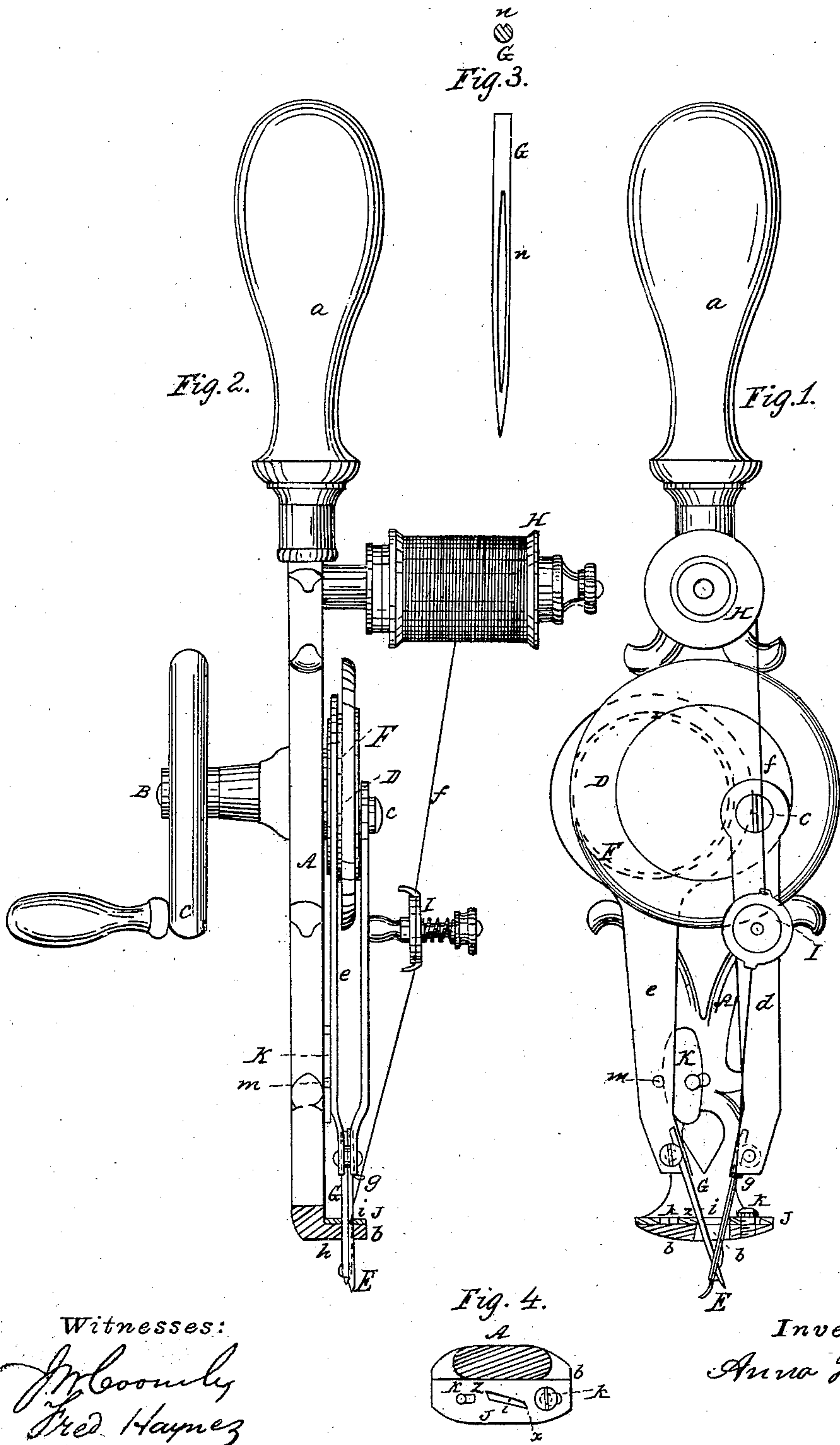


Sewing Machine.

No. 93,615.

Patented Aug. 10, 1869.



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UNITED STATES PATENT OFFICE.

ANNA HANCOCK, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **93,615**, dated August 10, 1869.

To all whom it may concern:

Be it known that I, ANNA HANCOCK, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figures 1 and 2 represent respectively a front and side view of a sewing-machine constructed in accordance with my improvement, the lower portion of the machine, where it bears or rests upon the cloth, being shown in section; Fig. 3, a longitudinal and transverse section of one of the needles used in said machine detached; and Fig. 4, a plan of a guide to the needles and feed-regulator, in connection with the foot-plate of the machine, that bears or rests upon the cloth.

Similar letters of reference indicate corresponding parts.

My invention, though here shown as applied to a machine for quilting, embroidering, and other purposes, in which the machine, held by the hand, is made to move over the cloth or work, is also applicable, by arrangement of the parts in a fixed frame, to machines of a stationary character, whether driven by hand or power, and in which the work is made to travel.

Said invention relates to that class of machines in which a blank needle is used in connection with an eye-pointed one, the former operating to effect the feed and to hold the stitch for the passage of the latter needle with a new loop through it; and the invention consists in a certain combination or arrangement of parts and devices for reciprocating the needles, whereby simplicity and economy of construction are attained.

Referring to the accompanying drawings, A represents the frame of a hand-machine, suitable for travel over the work, as in quilting, said frame being provided with a handle, *a*, to hold and guide the machine, and with a foot-plate, *b*, which bears or rests on the cloth.

B is the driving-shaft, set in motion or rotated by a hand-wheel, C, and carrying on its front end a disk, D, that serves both the purpose of a crank, by an eccentrically-arranged pin, *e*, on its face, to give to the one bar, *d*, which carries the eye-pointed or sewing needle E, its necessary reciprocating motion, and,

further, serves, by an eccentric, F, on its back, to impart to the bar *e*, which carries the blank needle G, its reciprocating travel, said latter bar *e* being constructed at its one end with an eccentric-ring that is made to fit the eccentric F. This allows of both needles being driven from the same overhanging end, as it were, of the main shaft, and by the same device or disk, D, which arrangement secures alike both simplicity and cheapness of construction. The needles E G, in their operation, are made to occupy varied positions in relation to each other. Thus at times they work perpendicularly in concert with each other and at other times occupy a cross-relationship. This will be fully explained when describing the operation of the machine. The thread *f* is passed to and through the eye-pointed needle E from a spool, H, by or through a tension device, I, on the needle-bar and eye or loop *g*. Both needles reciprocate or work through a slot, *h*, in the foot-plate *b*, and through a slot, *i*, in a guide-plate, J, said slots having their length generally in direction of the feed. This guide-plate J is adjustable on and over the foot-plate *b* in direction of its length, by or through slot and pin or screw attachments *k k*, which adjustment serves to regulate the length of the stitch accordingly as the end or ends of the slot *i* are brought in line or made to overlap the end or ends of the under slot, *h*, and so control the stroke or arrest sooner or later the back-throw of the blank needle G, which is the feeding one. The slot *i* in the plate J thus not only serves to guide the needles, as hereinafter described, but also to regulate the feed or length of the stitch. Said slot is of peculiar form to effect the proper guiding of the needles, being made of V shape, and contracted in width at its forward end, *x*, and widening toward its rear end, which is sloped, as at *z*. The blank needle G is guided and timed as regards its up and down and lateral or backward and forward motions by a pin, *m*, on its needle-bar *e*, traveling against and around a cam, K, secured to the frame A, but which is adjustable laterally to accord with adjustments of the guide-plate J. The blank needle G has a groove, *n*, down its one side to guide the sewing-needle E when the two needles work in perpendicular relations side by side, as hereinafter described.

The general operation is as follows: The parts are so adjusted that on applying the ma-

chine to the work the blank needle G is projected through the cloth. The sewing-needle E is then made to enter the cloth and pass the thread therethrough, in doing which it has, for the most part, a perpendicular movement, being guided in part by the V-shaped forward end, *x*, of the slot *i*, and in part by the groove *n* in the blank needle, within which it slides, the blank needle ascending as the sewing-needle descends. As the pin *m* of the bar *e* passes around the upper portion of the fixed cam K it draws the blank needle G toward the back end of the slot *i*, and during the early portion of the succeeding descent of said needle it is retained there, and by the bevel *z* pressed into the rear corner of such slot. Thus in the continued descent of said needle G the widening character of the slot *i* in a backwardly direction allows of the two needles crossing each other, and of the blank needle entering the loop left by the sewing-needle in its retraction, as represented in Fig. 1, said sewing-needle having previously, toward the completion of its descent and in the early portion of its retraction, assumed an inclined position. The sewing-needle then completes its retraction and the blank needle its descent, and as the pin *m* passes the lower end of the fixed cam K it causes the blank needle to be worked toward the front end of the slot *i*, and in so doing to effect feed of the machine over the cloth,

at the same time assuming its proper position to act as a guide, by its groove *n*, to the sewing-needle E in its succeeding descent to insure the latter needle entering the loop held by the blank needle for the purpose of establishing the necessary chain-stitch. Both the sides or edges and ends of the fixed cam K, it will be observed, perform important functions or parts in properly guiding and timing the movements of the blank needle, and such serve to control its requisite four motions in a positive manner without the aid of springs, as used in other machines. A continuous repetition of the motions here described of the two needles produces the necessary sewing of or by the machine over the work.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination, with the needle-bars *d* and *e*, of the disk D, operating as a crank through a wrist-pin, *c*, to the one needle-bar, *d*, and carrying or having formed on it an eccentric, F, to actuate the other needle-bar, *e*, from the same side of the main frame and overhanging end of the driving-shaft, substantially as specified.

ANNA HANCOCK.

Witnesses:

FRED. HAYNES,
EDWD. ADAMS.