J. S. GEORGE & A. E. PAYNE.

Machine for Polishing the Eyes of Needles.

No. 212,455. Patented Feb. 18, 1879.

Fig. 1.

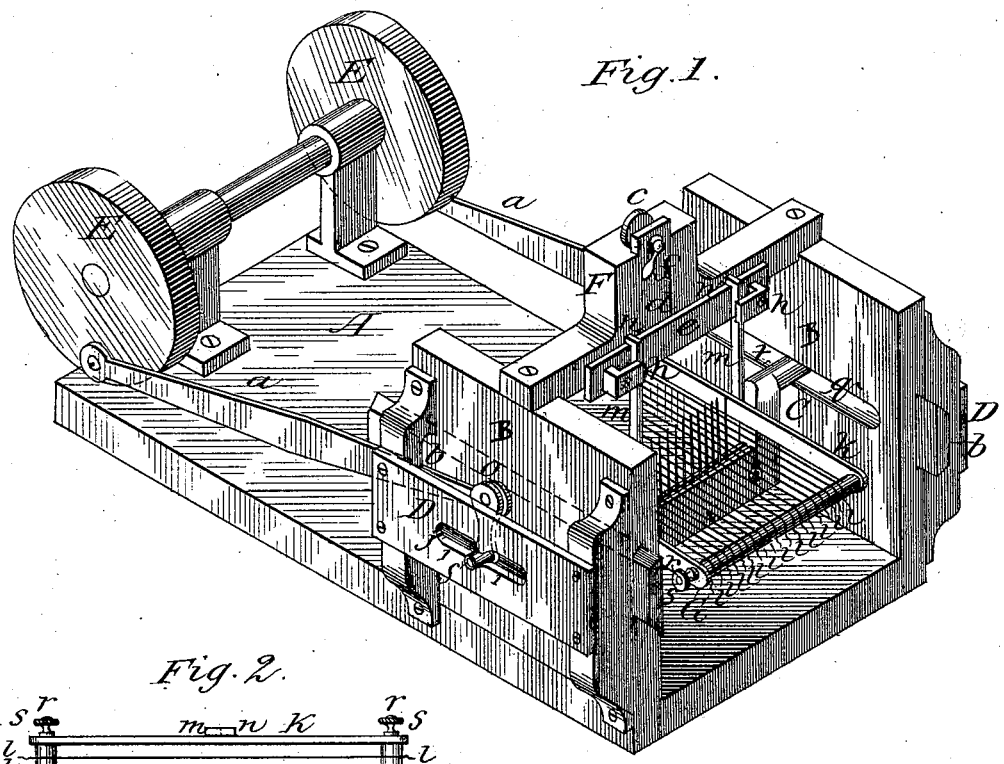


Fig. 2.

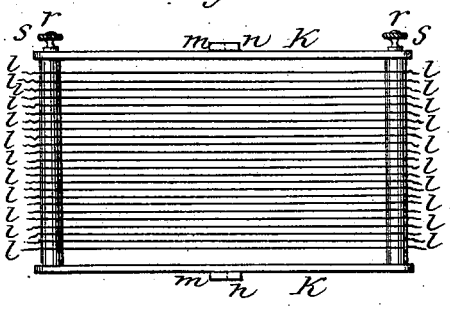


Fig. 4.

Fig. 3.

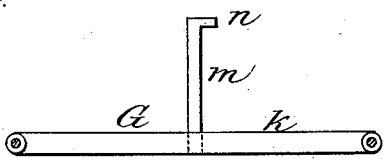


Fig. 5.

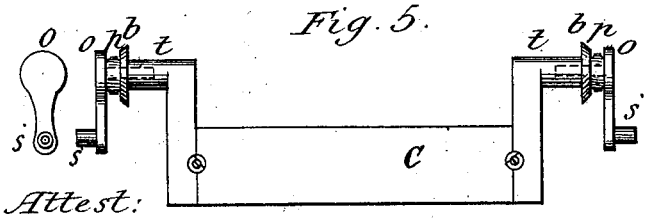
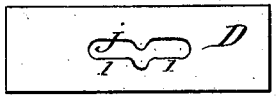


Fig. 6



Attest:

Herman Gauss

Clement T. Durgin

Inventors.

John S. George

Addis E. Payne

per George D. Phillips

Attorney.

UNITED STATES PATENT OFFICE.

JOHN S. GEORGE AND ADDIS E. PAYNE, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR POLISHING THE EYES OF NEEDLES.

Specification forming part of Letters Patent No. **212,455**, dated February 18, 1879; application filed December 29, 1877.

To all whom it may concern:

Be it known that we, JOHN S. GEORGE and ADDIS E. PAYNE, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement for Polishing the Eyes of Needles, of which the following is a specification:

The invention relates to the method of polishing the eyes of needles, exemplified in the machine, of which—

Figure 1 is a perspective view complete, and Figs. 2, 3, 4, 5, and 6 are details of the same.

Its construction and operation are as follows:

A is the bed of the machine; B B, the uprights which support the different parts of the mechanism. G is the thread-clamp, containing the threads for polishing the needles. C is the needle-clamp, for holding the needles. F is a bridge, resting on the two uprights B B, the object of which is to support the thread-clamp G, in the following manner:

The thread-clamp G is provided with the uprights *m m* and lugs *n n*, which rest on the bar *e*, connected to the perpendicular bar *d*, sliding in the bridge F, controlled and operated by the cam *c* and handle *f*, for raising and lowering the thread-clamp as required. The uprights *m m* are fastened to the horizontal bar *e* by the buttons *h h*. The lugs *t t* of the needle-clamp C pass through the horizontal slot *q q* in the uprights B B, and are connected with the sliding bars *b b*. On the outside of the sliding bars *b b* are fastened the crank-plates *o o*, which are also connected with the lugs *t t* of the needle-clamp C, controlling and operating it. Motion is communicated to the sliding bars *b b* by the connecting-rods *a a* from the driving-wheels E E. On the lower end of the crank-plates *o o* is the rolls *i i*, which travel in the slots *j j* of the plates D D, giving direction to the needle-clamp C. The slots *j j* are in reality cams. The plates D D are secured to the uprights B B.

Fig. 5 shows more clearly the arrangement and construction of the needle-clamp with the sliding bars *b b* and crank-plates *o o*.

The patent issued to Payne and George, July 10, 1877, No. 193,031, was for the oscillating thread-clamp, controlled and operated by hand, while this machine is automatical.

The former machine was so arranged that the emery had free access to the bearings, which soon cut them out.

The present machine has all the bearing-points far removed from any possible contact with emery.

The flat places 1 1 in the cam-slots *j j* give the needle-clamp C sufficient stand-still at its highest point to polish and round the corners of the eye, where most of the polishing is required.

The thread-clamp G, Fig. 2, is constructed with bars K K and rods *r r*, on which and between the bars K K are placed the washers *l l l l*, &c., one of which is shown at Fig. 4; and between the washers *l l l l*, &c., are placed the polishing-threads, and they are held there firm and taut by the nuts *s s* on the rods *r r*. The uprights *m m*, with the lugs *n n*, are for the purpose of attaching the thread-clamp to the machine.

What we claim is—

1. The combination of the needle-clamp C, bars K K, rods *r r*, washers *l l l l*, &c., uprights *m m*, lugs *n n*, with the horizontal and perpendicular bars *e* and *d*, cam *c*, handle *f*, buttons *h h*, as described, and for the purpose set forth.

2. The combination, with needle-clamp C, of the lugs *t t*, sliding bars *b b*, crank-plates *o o*, rolls *i i*, slots *j j*, and plates D D, substantially as described and set forth.

JOHN S. GEORGE.
ADDIS E. PAYNE.

Witnesses:
HERMAN GAUSS,
GEO. D. PHILLIPS.