

J. BERRY.

Machine for Polishing the Eyes of Machine Needles.

No. 165,532.

Patented July 13, 1875.

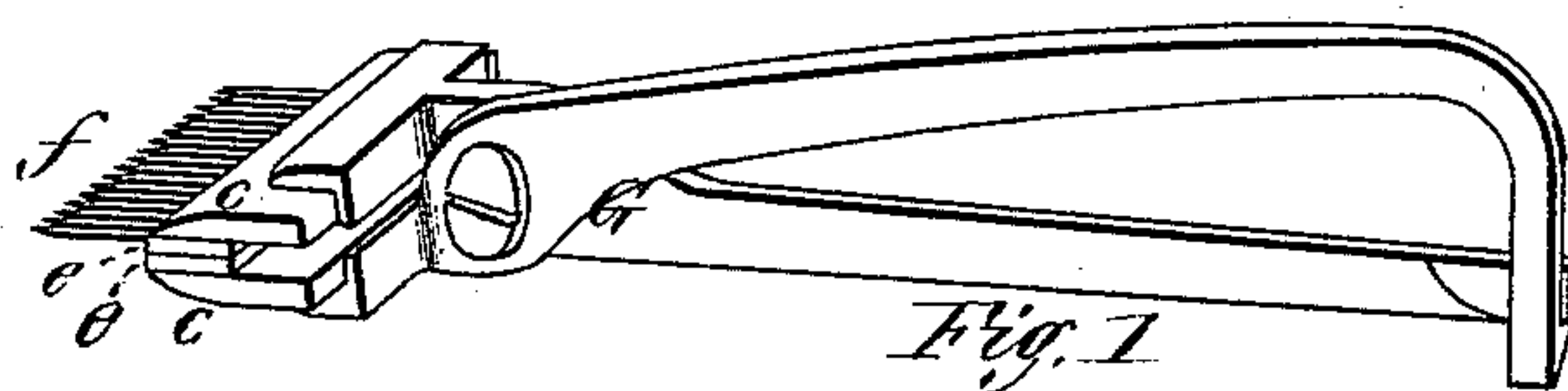


Fig. 1

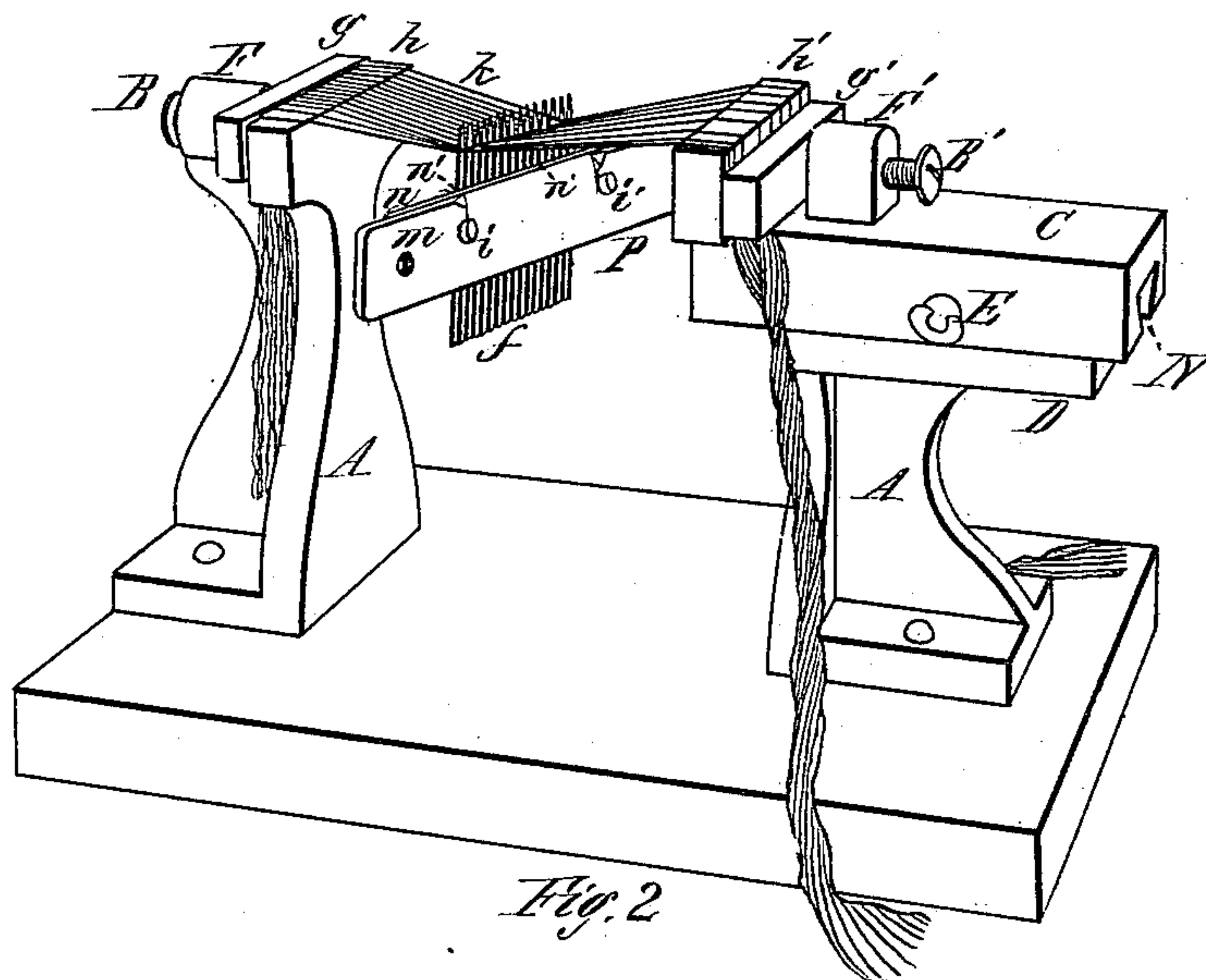


Fig. 2

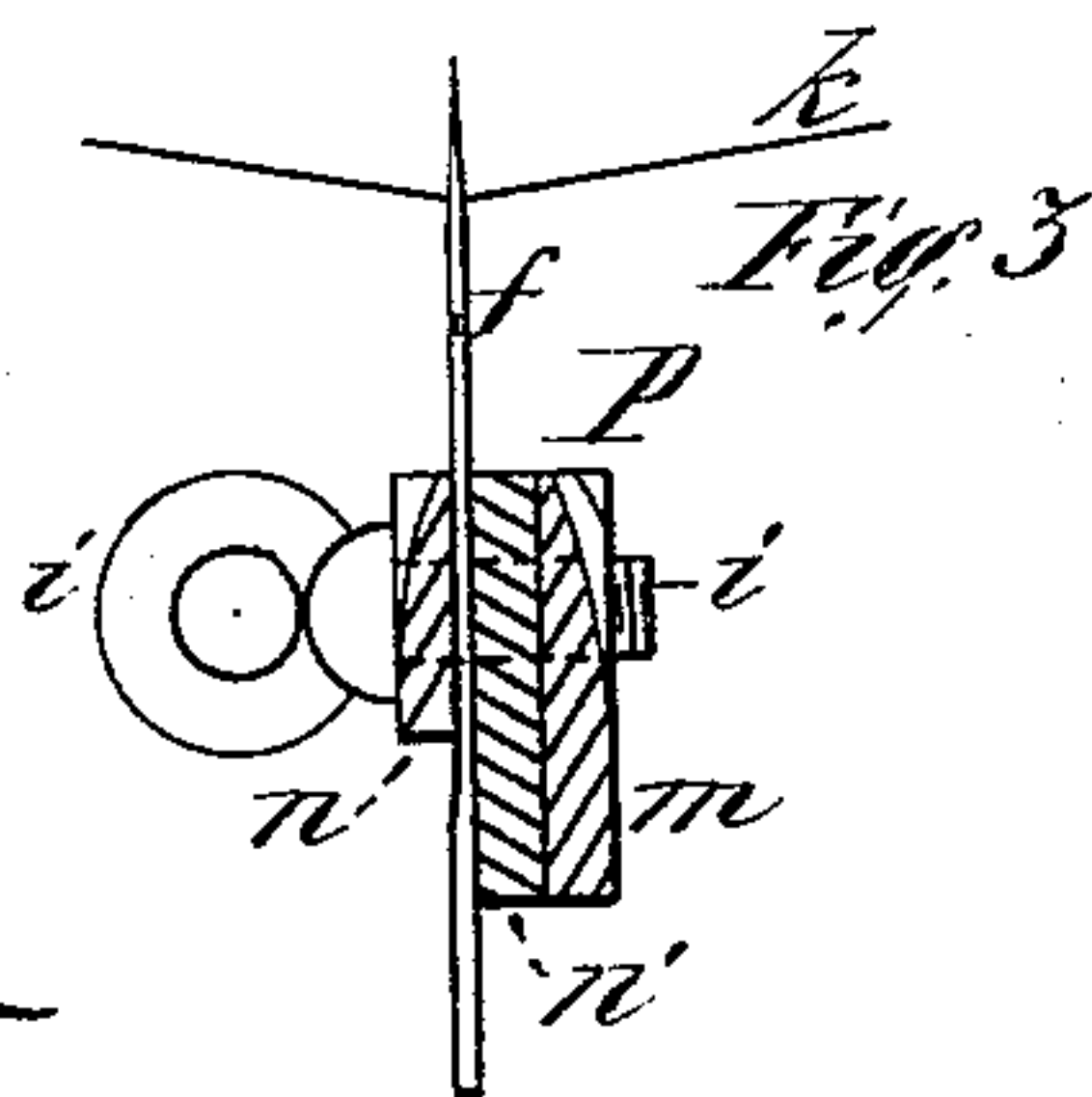


Fig. 3

Witnesses,

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UNITED STATES PATENT OFFICE.

JOHN BERRY, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO THE
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IMPROVEMENT IN MACHINES FOR POLISHING THE EYES OF MACHINE-NEEDLES.

Specification forming part of Letters Patent No. **165,532**, dated July 13, 1875; application filed
December 16, 1874.

To all whom it may concern:

Be it known that I, JOHN BERRY, of the city of Springfield, in the State of Massachusetts, have invented a new and useful Improvement in Machines for Polishing the Eyes of Needles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 represents a pair of transfer-tongs for transferring a quantity of needles from the holder in which the needles are first fixed to the clamps used for polishing. Fig. 2 is a perspective view of the machine for holding the threads, and Fig. 3 is a transverse section of the clamp used for polishing midway its length.

My invention relates to a machine for polishing the eyes of sewing-machine needles; and it consists of two uprights or standards, each fixed in a firm position, and each provided at the top with a jaw to grasp and hold the threads upon which a series of needles are strung, the needles being held in a clamp, with the eyes of the needles all in the same relative position, so that when the threads are grasped by the jaws and held fast the whole series of needles may have all the eyes polished at once by seizing the clamp with the hands and moving the needles rapidly to and fro upon the threads, to which emery or other polishing material has been previously applied.

In the drawings, A A are two uprights, which are fixed in a firm position, near the top of one of which is a jaw, *g*, which is moved against the upper end *h* of the upright by a screw, B, turned through the threaded part F, or by a cam or other convenient mechanism. The upper end of the other upright is also provided with a jaw, *g'*, moved against the piece *h'* by a screw, B', turned through the threaded part F'; and to facilitate the quick adjustment of longer or shorter threads in the machine, one upright, A, is provided with a piece, D, upon which slides to and fro a head-block, C, held to the piece D by a dovetail tongue upon the top of the piece D, and

a corresponding groove, N, in the block C, and the latter may be adjusted and clamped in any desired position upon the piece D by the set-screw E, turned into the block C and against the tongue. The piece *h'* and the part F' are both fixed to the block C, with the jaw *g'* operating between. P is a clamp for holding the needles while being polished, and it consists of a plate, *m*, provided on its inner face with the bed *n'*, made of leather or other suitable material, and outside of that is the plate *n*. Two screws, *i*, extending through the plate *n*, and turned into a threaded hole in the plate *m*, operate to force the plate *n* against the bed *n'*, to hold the needles placed between. In Fig. 1 is represented the transfer-tongs, having the wide jaws *c*, which are used to seize the series of needles *f*, which have been previously placed one by one into a holder made for that purpose, and transfer them into the clamp P, for polishing the whole series at once.

The operation of my invention is as follows: The needles are first fixed in a holder, one by one, with all the eyes in the same relative position, and from thence they are taken by the tongs G, a large quantity at a time, by grasping them between the jaws *c* of the tongs, which should be properly bedded with leather, *e*, or other material to hold the needles securely. The screws *i* of the clamp P are loosened, and the whole series of needles *f* are placed between the plate *n* and the bed *n'* of the clamp, although the needles are not released from the tongs until firmly secured in the clamp by turning in the screws *i*, forcing the plate *n* against the needles firmly. Being released from the tongs, they are then secured in the clamp, with the eyes to be threaded at right angles to the length of the clamp. The threads *k* are then inserted in the eyes of the needles, and the threads stretched across in an even manner from one upright to the other, and passed over the parts *h* and *h'* down the outside of each, and the jaws *g* and *g'* forced in firmly against the parts *h* and *h'*, grasping and holding the threads. Emery or other suitable polishing material is then rubbed upon the threads, and the clamp, with the needles therein, is seized with the hands and moved to and

fro rapidly a few times, and the eyes are all polished at once.

I am aware that various devices and machines have heretofore been used to polish the eyes of needles; but the inequalities of the threads caused by the polishing material and by the imperfections in spinning cause many of the needles, and of the threads also, to be broken during the operations of the machine, the movements of which are positive, whereas by my device the hands of the operator feel the inequalities and obstructions upon the threads, and give way or yield somewhat to them, allowing the needles to move more slowly in passing over them. This obviates much of the trouble of breaking the needles, and is therefore a great saving; and as fewer threads are broken in the operation of polishing by my device, a saving in time is effected, as the operator is not required to stop to rethread the needles. As the threads are not worn away so fast they may be used over and

over again, and, consequently, less new thread is required.

Having thus described my invention, what I claim as new is—

1. The device for polishing the eyes of needles, consisting of the fixed pieces *h* and *h'*, the movable jaws *g* and *g'*, operating in combination with the pieces *h* and *h'*, to grasp the threads extending through the series of needles, and the clamp *P*, for holding the needles with the eyes all in the same relative position, substantially as described.

2. The adjustable head-block *C*, arranged upon the upright *A*, in combination with the jaws *g* and *g'*, operating in connection with the parts *h* and *h'*, to grasp and hold the threads upon which the needles are strung, substantially as set forth.

JOHN BERRY.

Witnesses:

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E. P. KENDRICK.