

(No Model.)

3 Sheets—Sheet 1.

M. GRIFFIN.
CHANNELING MACHINE.

No. 432,161.

Patented July 15, 1890.

Fig. 1.

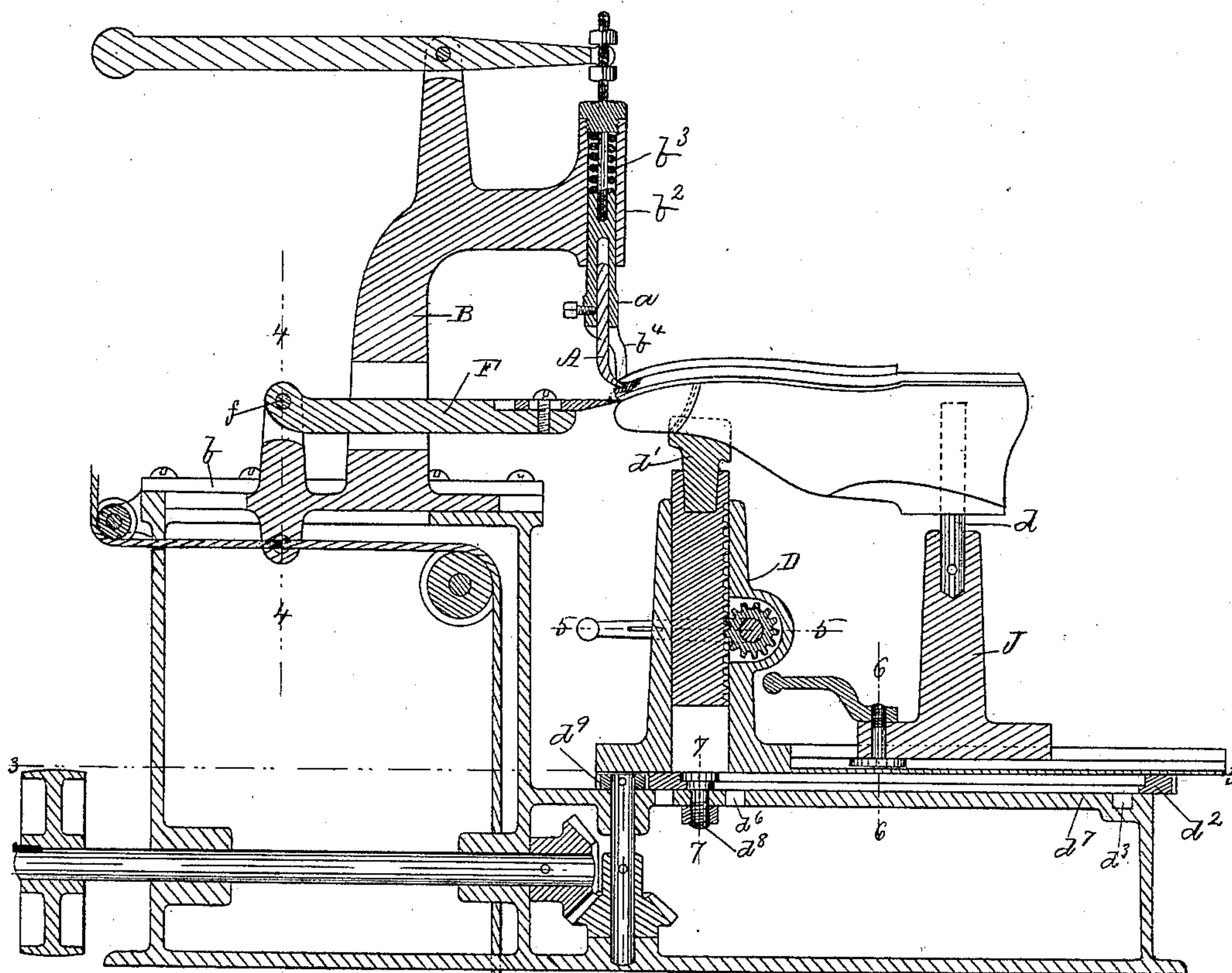


Fig. 8.

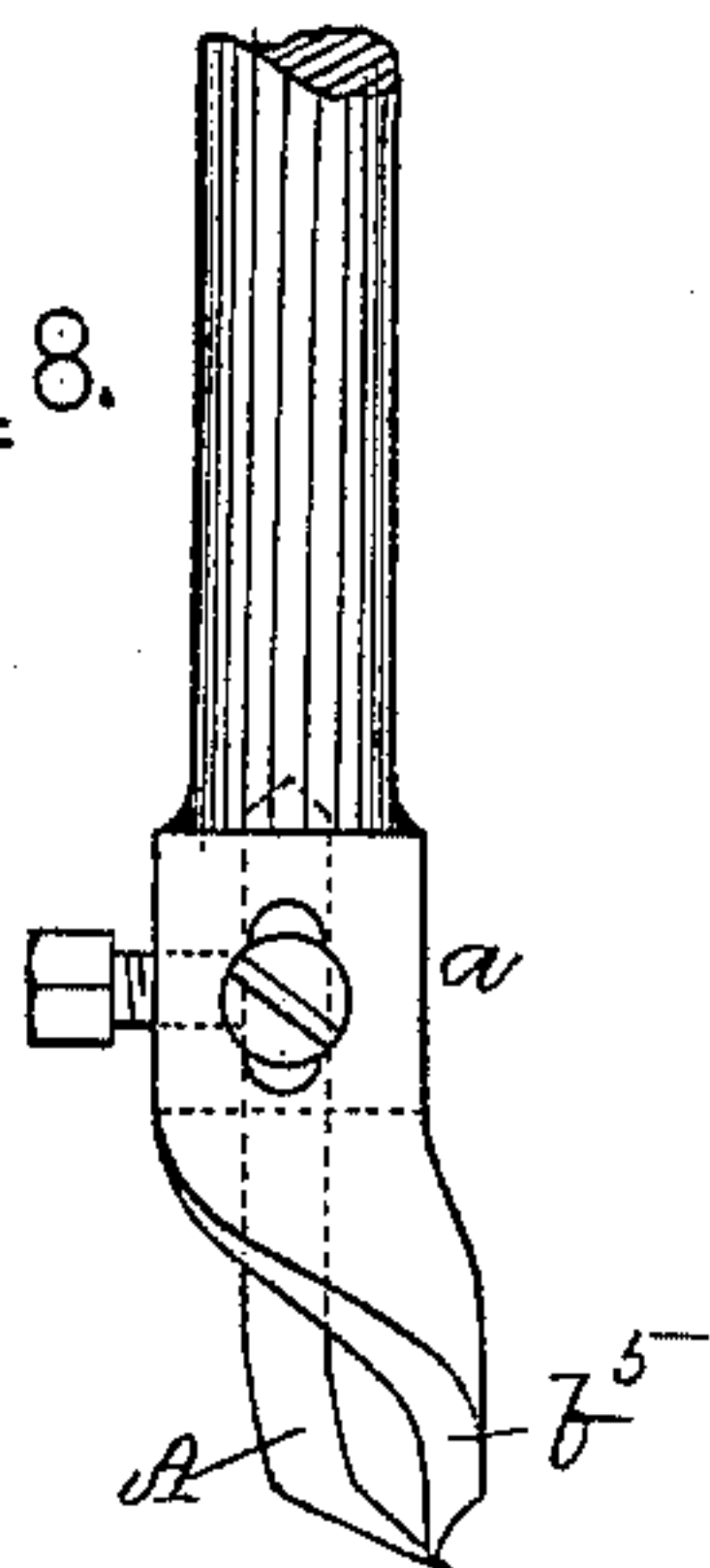


Fig. 9.

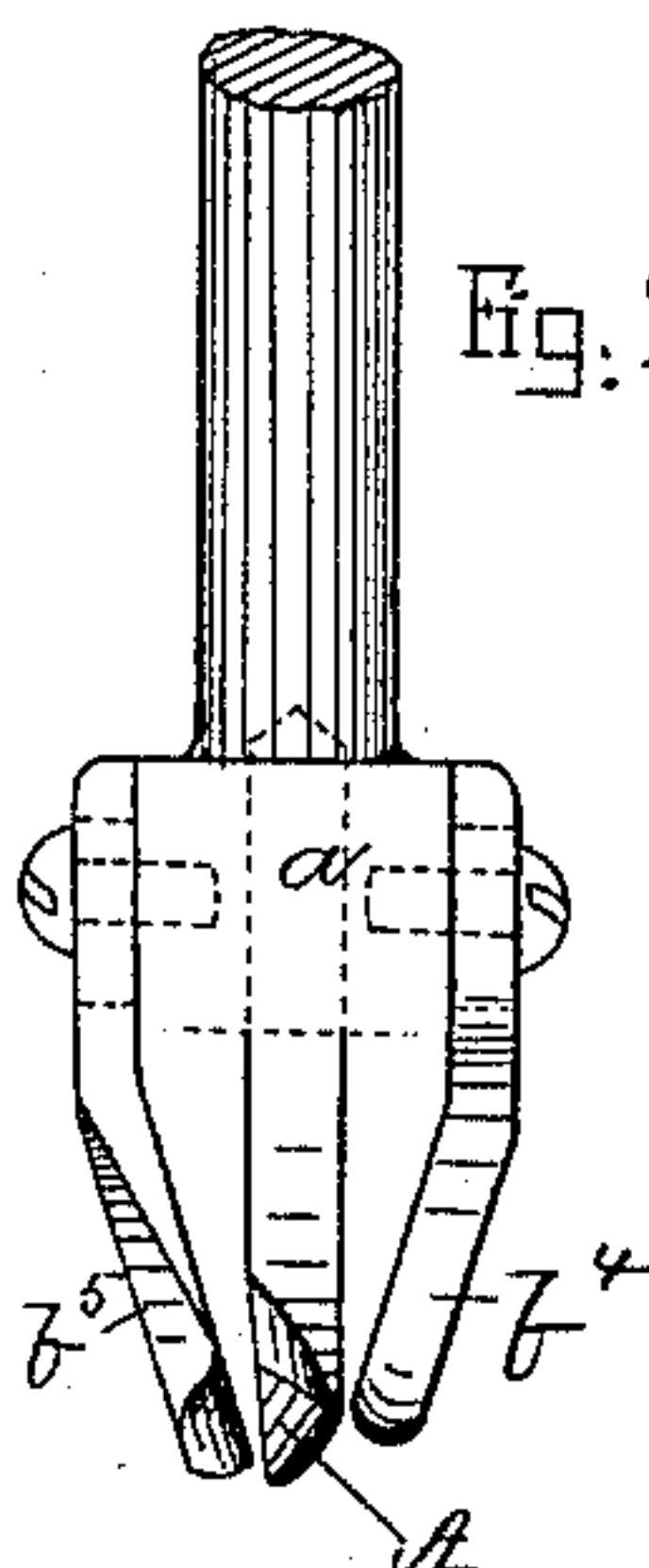
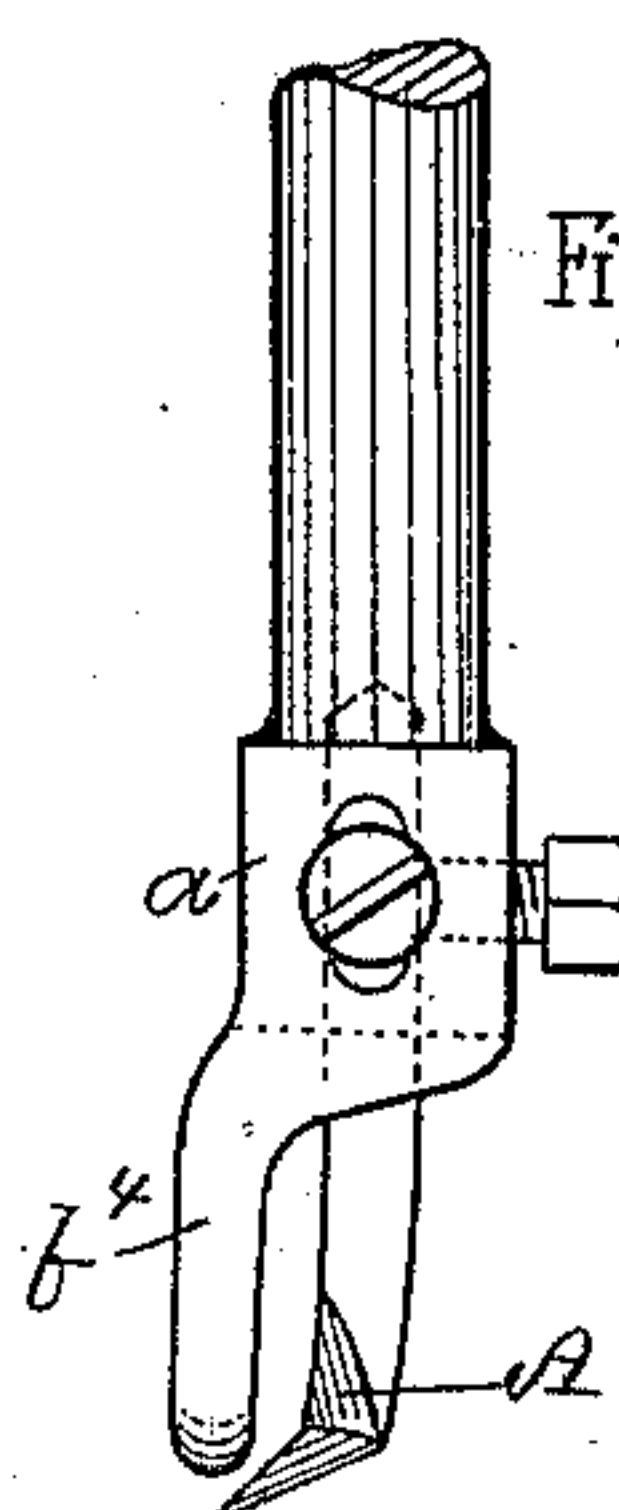


Fig. 10.



Witnesses.

Lauritz W. Möller,
John R. Know

Inventor

Michael Griffin
by his attorneys,
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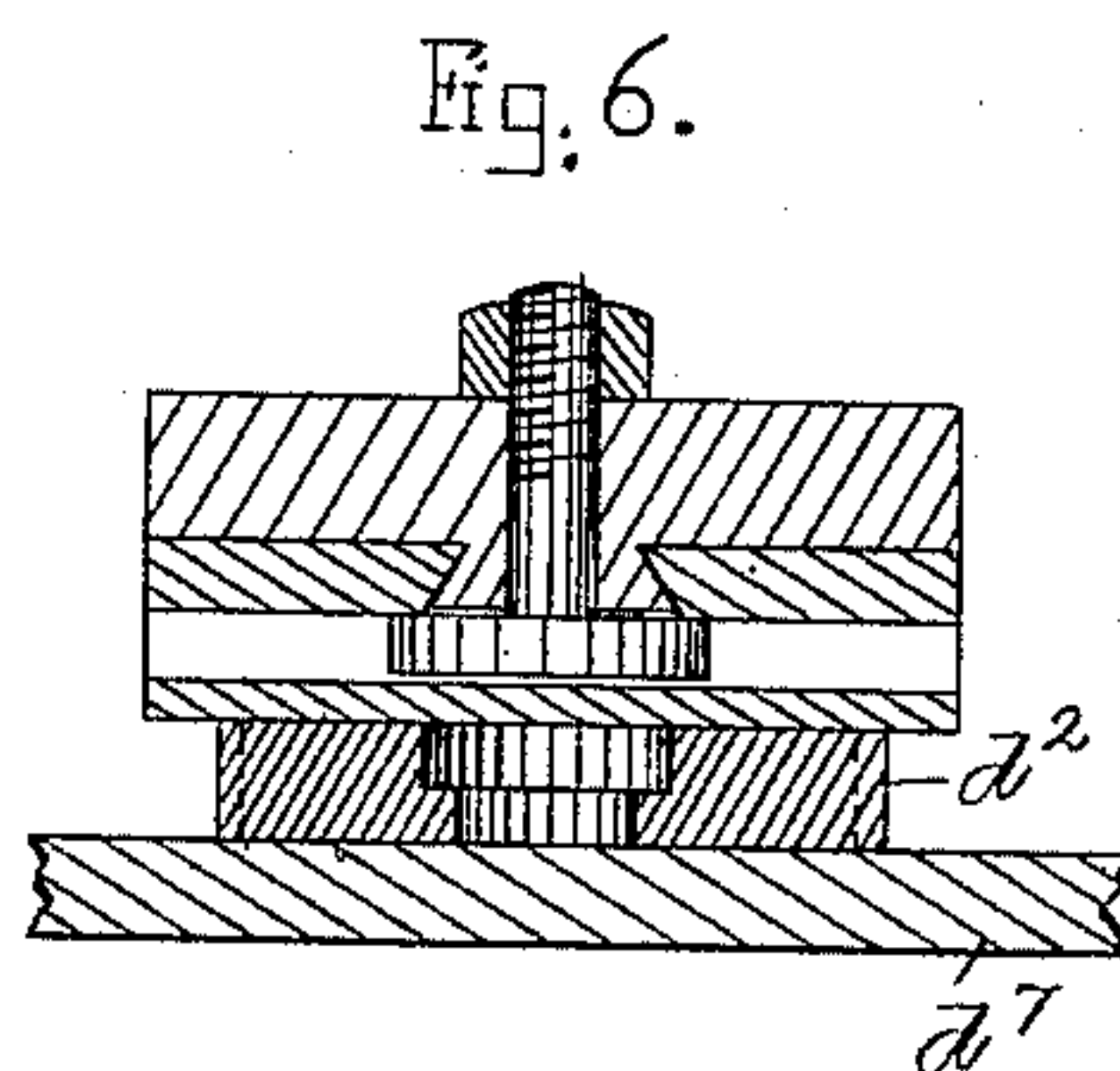
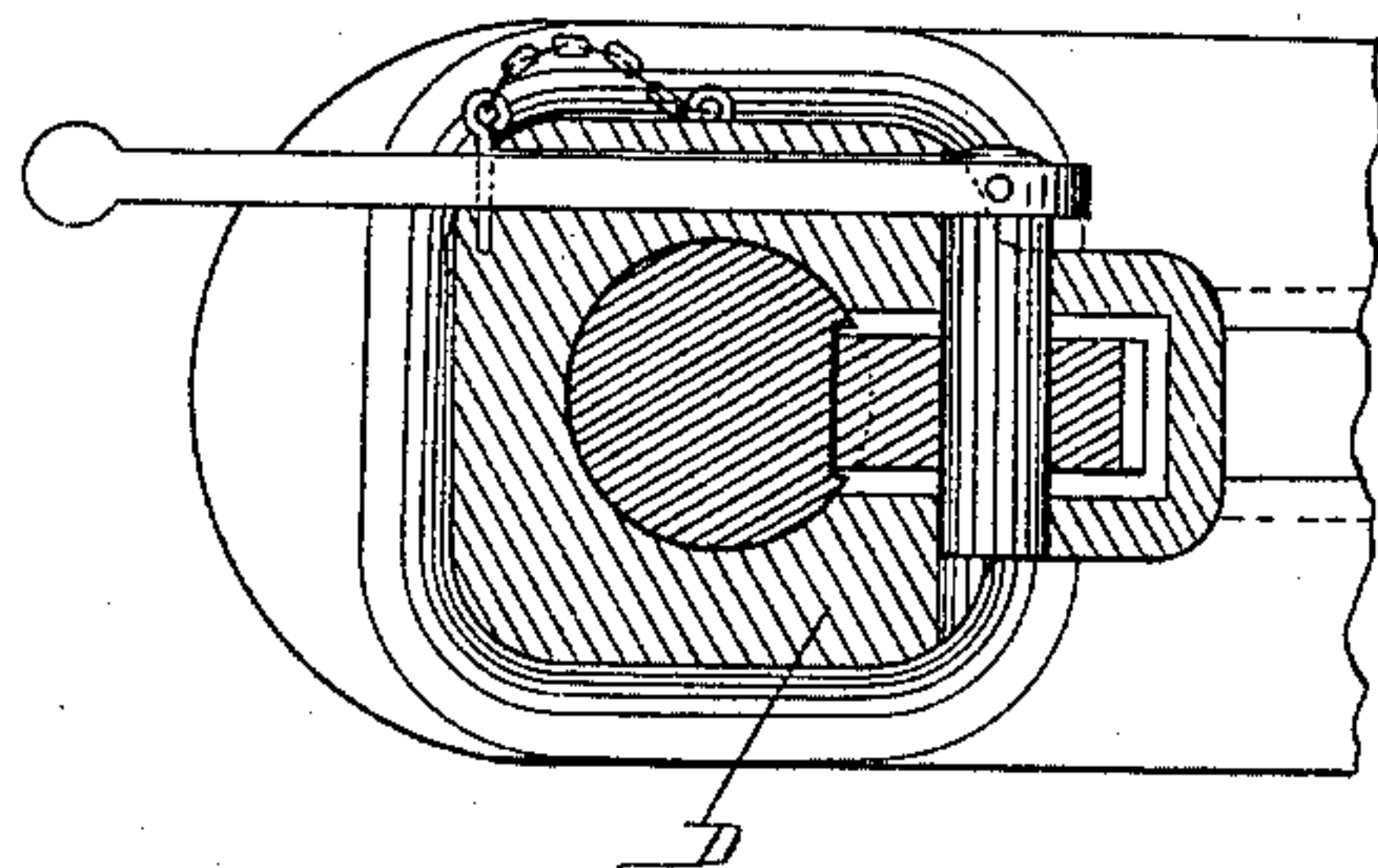
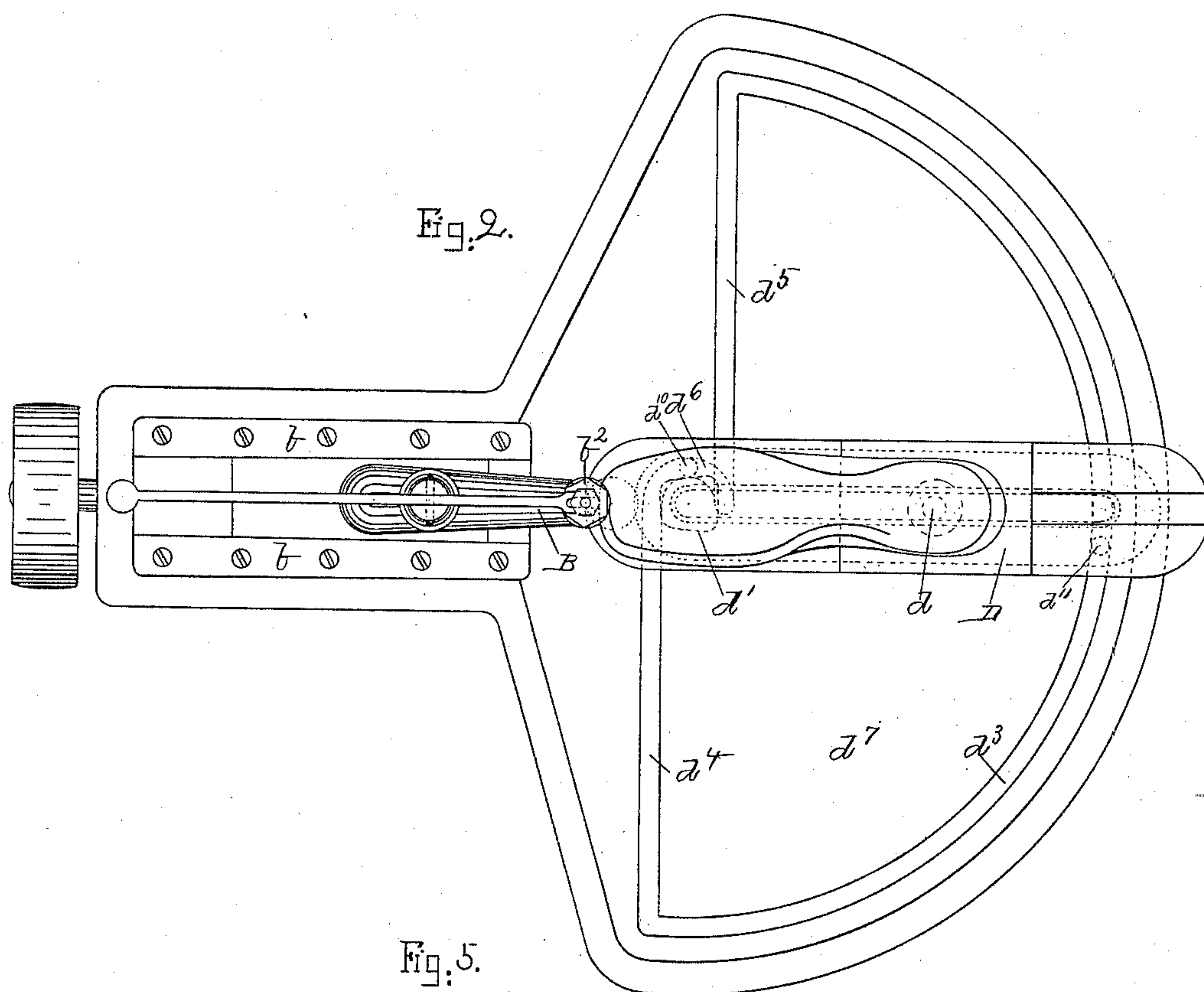
(No Model.)

3 Sheets—Sheet 2.

M. GRIFFIN.
CHANNELING MACHINE.

No. 432,161.

Patented July 15, 1890.



Witnesses.

Haverhill, N. H. Ins'tler.
 John R. Snow.

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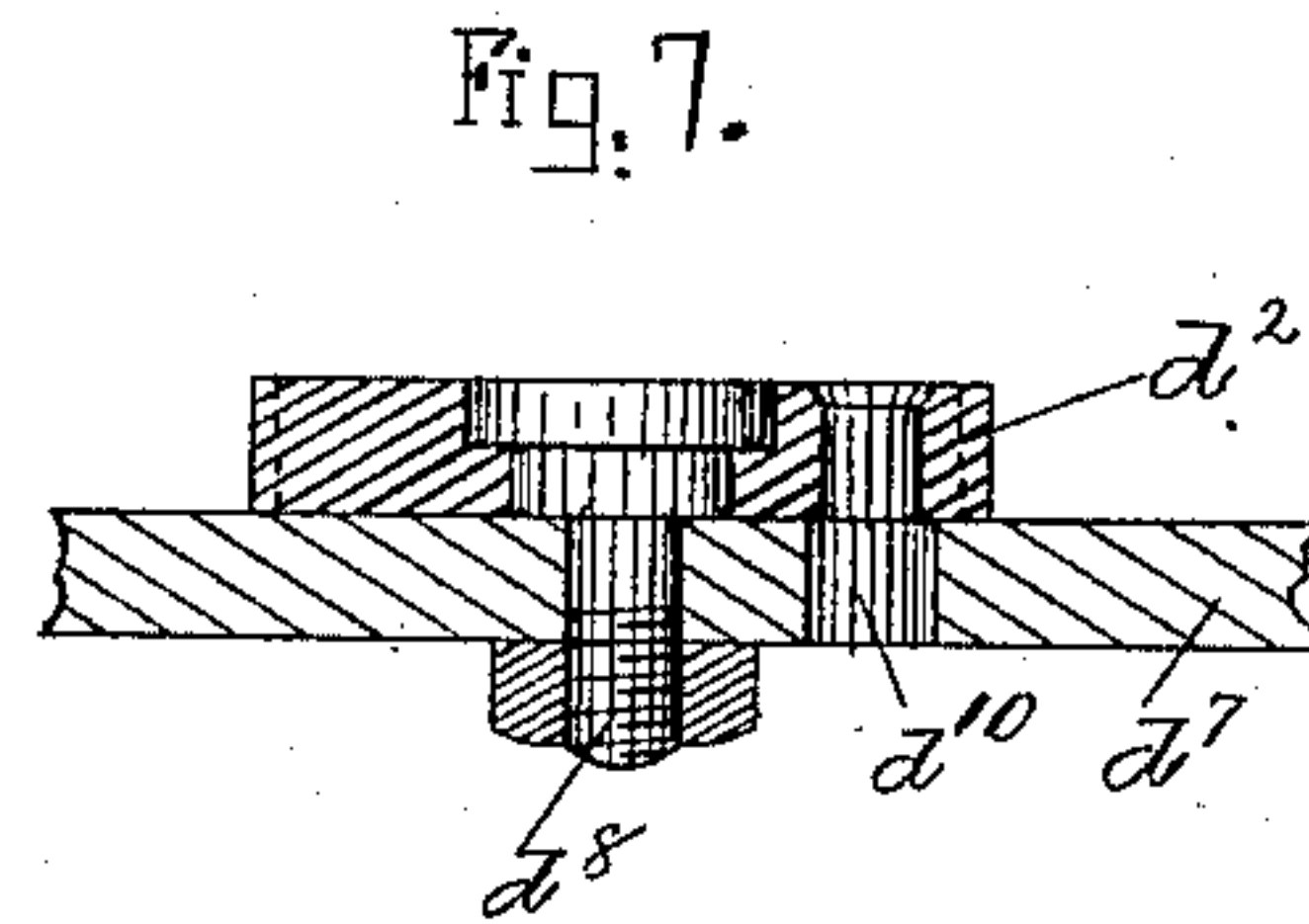
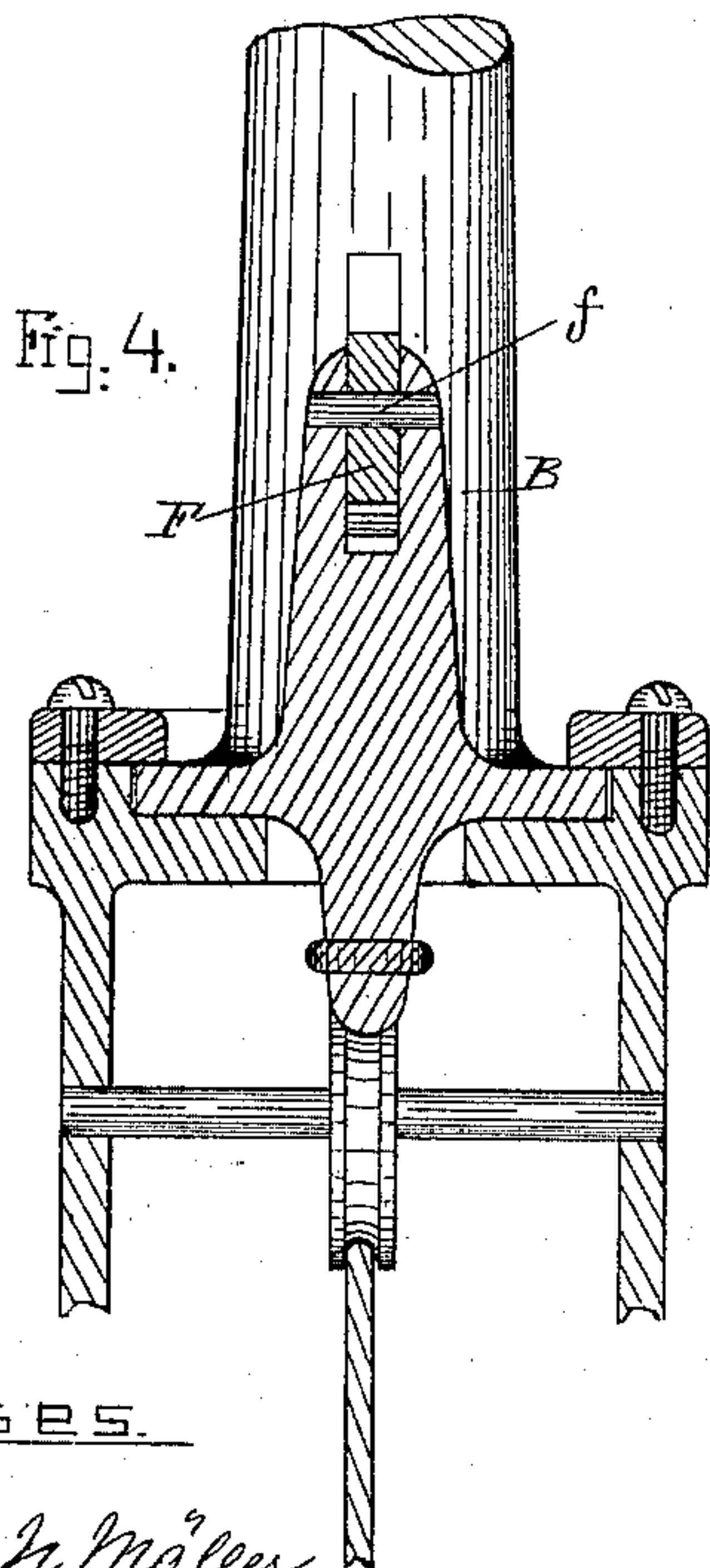
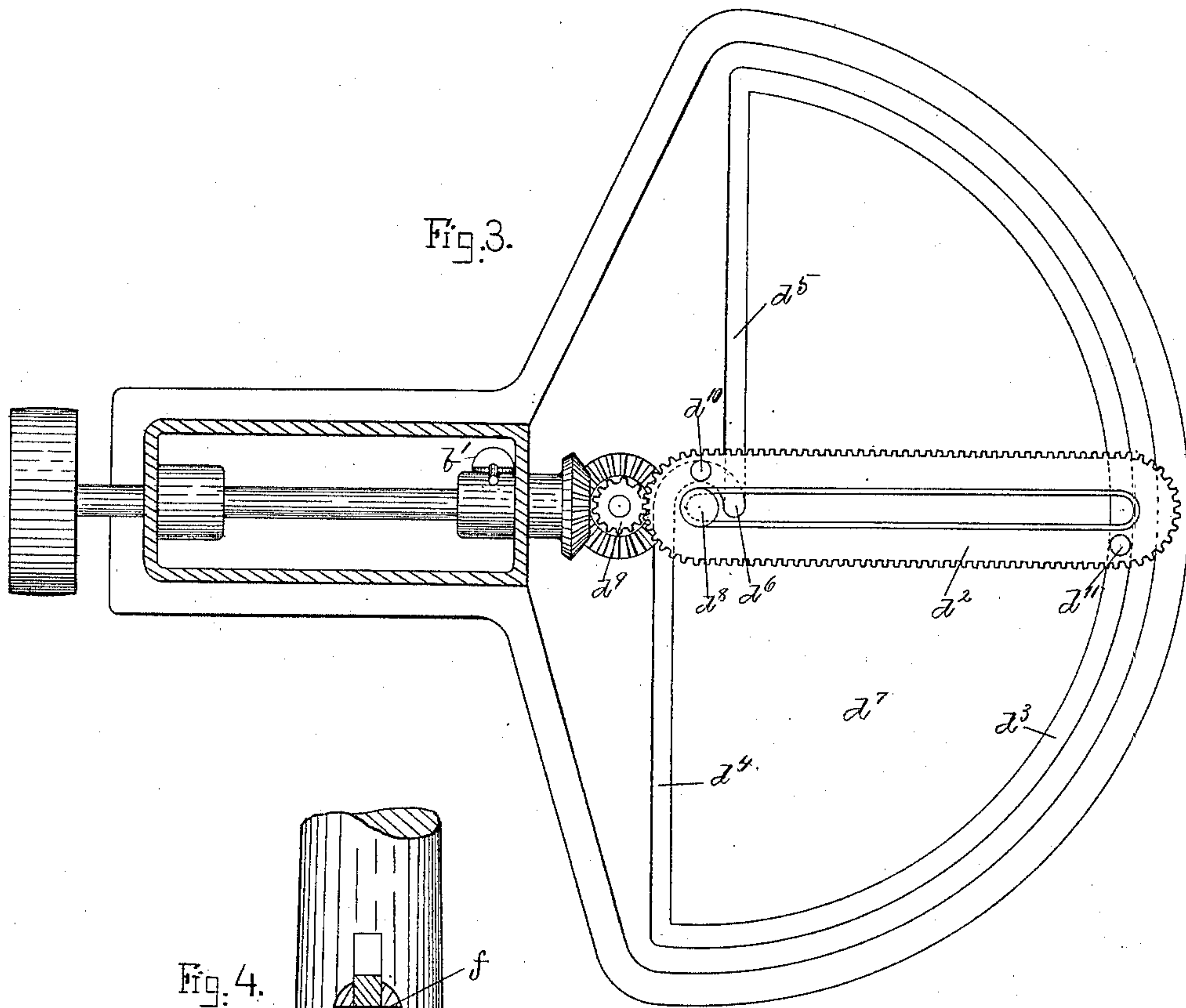
(No Model.)

3 Sheets—Sheet 3.

M. GRIFFIN.
CHANNELING MACHINE.

No. 432,161.

Patented July 15, 1890.



Witnesses.

Lauritz N. Møller.
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Inventor.

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UNITED STATES PATENT OFFICE.

MICHAEL GRIFFIN, OF WEYMOUTH, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JOHN W. HART, OF SAME PLACE.

CHANNELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 432,161, dated July 15, 1890.

Application filed April 7, 1890. Serial No. 346,881. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL GRIFFIN, of Weymouth, in the county of Norfolk and State of Massachusetts, have invented a new and useful Sole-Machine, designed principally for Rounding and Channeling Outer Soles, of which the following is a specification, reference being had to the accompanying drawings, making a part hereof, in which—

10 Figure 1 is a sectional elevation of a machine embodying my invention. Fig. 2 is a plan. Figs. 3, 4, 5, 6, and 7 are sections on lines 3 3, 4 4, 5 5, 6 6, and 7 7 of Fig. 1. Figs. 8, 9, and 10 are enlarged views illustrating the knife, presser-foot, and spreader when the machine is used for channeling the outer sole.

15 A variety of sole-machines have been constructed heretofore, by means of which the outer sole can be channeled on its outer surface or rounded up, or the outer sole presented to tools of various kinds, and these machines consist of two general classes, in one of which the knife or other tool is traversed about the sole, while in the other the sole is moved endwise and then on an axis, a repetition of these endwise and axial movements giving the desired motion to the sole. My invention relates to this latter class of machines; and it consists, mainly, in the combination of a sole-carriage having endwise and axial motions, with a tool-carriage having a to-and-fro motion by means of a gage or guide adapted to enter the rand and hinged to the tool-carriage, so that it may move up and down (the tool-carriage moving in a horizontal plane) independently of the tool-carriage and to and fro with the tool-carriage.

20 A second feature of my invention is a sole-carriage driven by an oblong rack and its pinion and guided by slots of a novel construction.

25 In a machine embodying the first feature of my invention the knife A or other tool is suitably mounted upon the tool-carriage B, which is adapted to move toward and from the sole-carriage D, and these two carriages are combined by means of the rand gage or guide F, which is pivoted to the tool-carriage A at f, so that the acting end of the rand-gage may move up and down in order to follow the rand.

The shoe with the upper secured to the inner sole and welt and with the outer sole temporarily held in place is mounted upon the sole-carriage D by the usual heel-pin d and toe-rest d' and the rand-gage F, placed with its outer end in the rand, the outer end of gage F being thin, but rounded, so that it will enter the angle between the upper and welt, which angle is commonly called the "rand," and thereby bring the tool-carriage B in proper relation with the sole-carriage D, the tool-carriage B sliding in the ways b , as will be clear from Figs. 1 and 2. As the shoe is revolved about the axis of the toe when in the position shown in Figs. 1 and 2, the gage F follows the rand and keeps the tool-carriage in proper relation to the sole-carriage, and as the shoe is moved endwise after its axial motion the rand-gage moves up or down, as the curve of the rand requires, and also causes the tool-carriage to move away from the toe to the ball of the sole and allows the tool-carriage to move toward the sole-carriage from ball to shank under the influence of the weight b' . The main novelty of this part of my invention is the hinged gage F, entering the rand-seam and controlling the relation of the tool-carriage B and sole-carriage D, and it will be obvious that the construction of these carriages may be widely varied, and yet the combination new with me be the same in substance; but it is very important, for the best results, to have a sole-carriage which is effective and durable, and the second feature of my invention is the sole-carriage D, consisting, in substance, of an oblong slotted rack d^2 , mounted upon a flat table d^7 , grooved with the semicircular groove d^3 and the parallel straight grooves d^4 d^5 , joined by a small semicircular groove d^6 . This rack d^2 supports the jack J, which, as shown, is composed of the adjustable heel-pin d and toe-rest d' , mounted in a suitable base, the jack being fast to the rack, so that the jack and the shoe supported by it move with the rack. The rack is held to the table d^7 by the bolt d^8 , whose head fits in the slot of the rack d^2 , as shown in Figs. 1 and 7, keeping the rack upon the table and yet allowing it to slide. Motion is imparted to the rack d^2 by the gear d^9 , and

the motion of the rack is controlled by the bolt d^8 and by two studs d^{10} d^{11} , (shown in Figs. 3 and 7,) which project from the rack and traverse the grooves d^3 d^4 d^5 d^6 . When the gear d^9 is revolved, the rack turns upon the bolt d^8 as an axis, the stud d^{10} traversing the groove d^6 , while the stud d^{11} traverses the groove d^3 until the stud d^{10} enters the straight groove d^4 and the stud d^{11} the straight groove d^5 . The rack then moves endwise, the slot in the rack traversing the bolt d^8 , and the studs d^{10} d^{11} traversing the straight grooves d^4 d^5 , until the end of the slot brings up against the bolt d^8 , when the stud d^{10} will be at the end of groove d^4 and the stud d^{11} at the end of groove d^5 , when the semi-rotation of the rack is repeated as before, except that stud d^{11} traverses the shorter groove d^6 , while the stud d^{10} traverses the longer groove d^3 . This carriage gives a firm steady motion to the jack and shoe, is simple and durable, and is better in many respects than any other sole-carriage known to me. The principle of construction—namely, the slotted rack controlled by the studs and grooves—is wholly new with me so far as I have any reason to believe.

The knife shown at A is for the purpose of channeling the outer sole. It is a blade of the proper shape, familiar to all skilled in the art, but mounted on the holder a , which slides in the head b^2 of the tool-carriage against the spring b^3 . The depth of cut is determined by the presser b^4 , which rests upon and is pressed against the sole by the spring b^3 . The

knife A penetrates the sole in a slanting direction as far as the presser b^4 allows, and when the sole-carriage D is set in motion cuts a slanting slit around the fore part of the sole, usually from shank to shank, the curves of this slit conforming to the outline of the rand-seam, which, with the rounding up of the sole by the same pattern, are the main objects of my invention, for the sole can be rounded up by the same machine by simply detaching the channeling-knife and substituting a proper knife for rounding up the sole.

The flap-raiser b^5 follows the channeling-knife A and forces up the flap of the slit or channel, as shown in Fig. 1, and as will be clear to all skilled in the art without further description.

What I claim as my invention is—

1. In a sole-channeling machine or the like, the combination of the tool-carriage B, sole-carriage D moving in the same plane, and the hinged rand-gage F, arranged and operating substantially as described.

2. In a sole-channeling machine or the like, the slotted rack d^2 , in combination with table d^7 , grooved with the two semicircular grooves d^3 d^6 , connected by the straight grooves d^4 d^5 , substantially as described.

MICHAEL GRIFFIN.

Witnesses:

J. E. MAYNADIER,
JOHN R. SNOW.