

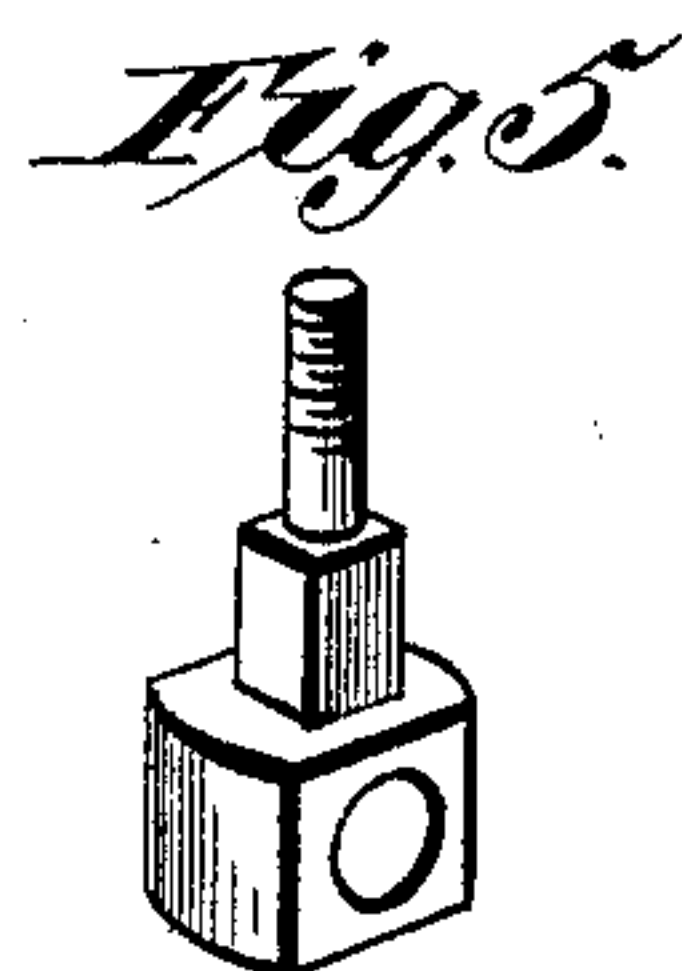
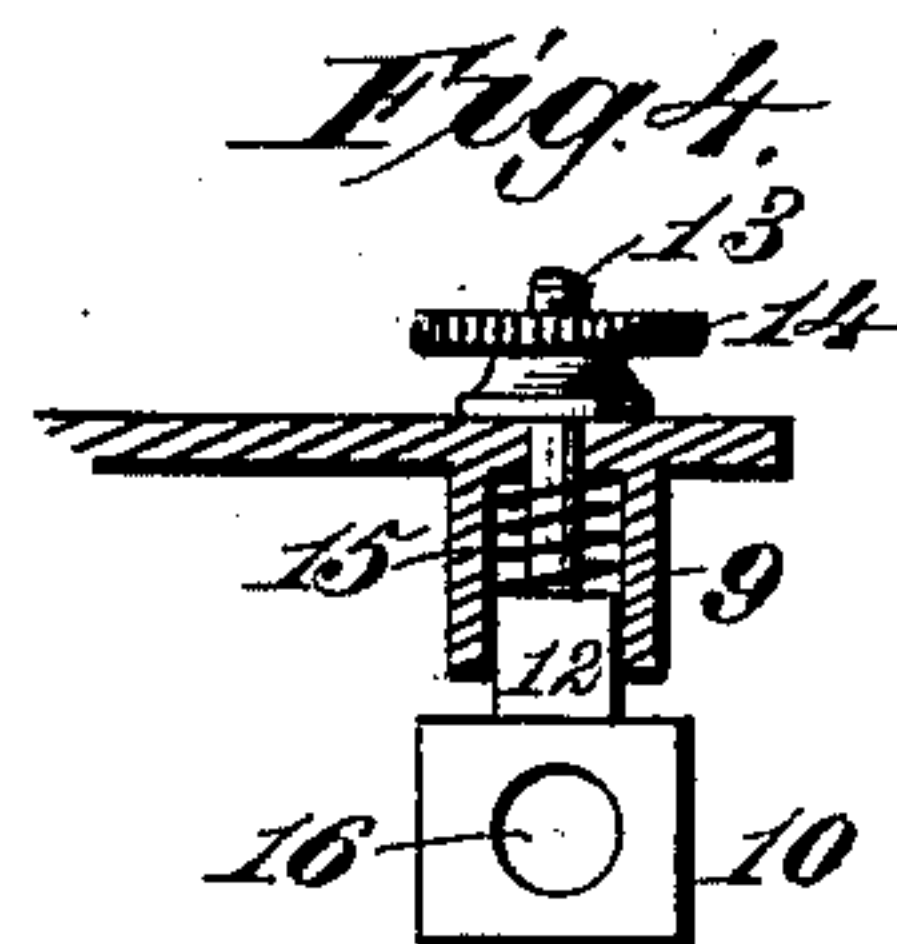
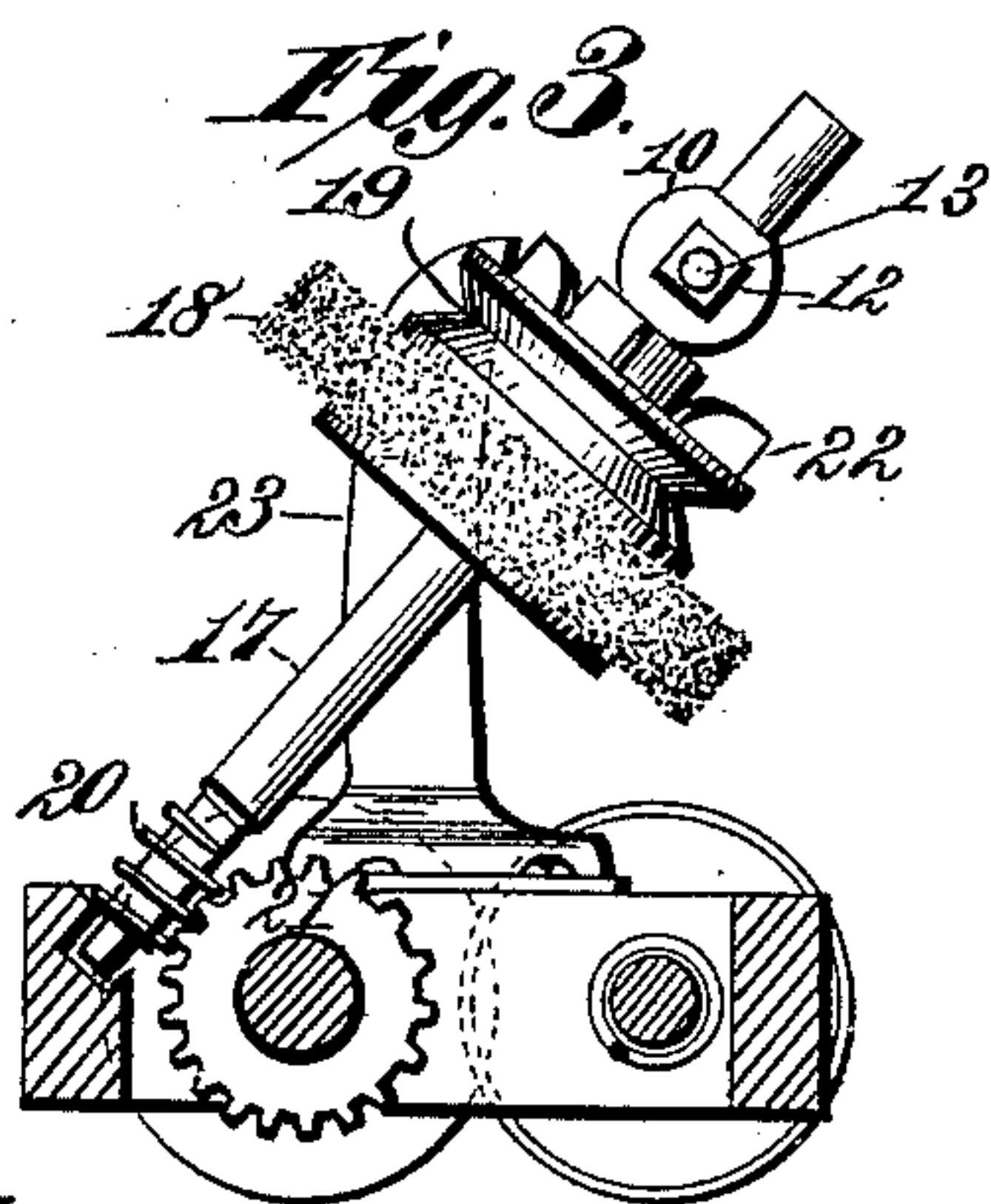
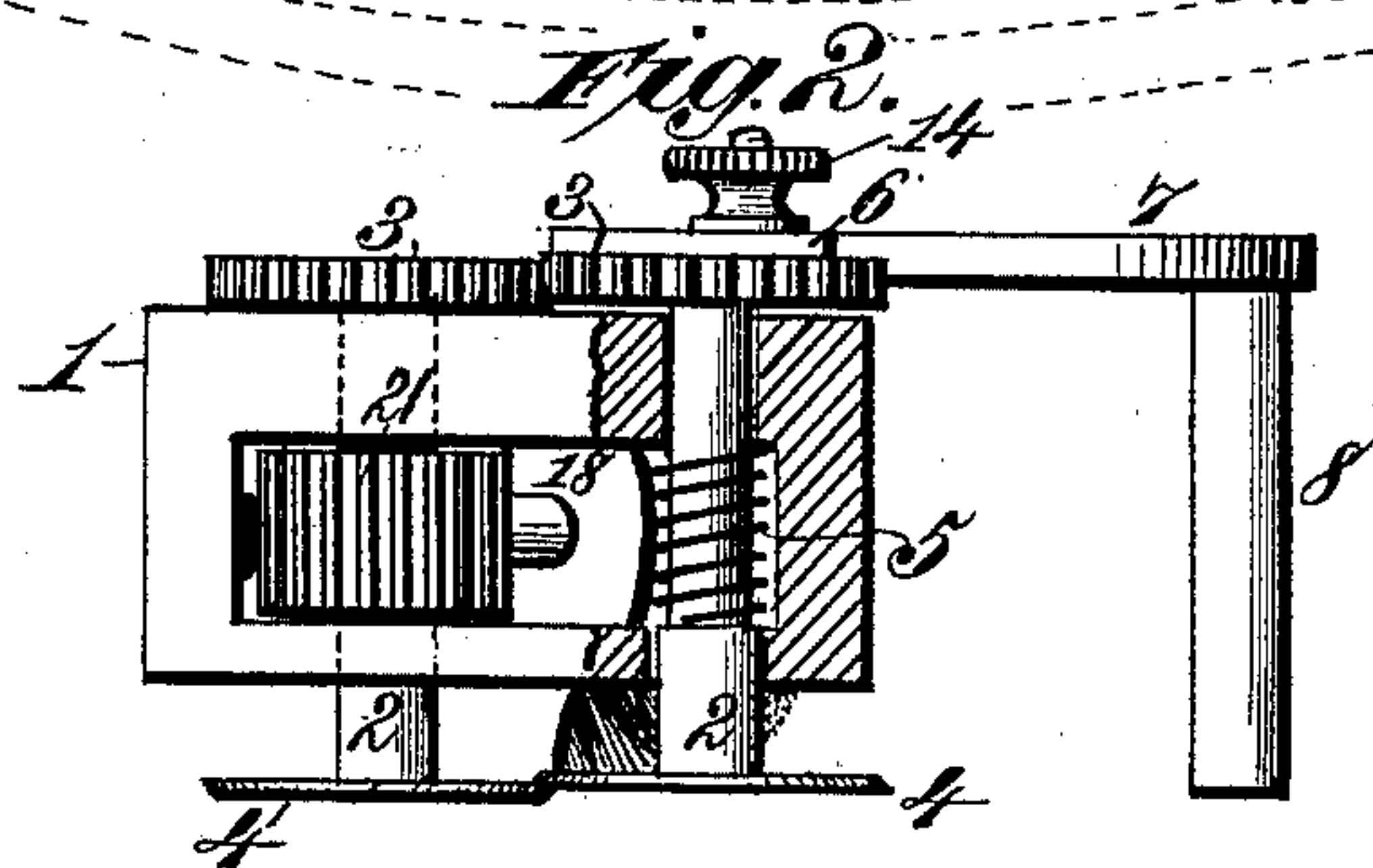
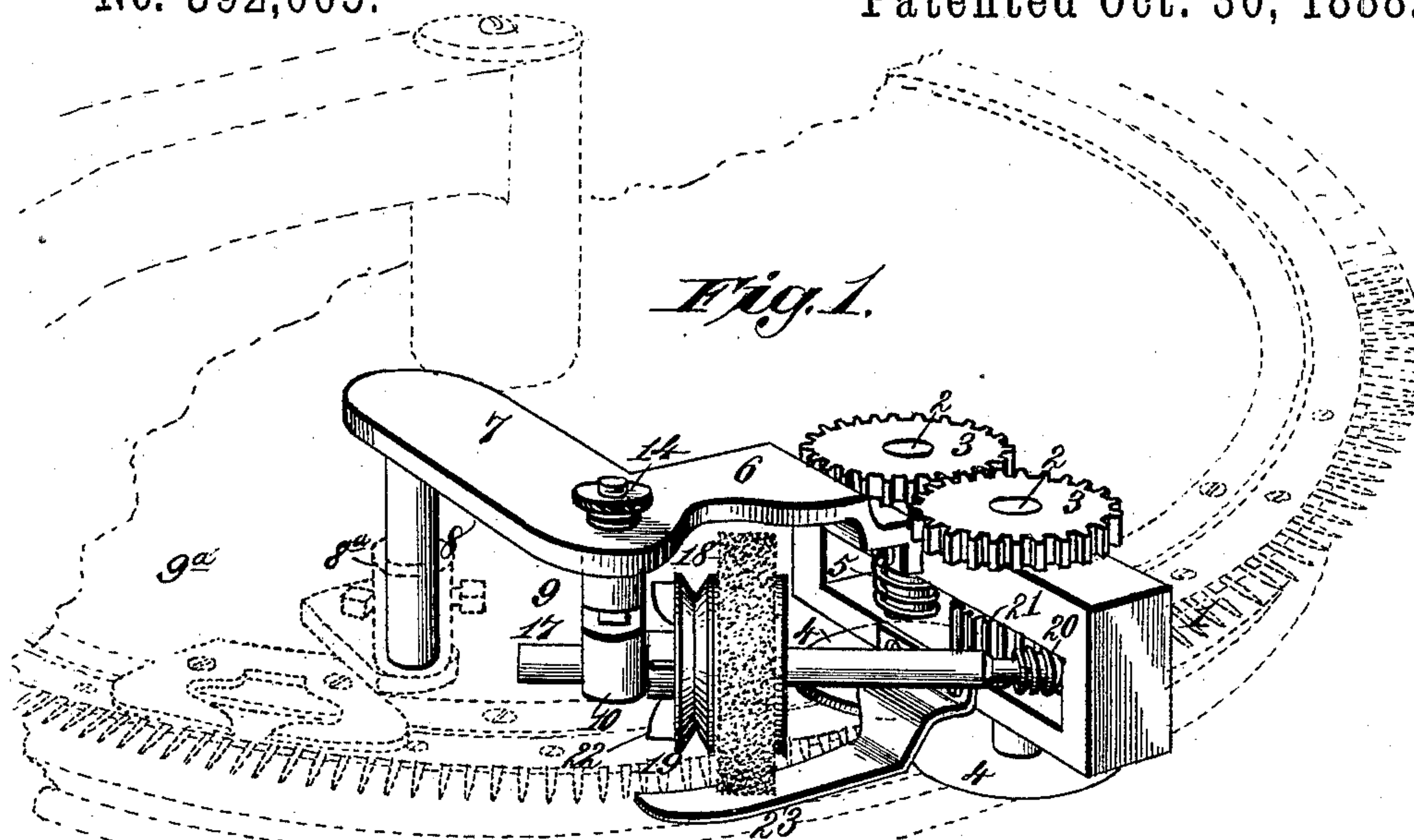
(No Model.)

N. H. BRUCE.

BRUSH ATTACHMENT FOR MACHINES FOR UNITING KNIT FABRICS.

No. 392,005.

Patented Oct. 30, 1888.



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UNITED STATES PATENT OFFICE.

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BRUSH ATTACHMENT FOR MACHINES FOR UNITING KNIT FABRICS.

SPECIFICATION forming part of Letters Patent No. 392,005, dated October 30, 1888.

Application filed March 3, 1888. Serial No. 266,065. (No model.)

To all whom it may concern:

Be it known that I, NORMAN H. BRUCE, a citizen of the United States, residing at Waterford, in the county of Saratoga and State of New York, have invented new and useful Improvements in Brush Attachments for Turning-Off Machines for Uniting Knit Fabrics, of which the following is a specification.

My invention relates to turning-off machines or, as they are frequently termed, "looping-machines" for uniting the edges of knitted fabrics.

It is the purpose of my invention to provide an automatic turning and brushing attachment for machines of this class, whereby the surplus margins of the fabrics impaled upon the points of the turning-off machine may be accurately trimmed off as the point, plate, or ring is revolved.

It is my further purpose to combine with the automatic trimming devices a mechanically-driven adjustable brush, whereby the short severed ends or pieces of the thread left in the loops impaled upon the points may be removed together with the fuzzy or fibrous material adhering to the trimmed edges, leaving the edges to be united perfectly clean.

It is my purpose, finally, to so construct and combine the several parts of the trimming and brushing mechanism that the same may be applied and used as an attachment to a turning-off machine, and may be readily and speedily connected therewith and disconnected therefrom.

It is my further purpose to so construct and arrange said parts that they may be operated in combination and driven from the power-shaft of the machine, or from any other suitable source of power, as desired.

The invention consists in the several novel features of construction and new combinations of parts, hereinafter fully described, and then definitely pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view showing a portion of the point-carrying cylinder of a turning-off machine with my improved attachment applied thereto. Fig. 2 is a side elevation taken from the right hand of Fig. 1. Fig. 3 is a horizontal section taken in the plane xx , Fig. 2. Fig. 4 is a detail section showing the devices for adjusting and holding down one end of the

brush-shaft. Fig. 5 is a detail perspective of the brush-shaft bearing shown in Fig. 4 detached.

In the said drawings, the reference-numeral 1 designates the frame in which the parts of the attachment have support. This frame consists of a rectangular portion, in which are journaled the vertical cutter-shafts 2, geared together by gears 3. The lower ends of these shafts project below the supporting-frame and carry cutting-disks 4, having overlapping edges, the upper disk being held down upon the other by a spiral spring, 5, coiled upon the shaft of said upper disk and resting at one end against the frame and at the other upon a shoulder of the shaft.

Projecting from the frame 1 is a plate, 6, having an angular portion, 7, upon which is formed a depending stud, 8, whereby the attachment is mounted upon a suitable bearing, 8^a, in the point-carrying cylinder 9^a of a turning-off machine. I do not deem it necessary to further illustrate a turning-off machine, as such is well known, and is more fully shown in my application for Letters Patent filed March 1, 1888, Serial No. 265,821. Dropping from this plate at or near the angle is a boss, 9, and in the latter is mounted a bearing-block, 10, having a squared portion, 12, entering an opening in the boss and provided with a threaded bar, 13, passing up through an opening in the plate 7 to receive a set-nut, 14. A spring, 15, is interposed between the squared portion 12 and the plate above to hold the block down at the lowest point permitted by the set-nut 14.

Journaled in an opening, 16, in the block is a brush-shaft, 17, carrying a circular brush, 18, having a suitable pulley, 19. The other end of the shaft is journaled in the end of the frame 1, as seen in Fig. 3, and is provided with a worm, 20, which meshes with a worm-gear, 21, mounted on one of the cutter-shafts 2, whereby rotation is given the cutting-disks by the revolution of the brush, the latter being driven by means of the pulley 19 from the power-shaft of the turning-off machine, or in any suitable manner.

Wings 22 may be placed upon the brush-pulley to create a current of air to blow away the small particles of lint and short bits of thread detached by the brush. A guard-plate,

23, lies under the brush to prevent the latter from throwing the loops of the fabric off the points of the turning-off ring.

The attachment is mounted upon a boss having an opening receiving the bearing or stud 8, said boss being preferably located upon the cylinder. This brings the cutters into the path of the projecting edges of the fabrics impaled upon the points of the turning-off machine, and also brings the guard-plate and brush into position for operation. The brush may be adjusted by means of the set-nut 14 and movable bearing-block 10.

I do not herein broadly claim a revolving brush for a cylinder turning-off machine to act upon the trimmed edges of the fabric carried by the cylinder to the sewing mechanism, as such constitutes the subject-matter of my application for Letters Patent filed March 1, 1888, Serial No. 265,821.

What I claim is—

1. The combination, with the point-carrying cylinder of a turning-off machine, of a brush revolving in a vertical plane above the points to act directly on the exposed trimmed edges of the fabric, means for revolving the brush and its shaft, and cutters arranged at one side of the brush and geared to the brush-shaft for trimming the edges of the fabric prior to presenting the latter to the brush, substantially as described.

2. The combination, with the point carrying cylinders of a turning-off machine, of a brush revolving above the points to act on the trimmed edges of a fabric, two revolving circular cutters arranged at one side of the brush for trimming the edges of the fabric prior to presenting the same to the brush, and means for revolving the brush and cutters, substantially as described.

3. An attachment for a turning-off machine, consisting of a supporting-frame, a revolving brush, means for revolving the brush, and two circular cutters arranged at one side of the brush and geared to and revolved by the brush-shaft, substantially as described.

4. An attachment for turning-off machines, consisting of a supporting-frame, rotary shafts journaled in the frame and each carrying a cutter, gear-wheels connecting the shafts, a worm-gear on one of said shafts, a vertically-adjustable brush-shaft having a brush and a worm engaging the worm-gear, and means for revolving the brush-shaft, substantially as described.

5. An attachment for turning-off machines, consisting of a pair of cutters, a rotating shaft communicating motion to said cutters, a circular brush mounted on said shaft, and a guard-plate beneath the brush, the whole being mounted upon a frame capable of being connected to a turning-off machine, substantially as described.

6. An attachment for turning-off machines, consisting of a frame, a pair of rotary shafts journaled in the frame and geared together, circular cutters mounted, respectively, on the shafts, a spring holding the cutters in engagement, a worm-gear on one of the cutter-shafts, a brush-shaft having a worm meshing with the worm gear, a brush on the brush-shaft, means for rotating the latter, a spring for holding the brush down, and a guard-plate under the brush, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

NORMAN H. BRUCE.

Witnesses:

JOS. L. COOMBS,

J. A. RUTHERFORD.