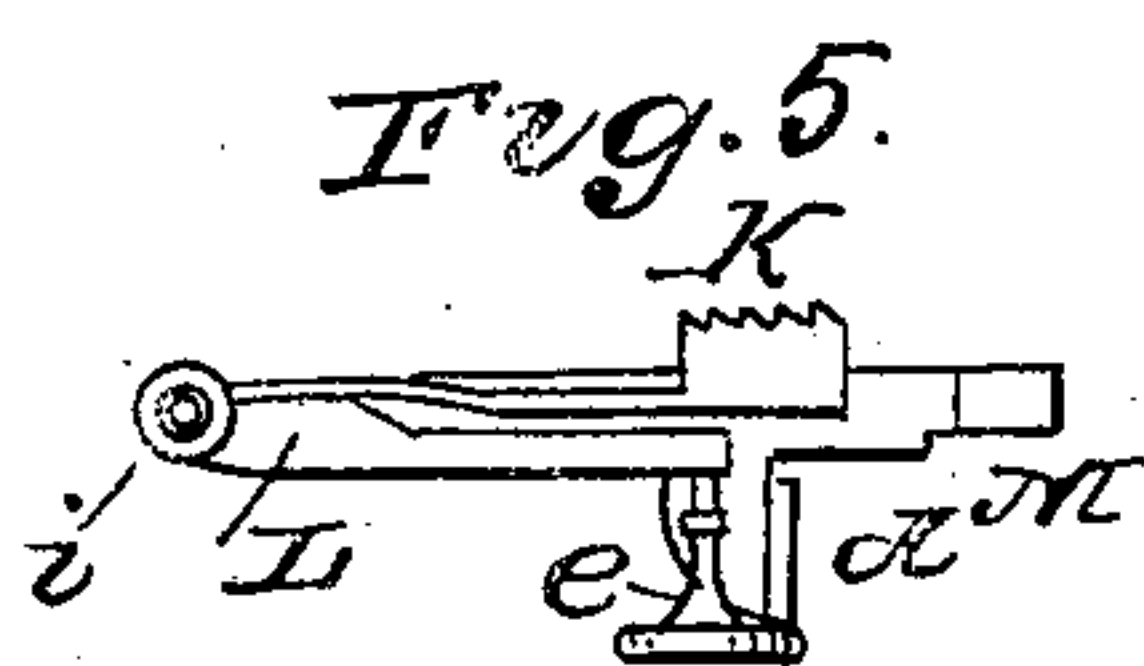
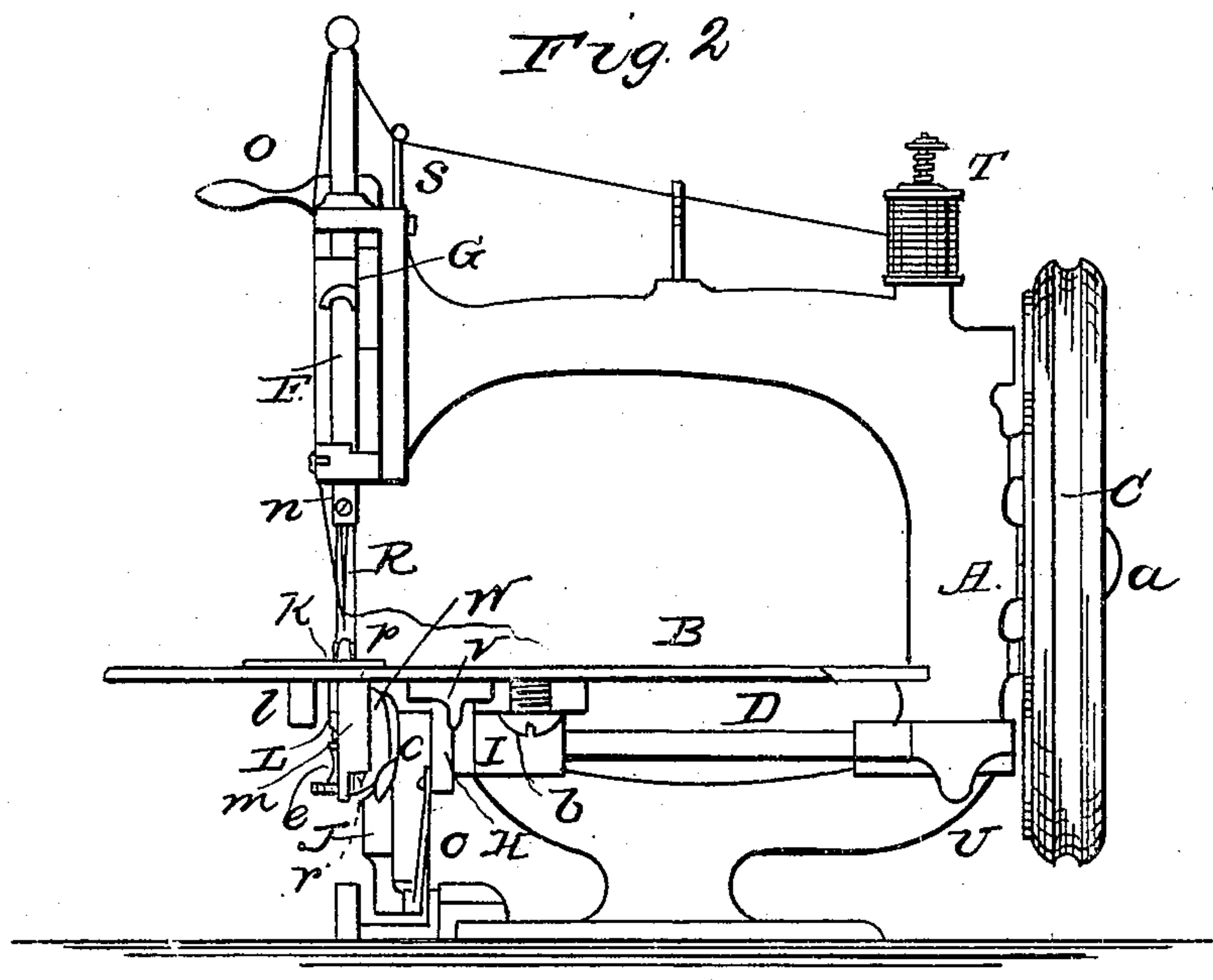
Thomas J McArthur

T. J. McARTHUR.
Sewing Machine.

2 Sheets—Sheet 2.

No. 89,417.

Patented April 27, 1869.



WITNESSES

Edw. Durgen
Edward E. Osborn.

INVENTOR

Thomas J. McArthur

United States Patent Office.

THOMAS J. McARTHUR, OF NEW YORK, N. Y.

Letters Patent No. 89,417, dated April 27, 1869.

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 I, THOMAS J. MCARTHUR, of the city, county, and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents an end view of the machine;

Figure 2, a front view of the same;

Figures 3 and 4, views of the shuttle-carrier detached from the machine; and

Figures 5 and 6, details views of the feed-mechanism.

Similar letters of reference indicate like parts in the several drawings.

My invention consists in a novel arrangement and combination of parts, whereby I am enabled to construct a sewing-machine, both simple and effective, as will be more fully set forth hereafter.

To enable others skilled in the art to make and use my invention, I will describe the construction and operation of the same.

A represents the "casting," or frame of the machine, which supports and furnishes the bearings for the different mechanism, and shafts operating them.

To a portion of the frame is secured, by screws *b*, a plate, B, arranged to support the work to be acted upon by the sewing-mechanism, and present it properly to the action of the needle and feed-mechanism.

The upper arm of the frame A supports the needle-bar F, and presser-foot bar R, and also is furnished with bearings for the shaft E.

This shaft actuates the needle-bar through the medium of the roller K, and heart-shaped cam G.

The lower shaft, D, supported by bearings in the frame, imparts motion to the feed-mechanism, through the agency of the cams H I, and to the shuttle-carrier by means of the connecting-arm O.

These two shafts are provided, at their other ends, with pinions, which are impelled by a gear meshing with them, secured on the pulley-wheel shaft *a*.

These gears are not shown in the drawings, being protected by a suitable cover, V.

The shuttle-carrier, figs. 3 and 4, is formed of a rocking-piece, J, provided with a cradle, *c*, to receive the shuttle, and is held in place on a pivot, secured in the block P by a set-screw *h*.

The block P is secured to the base-plate of the machine by the screw *f*, which passes through a slot in the base-plate.

The curved connecting-rod O, which operates the shuttle-carrier, is pivoted, at *g*, to a small arm, projecting therefrom.

The manner of constructing the shuttle-carrier allows it to be readily adjusted to compensate for any inequalities in construction of the shuttle or the car-

rier, the block P being adjustable on the base-plate of the machine, and the carrier J on its pivot.

The feed-bar, figs. 5 and 6, is constructed of one piece, and consists of the end-bar, furnished with pivots *i i*, and the arms L M.

The feed-tongue K is attached, at one end, to the arm L, and the height of the feed-surface above the surface of the cloth-plate, is regulated by the thumb-screw *e*.

The forward and back movements of the feed are effected by the cam H, against the surface of which the follower *d* is held by the spring N, while the falling and rising motions are produced by the cam I, the surface of which works against the under side of the arm M.

The eccentric, V, regulates the length of stitch, by controlling the extent of motion of the arm M, the end of which, in its forward movement, strikes against the eccentric.

On the under side of the plate B are cast two projections, *l*, in which are cut two slots, to receive the pivots *i i* of the feed-bar, and also a plate, *m*, projecting down at right angles to the plate B, which serves as a guide or race to the shuttle.

The plate B is furnished with a slide, immediately over the shuttle, to permit the same to be readily removed or placed in its carrier, and immediately around the needle is secured a circular steel plate, X, provided with a throat for the needle, and a slot for the passage of the feeding-surface.

The needle *o* and shuttle W, and the means employed to regulate the tension of their threads, are similar to those in general use, in sewing-machines of a like nature.

This sewing-machine operates to produce sewing in a similar manner to all shuttle-machines.

When motion is imparted to the pulley-wheel, the needle descends, with its thread, into the material, is retracted a short distance, to form a loop, and as the shuttle enters the loop, the return-motion of the needle continues, and draws up its loop, through which the shuttle-thread has been carried.

The feeding-mechanism advances the cloth the required distance to space the stitches while the needle is free from the cloth, but is withdrawn from the under surface as the needle commences to penetrate.

It is of the class known as the four-motion feed.

Having thus fully described the nature of my invention,

I claim the arrangement and combination of the crank-shafts D E, needle-bar F, cam G, presser-foot *p*, connecting-rod *o*, shuttle-carrier J, feed-cams H I, forked feeder L M, and eccentric, V, the whole constructed and operating substantially as described and specified.

Witnesses: THOMAS J. MCARTHUR.

C. A. DURGIN,

EDWARD E. OSBORN.