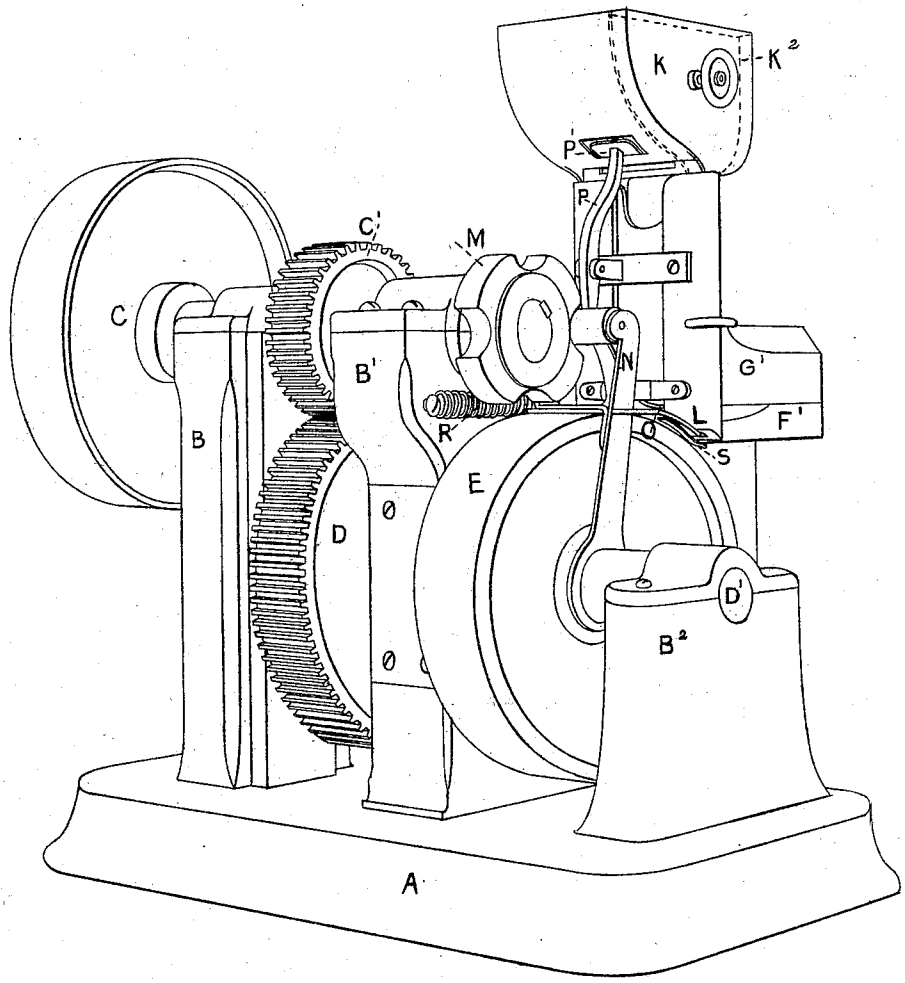
2 Sheets--Sheet 1.

P. M. BEERS.

Machine for Stamping Needles.

No. 165,975. Patented July 27, 1875.

FIG. 1.



WITNESSES

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2 Sheets--Sheet 2.

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Machine for Stamping Needles.

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FIG. 2.

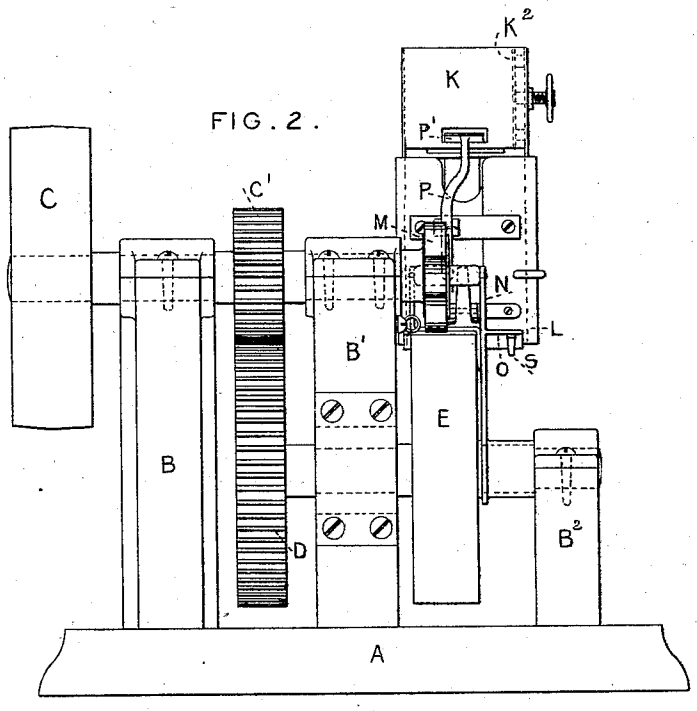
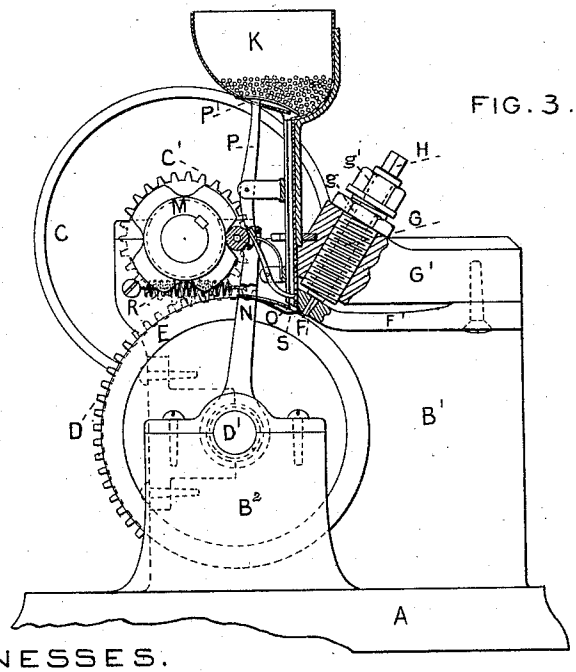


FIG. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

PHILO M. BEERS, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR STAMPING NEEDLES.

Specification forming part of Letters Patent No. **165,975**, dated July 27, 1875; application filed December 3, 1874.

CASE A.

To all whom it may concern:

Be it known that I, PHILO M. BEERS, of Bridgeport, State of Connecticut, have invented certain Improvements in Machines for Stamping Needles, &c., of which the following is a specification:

This invention pertains to a class of machines used chiefly in the manufacture of sewing-machine needles; and it consists chiefly in the combination of a die or stamp with a revolving cylinder, and an automatic-feeding mechanism so arranged that the needle-blanks may be placed in large quantities in a hopper, and caused to pass between the die and the cylinder, and thereby receive the proper mark or stamp to indicate their size, or any other mark desired, as will hereinafter appear.

Figure 1 is a perspective view of the machine. Fig. 2 is a front elevation. Fig. 3 is an end elevation, taken from the right hand, and showing the hopper and die-stock in section.

At A is represented a base, upon which are mounted the pedestals B, B^1, and B^2, and upon the two B and B^1 are mounted the driving-shaft and pulley, as at C, and upon said shaft is a pinion, as at C^1, which gears into a larger toothed wheel, as at D, upon the shaft D^1 mounted in firm bearings upon the pedestals B^1 and B^2, and upon said shaft is mounted the carrying and holding or compressing cylinder, as at E, which serves as a rotating anvil to support the needle-blank under the die, and also to carry it forward to force it against the face of the die, as at F. The die is fastened in a socket or mortise in a spring-arm, as at F^1, which is fastened to a projection on the frame, and which can be so adjusted as to press close to the face of the carrying and holding or compressing cylinder E, to prevent the escape of the blanks as they drop on the surface of the cylinder; but the die is adjusted and held from reacting from the cylinder by the set-screw at G, which extends through a strong bracket on the frame, as at G^1. Said set-screw is composed or may be made to consist of a central bolt, as at H, which screws through a tube or sleeve, and upon the outer surface of which sleeve is a coarse thread that screws through the bracket G^1, so that a double adjustment may be easily made, by the outer sleeve being set for holding the spring-arm, in which the die is held in its proper position to the cylinder, while the central bolt holds the die in its proper working position, and may be set without affecting the other, and both are provided with check-nuts, as at *g g'*. The hopper, into which the blocks are placed, is shown at K, and it is provided with an adjustable end, as at K^2, and a set-screw, as shown, to adapt the hopper to the various lengths of blanks, or so that the machine may be adapted to any size of needle desired to be made. Said hopper is provided with a chute or conduit that leads down to a point on the carrying and holding or compressing cylinder E, just in front of the die, as at L, and a sliding valve is provided at the lower end of said chute to shut off the blanks, except as permitted at regular intervals controlled by a cam-wheel, as at M. The cam-wheel at M is provided with a number of projections, as best seen at Fig. 3, which serve as tappets to force or press the lever N toward the chute, and by which the slide-valve at the lower end of the chute is drawn back to allow a blank to fall out upon the face of the carrying and holding or compressing cylinder. Upon the lever N the pivoted end of which is concentric with the axis of the carrying and holding or compressing cylinder, there is fastened an apron, as at O, which receives the blanks as they fall from the chute, and which serves as a guide to conduct the needle forward in a line parallel with the axis of the carrying and holding or compressing cylinder, and thereby properly presents it under the die. At P there is another lever pivoted to the side of the chute, and upon its upper end is a curved slide, as at P^1, which passes through the side of the hopper near the bottom, and which serves as a valve to cut off the descent of the blanks, except as permitted by the tappet on the cam-wheel M, which presses it back at the same instant that the lever N is moved forward. This slide P' also serves as an agitator in the bottom of the hopper to keep the blanks from being packed therein, and thereby secures their being fed down to the die. It will also be observed that the hopper is so shaped, that as the slide P' is forced forward into it the blanks will be

slightly raised, thereby forming a kind of second hopper, and as the slide is drawn back the blanks will roll back with it and fall directly into the chute. There is a spring at R to draw the lever N always against the cam-wheel M, and upon the upper end of the lever N is a friction-roller to reduce the wear upon the tappets of the cam-wheel. The gearing that drives the carrying and holding or compressing cylinder is provided with a wandering tooth, so that the surface of the cylinder under the die will be constantly varied, and thereby preserve it from being worn into grooves. A little finger is also attached to the guide on the lever N, as shown at S, to assist in holding up the outer end of the blank when it is passing under the die.

It is evident that such a machine may be used for stamping any articles that are cylindrical in form besides needles, and which may be fed automatically from a hopper; and it is also evident that the chute and its slides or valves may be greatly modified without departing from the nature of my invention.

I therefore claim—

1. The hopper K, its feeding slide and operating mechanism, as described, in combination with the carrying and holding or compressing cylinder and fixed die, substantially as set forth.

2. In combination with a carrying and holding or compressing cylinder and stationary die, the guide O for carrying the blank and holding it parallel with the axis of the cylinder, as described.

3. In combination with the carrying and holding or compressing cylinder and die, the spring-arm for supporting the die, substantially as and for the purpose specified.

PHILO M. BEERS.

Witnesses:

BOYD ELIOT,

J. WM. RIPLEY.