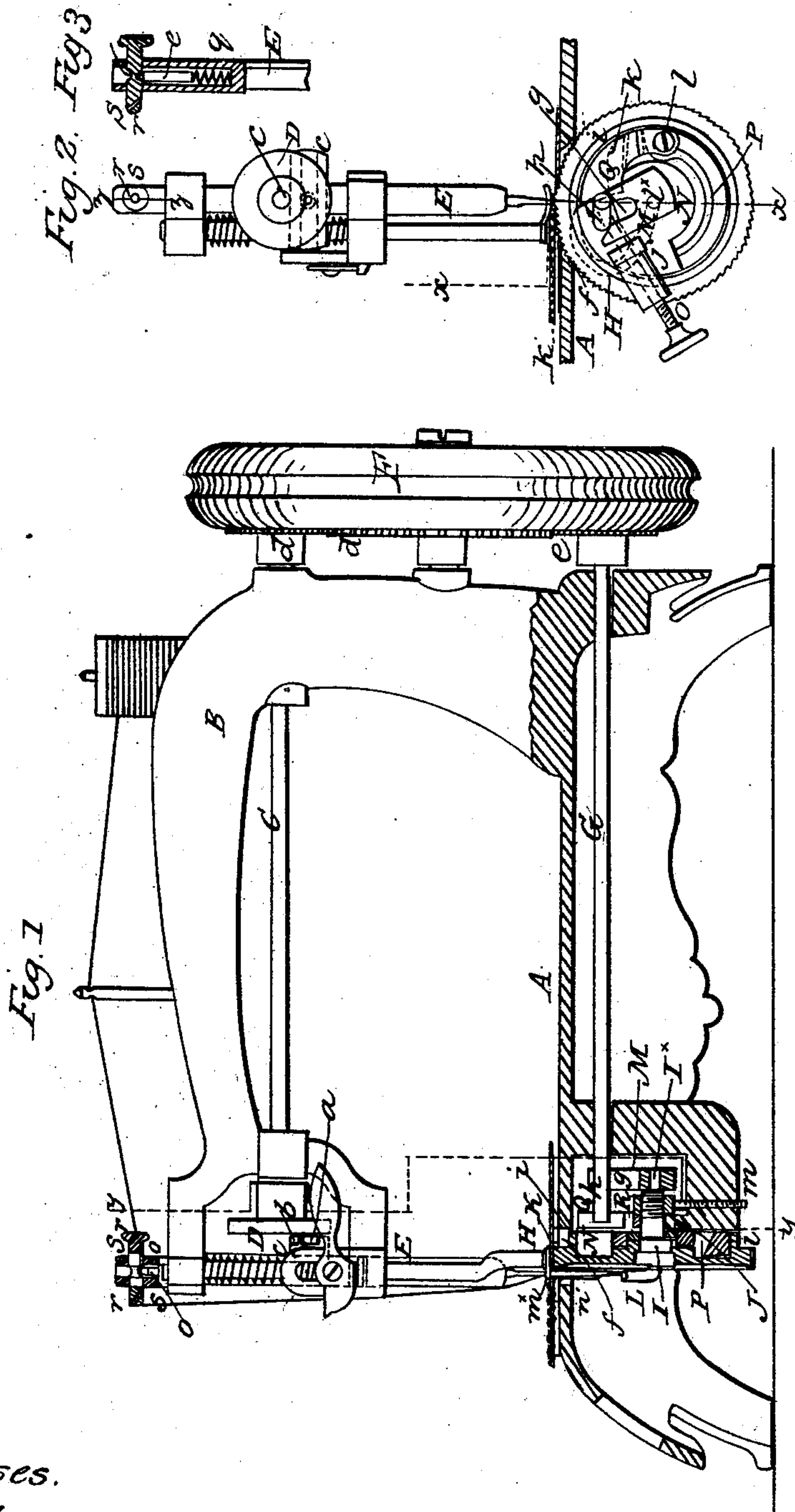


C. HODGKINS.
Sewing Machine.

No. 69,666.

Patented Oct. 8, 1867.



Witnesses.
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C. HODGKINS, OF MARLBORO, NEW HAMPSHIRE.

Letters Patent No. 69,666, dated October 8, 1867.

IMPROVEMENT IN SEWING MACHINES.

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, C. HODGKINS, of Marlboro, in the county of Cheshire, and State of New Hampshire, have invented a new and improved Sewing Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to certain new and useful improvements in single-thread sewing machines, and it consists in an improved means for giving a proper degree of tension to the thread, as hereinafter fully shown and described, whereby an improved sewing machine of the class specified is obtained. In the accompanying sheet of drawings—

Figure 1 is a side view of my invention, partly in section, as indicated by the lines *x x*, fig. 2.

Figure 2, a vertical section of a portion of the same, taken in the line *y y*, fig. 1.

Figure 3, a vertical section of a portion of the same, taken in the line *z z*, fig. 2.

Similar letters of reference indicate like parts.

A represents the base of the machine; B, the arm attached to the base, and of curved form, as shown clearly in fig. 1. C is the driving-shaft, having its bearings in the arm B, and a wheel or circular plate, D, on its outer end, to which a pin or wrist, *a*, is attached, at a suitable distance from its centre, said pin or wrist working in a horizontal groove, *b*, in a cross-bar, *c*, attached to the needle-arbor E, the bearings or guides of which are at the outer end of the arm B. The pin or wrist *a* of the wheel D, working in the groove *b* of bar *c*, communicates an up-and-down movement to the needle-arbor E. The shaft C is driven by gearing *d* from a crank-wheel, F, and a horizontal feed-wheel shaft, G, underneath or within the base A, is driven by gearing *e* from the same crank-wheel F. H is a feed-wheel, which is placed loosely on a small shaft, I, fitted in a suitable bearing, J, underneath or within the base A. The feed-wheel H has a toothed or serrated edge or periphery, and it projects through a slot, *f*, in a needle-plate, K, and base A, as shown in figs. 1 and 2. The shaft I is stationary, and a smaller shaft, I*, passes longitudinally through it, and is allowed to turn freely, said shaft I* having a hook, L, on its outer end of the usual form. On the inner end of the shaft I* there is attached a plate, M, provided with a curved slot, *g*, in which is a crank, *h*, on the outer end of the shaft G, (see figs. 1 and 2.) The wheel H at its inner side is provided with an annular concentric flange, *i*, and within the circular recess formed by said flange there is a hub, N, which is fitted loosely on the shaft I, and has an arm or projection, *j*, a portion of which extends over the flange *i*, and has a screw, O, passing through it, as shown clearly in fig. 2, the other portion of said projection being at the inner side of the flange *i*, and nearly in contact with it. The hub N also has a projection, *k*, extending from it nearly opposite to *j*. P Q represent two dogs, connected together by a pivot, *l*. One dog, P, is a portion of a ring, and is fitted around the hub N, not in contact therewith, but in contact with the inner surface of the flange *i*, the free or disengaged end of P being in contact with the portion of the projection *j* of the hub which is at the inner side of the flange *i*. (See fig. 2.) The inner side of the dog Q is provided with a shoulder, against which the end of the projection *k* is in contact, and the end of the crank *h* on the shaft G extends between the inner end of the screw O and the outer part of the dog Q. By this arrangement a vibrating movement is given the hook L by the working of the crank *h* in the slot *g* of the plate M, and the feed-wheel H is moved by the action of the end of the crank *h* against the dog Q, friction of the dogs against the inner side of the flange *i* being sufficient to produce that result. The return movement of the feed-wheel is caused by the end of the crank *h* coming in contact with the inner end of screw O, and the length of feed may be graduated as desired by adjusting this screw. A nut, R, is fitted on the shaft I, and has a screw, *m*, passing into it, said screw passing through the arm of the bearing J. By this means the shaft I is prevented from turning. The needle-plate K has a hole, *m*^x, punched through it, from its outer or upper side downward, in such a manner as to leave a burr, *n*, to serve as a guide to the thread or loop, and prevents it from slipping away from the looper or hook. (See fig. 1.) In the upper part of the needle-arbor E there is fitted transversely and horizontally a small cylindrical rod, S, which is retained in the arbor by means of a pin, *o*, within the latter, fitting in a groove, *p*, made circumferentially in S, at about its centre, the pin *o* being pressed into the groove by a spring, *q*, as shown clearly in fig. 3. The rod S has a hole, *r*, drilled obliquely into it at each end, for the thread *s* to pass through.

By this arrangement it will be seen that the thread is drawn straight each time the needle-arbor rises, and does not admit of the thread bowing out so much at the side of the needle opposite to that where the loop is taken, and the thread is kept at a more uniform state of tension, a variation in the thickness of the cloth not affecting it as much as hitherto. By turning the rod S the thread s may be tightened as desired.

Having thus described my invention, I claim as now, and desire to secure by Letters Patent—

The rod S, fitted transversely and horizontally in the upper part of the needle-arbor E, secured therein by the pressure-pin o, and provided with holes r for the thread s to pass through, substantially as and for the purpose specified.

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Witnesses:

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