

No. 667,309.

Patented Feb. 5, 1901.

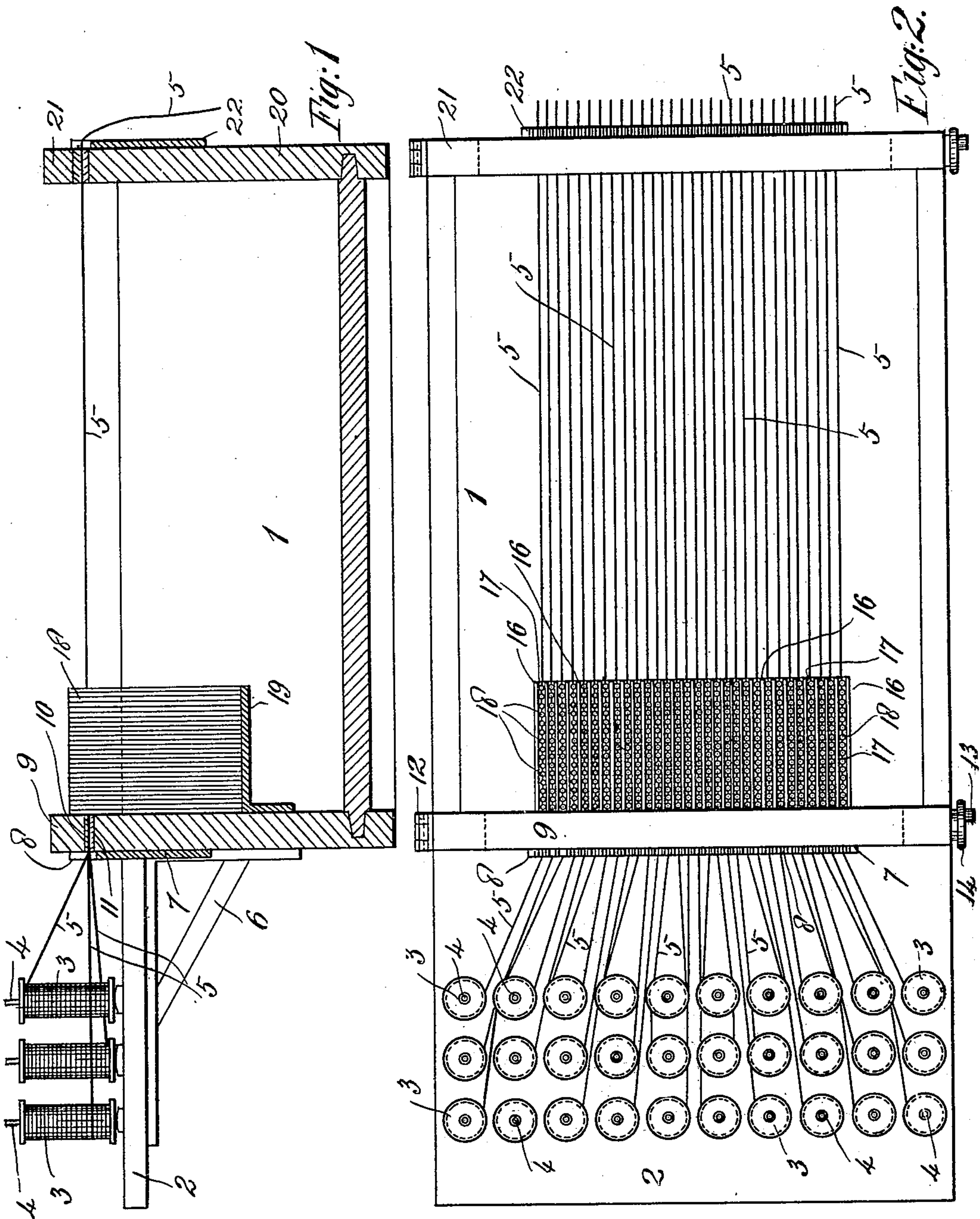
J. FUNKEN.

MACHINE FOR POLISHING NEEDLES.

(Application filed Feb. 7, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
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*Henry Flahn*

Inventor  
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Attorneys

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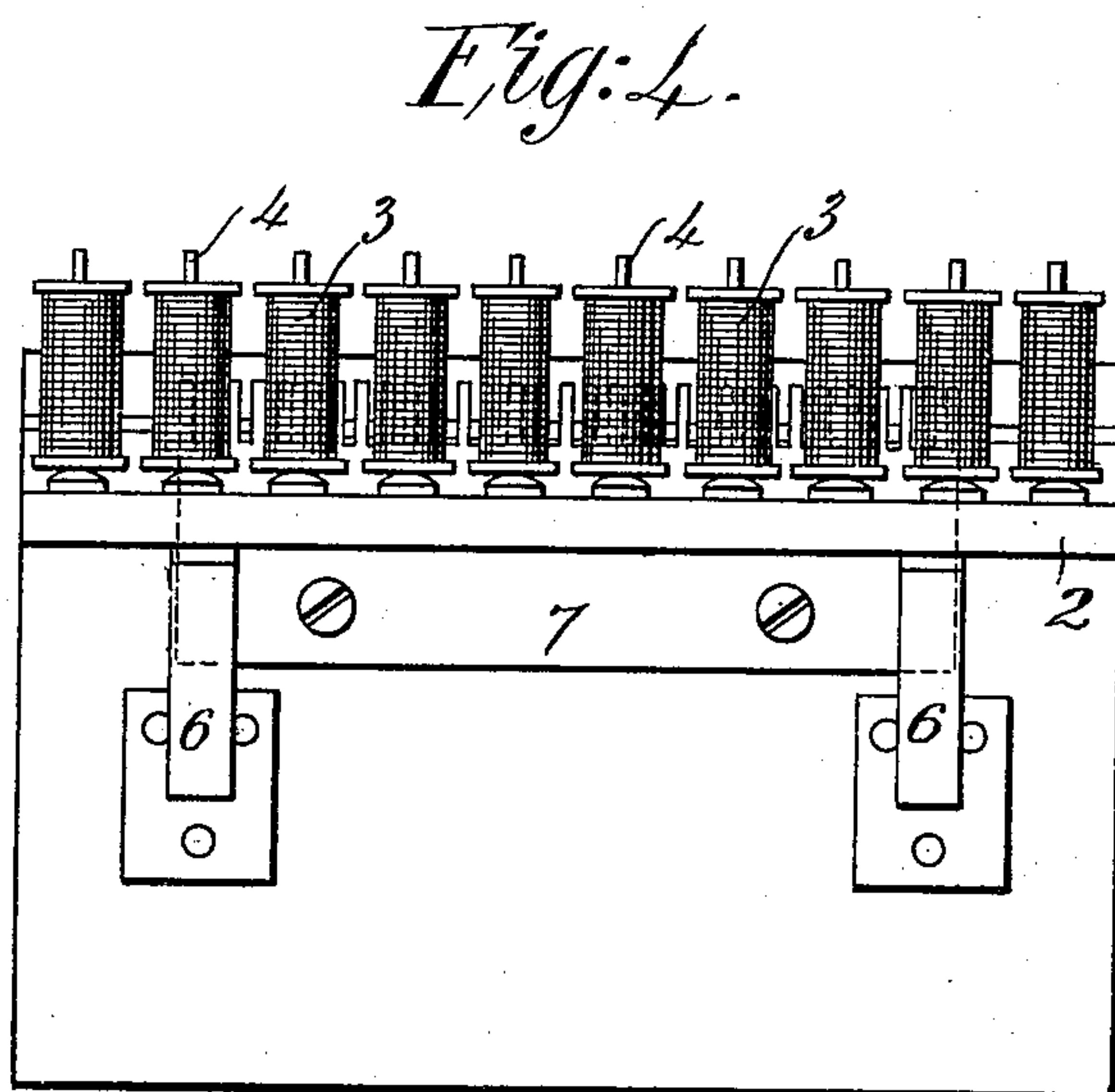
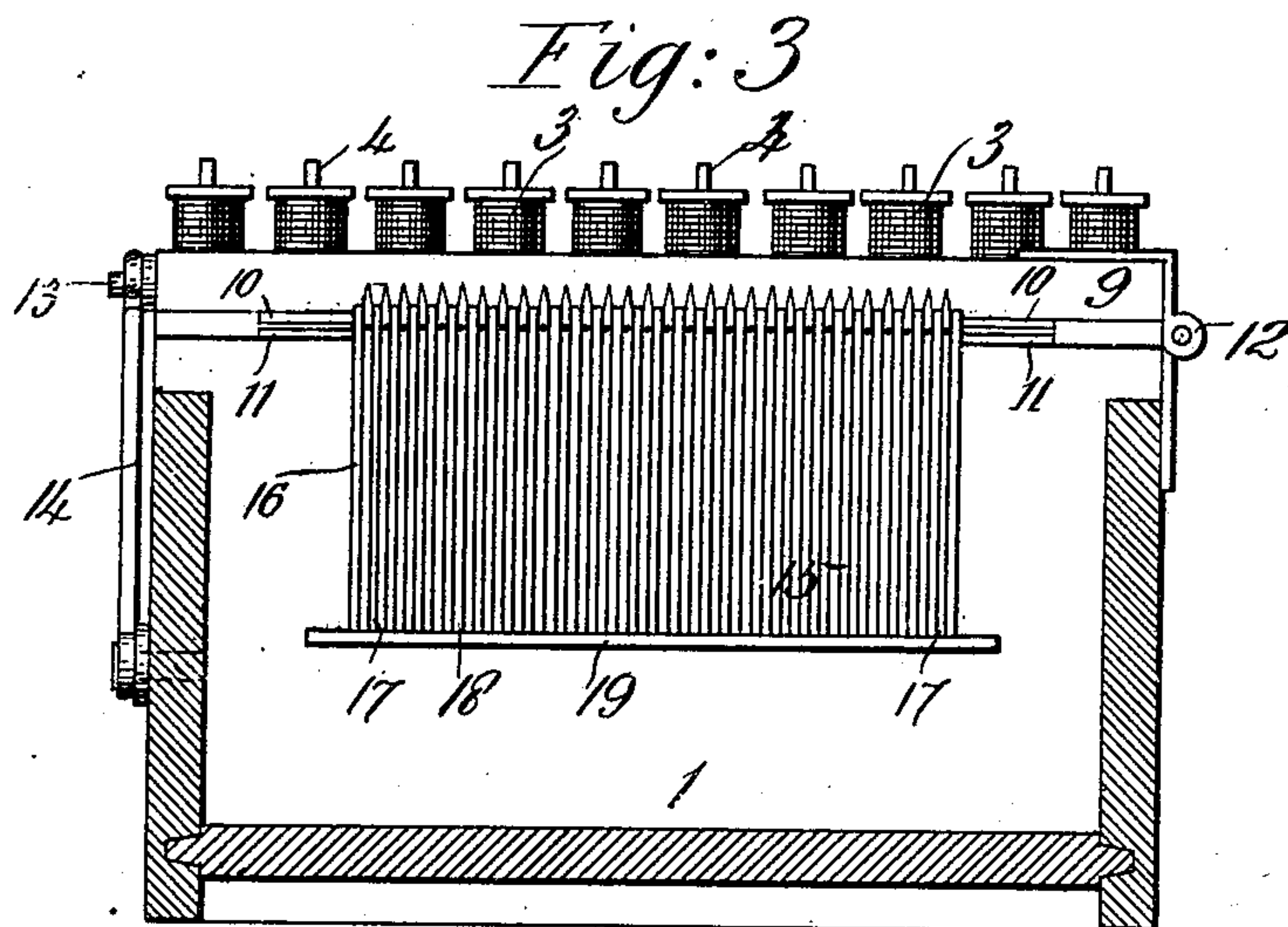
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# UNITED STATES PATENT OFFICE.

JOHANN FUNKEN, OF AACHEN, GERMANY.

## MACHINE FOR POLISHING NEEDLES.

SPECIFICATION forming part of Letters Patent No. 667,309, dated February 5, 1901.

Application filed February 7, 1900. Serial No. 4,419. (No model.)

*To all whom it may concern:*

Be it known that I, JOHANN FUNKEN, a subject of the Emperor of Germany, residing at No. 16 Johanniterstrasse, Aachen, in the Empire of Germany, have invented a new and useful Machine for Polishing Needles, of which the following is a specification.

My invention relates to an improved apparatus for polishing the eyes of sewing-machine and other needles, and more especially to the means for securing the needles prior to the polishing with emery-powder. In the well-known ordinary process for polishing the eyes of such needles a number of needles are placed together in order to effect the polishing of the entire number at the same time; but it will depend on the manner in which these needles are assembled whether a very quick and efficient polishing is attained or not.

In the accompanying drawings my invention is illustrated in Figure 1 in longitudinal section, Fig. 2 top plan view, Fig. 3 in transverse section, and Fig. 4 a rear elevation.

As illustrated in the drawings, the invention comprises a box 1, to which is attached on the one end the bridge 2, upon which the thread-spools 3 are placed in number as may be requisite. These spools are revoluble upon their pivots 4 and can therefore easily supply the threads 5 which are to be made use of. The bridge 2 is secured to the box 1 by means of the supports 6. Between the bridge 2 and the box 1 is placed the comb 7, between whose teeth 8 the threads 5 which are to be employed in the polishing are drawn through from the spools 3. A clip 9 has underneath it a plate 10. A similar plate 11 is placed also upon the edge of the box in such a position that when both the plates 10 and 11 are superposed they will completely cover one another and will grip the threads 5 on one side of the box 7. The clip 9 or some equivalent device is provided on the one side with a hinge 12, so that it can be raised up, and on the other side for fastening it and gripping the threads 5 it possesses the pin 13, over which engages the hook 14, revolubly secured to the box 1. At the inner edge of the box and before the clip 9 is placed the receptacle 15, which is divided by transverse partitions 16 into as many divisions 17 as there are threads—that is to say, as many as

there are rows of needles to be polished at one time. The partitions 16 are placed so near one to the other that the needles 18 are prevented from moving sidewise without further hindering their removal in the direction of the interior of the box 1.

As shown in Figs. 1, 2, and 3 of the drawings, the needles 18 which are to be polished are threaded upon the threads 5 and arranged in a row one beside another with their points downward in the divisions 17 upon the bottom 19 of the receptacle 15. If sewing-needles are to have the eyes polished, then their points are directed downward, as aforesaid; but in the case of sewing-machine needles they will obviously be placed with the points upward. At the lower end 20 of the box are placed the thread ends, which are also held firmly by a clamp 21 and a comb 22.

My invention is operated as follows: After the needles have been threaded upon the threads 5, drawn through from the spools 3, the said spools are placed upon their respective pins 4. Then the threads 5 are drawn between the teeth 8 of the comb 7 and under the roughened plates 10 and 11, so that the needles 18 arranged thereon project in the divisions 17 of the box 15 and upon the bottom 19 thereof. (See Figs. 1 and 3.) After the threads 5 have been fixed by aid of the plates 10 and 11, as aforesaid, they are further fixed at the other ends by aid of the clamp 21. For each separate polishing with emery each needle is brought out of the partitions 17 upon its respective thread toward the middle of the box, and when this has been done for all the threads 5 and the requisite emery-powder placed on them they are all taken hold of at the same time and polished in the well-known manner. The polished needles may be allowed to remain hanging at the opposite side of the box 15. This method of arranging the threads with the needles before the treatment with emery forms an essentially new device and possesses several advantages. As the thread-spools 3 are supported revolubly, the threads 5 are protected from avoidable breaking, thus obviating a serious drawback. The threads 5 being passed through the teeth 8 of the comb 7 after the divisions 17 of the receptacle 15 are always equally far apart from one another. They cannot touch one another



nor become entangled and the needles do not interfere with one another. Moreover, the needles 18 are usually placed behind one another upon the threads 5 in the divisions 17 and consequently the tedious work of arranging singly the needles for each emery partition is avoided. Further, as the needles 18 stand upon the threads 5 in the divisions 17, they are perfectly ready for polishing. The entire number of the needles 18 placed in the divisions 17 may be polished without any fresh threading, and another operation with the threads 5 can then be undertaken. As on the fastening of the threads 5 the same are drawn through between the teeth 8 of the comb 7, the polishing work with my apparatus proceeds continuously without interruption.

What I claim is—

1. In apparatus for polishing the eyes of a plurality of needles arranged in parallel rows on a series of threads, a frame, a series of parallel threads in said frame adapted to pass through the eyes of the needles to be polished,

spools holding the unused portions of such threads, an adjustable clip between the said unused portions and the working portions of the threads, a receptacle divided by transverse partitions into divisions corresponding in number to the number of the threads, each division adapted to contain a single row of needles on one of the said threads, and means for adjustably securing the other ends of the said threads.

2. In apparatus for polishing needle-eyes, in combination, the frame 1, spools 3, the threads 5, the comb 7, the clamping-plates 10, 11, the receptacle 15, the transverse partitions 16, the needle-races 17, and the clamp 21, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHANN FUNKEN.

Witnesses:

C. E. BRUNDAGE,  
G. SCOTT.