2 Sheets—Sheet 1.

# P. M. BEERS.

## MACHINE FOR POINTING SEWING-MACHINE NEEDLES.

No. 188,569. Patented March 20, 1877.

Fig. 1.

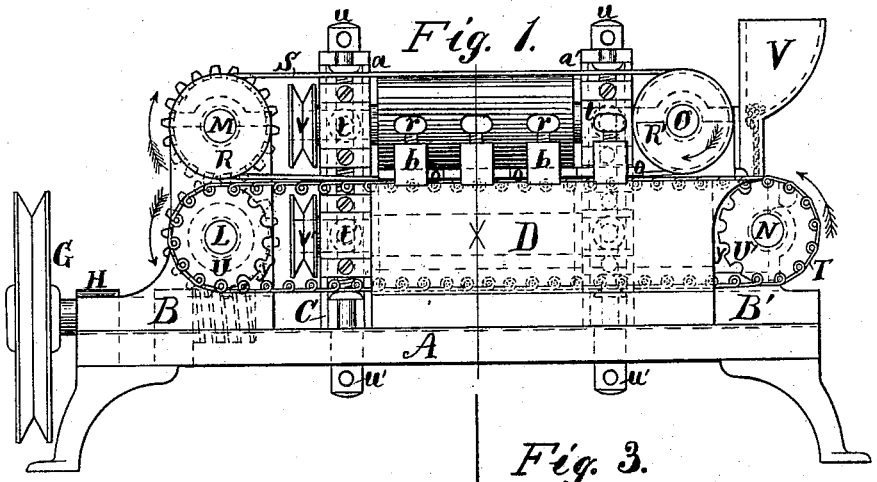



Fig. 3.

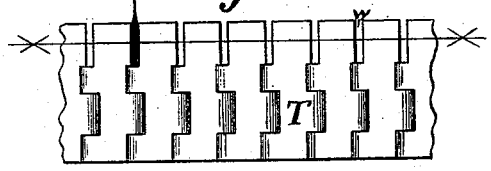
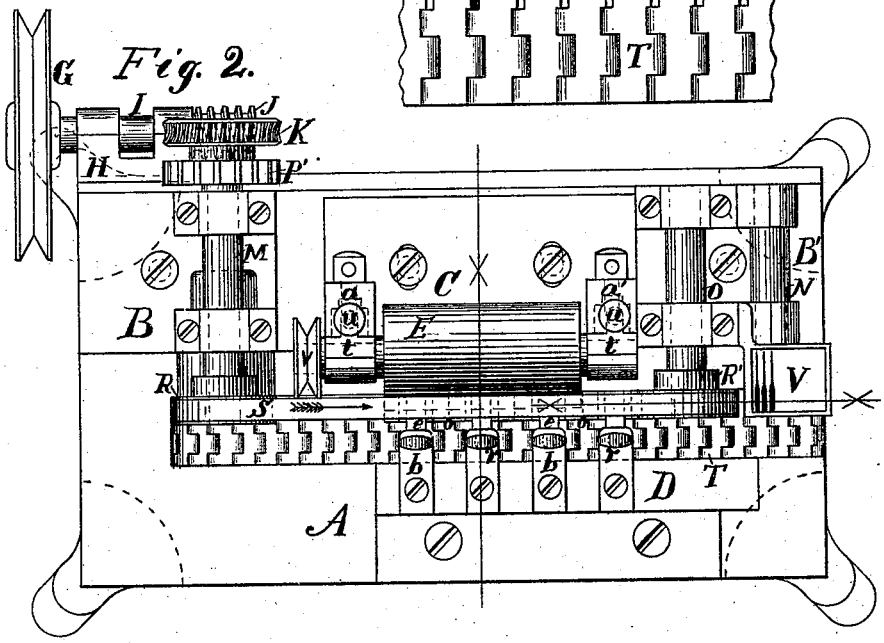



Fig. 2.




Witnesses;
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James Gilbert

Inventor;
Phila M. Beers.

2 Sheets—Sheet 2.

# P. M. BEERS.

## MACHINE FOR POINTING SEWING-MACHINE NEEDLES.

No. 188,569. Patented March 20, 1877.

Fig. 4.

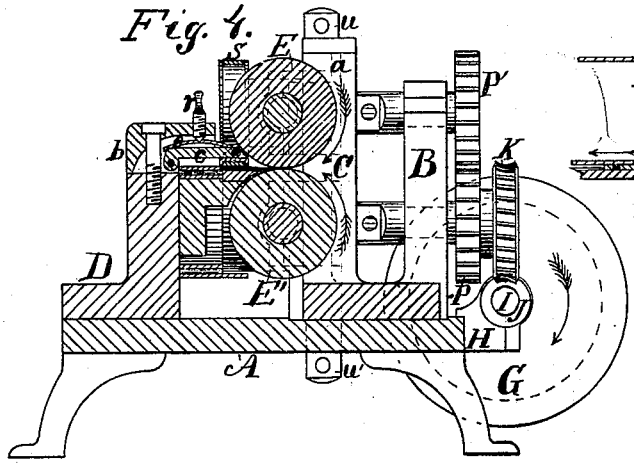



Fig. 5.

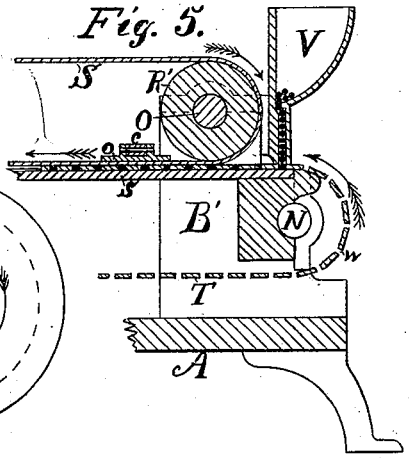
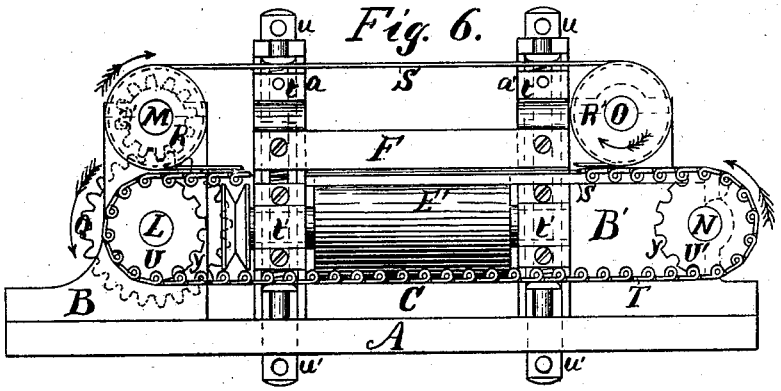



Fig. 6.




Witnesses;
Roserwell Thompson.
James Gilbert.

Inventor;
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# UNITED STATES PATENT OFFICE.

PHILO M. BEERS, OF BRIDGEPORT, ASSIGNOR TO WHEELER & WILSON MANUFACTURING COMPANY, OF FAIRFIELD, CONNECTICUT.

## IMPROVEMENT IN MACHINES FOR POINTING SEWING-MACHINE NEEDLES.

Specification forming part of Letters Patent No. **188,569**, dated March 20, 1877; application filed February 19, 1877.

*To all whom it may concern:*

Be it known that I, PHILO M. BEERS, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and Improved Machine for Pointing Sewing-Machine Needles; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification.

The object of my invention is to rapidly and accurately form flat or round points on the blades of sewing-machine needles; and my improvement consists in applying and combining certain mechanical devices in such a manner as to insure the desired result, all of which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of my improved machine, as adjusted for forming flat points. Fig. 2 is a plan of the same. Fig. 3 is an enlarged section of the feed-belt, showing the form of the links in the same, and the manner of controlling the needles to be operated upon by the grinding-wheels. Fig. 4 is a sectional view of the machine through the line *x*, Figs. 1 and 2. Fig. 5 is a section of a portion of the machine on the line *x x*, Fig. 2, including the hopper, and a portion of the feed-belt indicated by the line *x x*, Fig. 3, showing the manner of supplying the needles from the hopper to said belt. Fig. 6 is a front elevation of the machine with some of the devices removed, in order to clearly show the changes made in the machine when adjusted for grinding round points.

I will now describe the construction and operation of my improved machine with reference to the accompanying drawings.

Similar letters of reference indicate corresponding parts.

A is the bed of the machine. B B′ are bearings for shafts secured to the bed. C is an adjustable support secured to the bed, and constructed with upright columns *a a′*, to receive the bearings for the grinding-wheels. D is a support rigidly secured to the front edge of the bed. E E′ are the grinding-wheels. F is a bar secured to the bearing of the grinding-wheel E, when the machine is adjusted for grinding round points. G is the driving-pulley. H is the bearing for the driving-shaft, and is secured to the bed A. I is the driving-shaft. J is an endless screw secured to the end of the driving-shaft. K is a worm-wheel driven by the endless screw J. L is a shaft fitted to revolve in bearing B. M is a shaft, also fitted to revolve in bearing B. N is a shaft, fitted to revolve in bearing B′. O is a shaft also fitted to revolve in bearing B′. P P′ are gearing of equal diameters, secured to shafts L and M. Q Q′ are gearing of a proportion of two to one, to take the place of gearing P P′, when the machine is adjusted for grinding round points. R R′ are pulleys secured to shafts M and O. S is an endless belt, passing over pulleys R and R′. T is the feed-belt. U U′ are the feed-belt drivers, secured to shafts L and N. V is the hopper, secured to the bearing B, and arranged to hang over the slotted side of the feed-belt T. *b b* are blocks secured to the top of the support D. *c*, Fig. 4, is a lever, pivoted to swing in a recess in the block *b*. Similar levers are pivoted to each block in the same manner. *e e* are springs over the levers *b b*. *o o* are presser-bars, pivoted to the ends of levers *b b*, and arranged to press upon the endless belt S. *r r* are thumb-screws for regulating the pressure of the springs *e e*. *s* is a bar, over which the needles are passed by the feed-belt during the process of grinding the points, and is secured to a projecting portion of the support D. *t t′* are bearings for the grinding-wheels E and E′. *u u′* are screws for adjusting the position of the grinding-wheel bearings *t t′*. *v v′* are pulleys for driving the grinding-wheels.

In adjusting the machine for grinding flat points, the two gears of equal diameters are secured to the shafts L and M, so that the feed-belt T and endless belt S may be driven at an equal rate of speed. Motion being now imparted to the driving-pulley G, and to the the grinding-pulleys *v v′*, in the directions indicated by the arrows, and a quantity of unpointed needles placed in the hopper V, the shanks of said needles will fall into the slots

*w* of the feed-belt T, as the latter passes under said hopper, in the manner shown in Fig. 5, and as the endless belt S, under which the shanks pass, moves at the same rate of speed as the feed-belt, the points of the needles will be retained in position to be ground upon opposite sides, as they are passed between the grinding-wheels in the manner shown in Fig. 4, thus perfectly forming flat points upon the blades of the needles.

When it is desired to grind round points upon the needles, the upper grinding-wheel is removed from the machine, and the bar F secured to the bearings in the manner shown in Fig. 6, and the gearing Q Q′ secured to the shafts L and M, in place of the gearing of equal diameter, so that the endless belt S may be driven at double the rate of speed of the feed-belt, causing the blades to revolve as they are passed under the bar F and over the grinding-wheel E′, thus perfectly forming round points upon the blades of the needles.

The screws *r r*, levers *b b*, and bars *o o* are for the purpose of pressing the endless belt firmly upon the shanks of the needles, and retaining them in position during the operation of grinding the points upon the blades of the needles.

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

1. In combination with the endless belt S, pulleys R R′, presser-bars *o o*, bar *s*, drivers *u u′*, and grinding-wheels E E′, the jointed endless feed-belt T, constructed with the slots *w* on the side of the same, which passes between the endless belt S and bar *s*, so that the shanks of the needles in said slots may receive friction from the belt S and bar *s*, during the operation of grinding the points on said needles, substantially as shown and described.

2. The interchangeable gear-wheels P P′ and Q Q′, in combination with the shafts L, M, N, and O, the feed-belt T, endless belt S, and hopper V, all arranged substantially as shown and described, for the object set forth.

PHILO M. BEERS.

Witnesses:

ROSEWELL THOMPSON,

JAMES GILBERT.