

(No Model.)

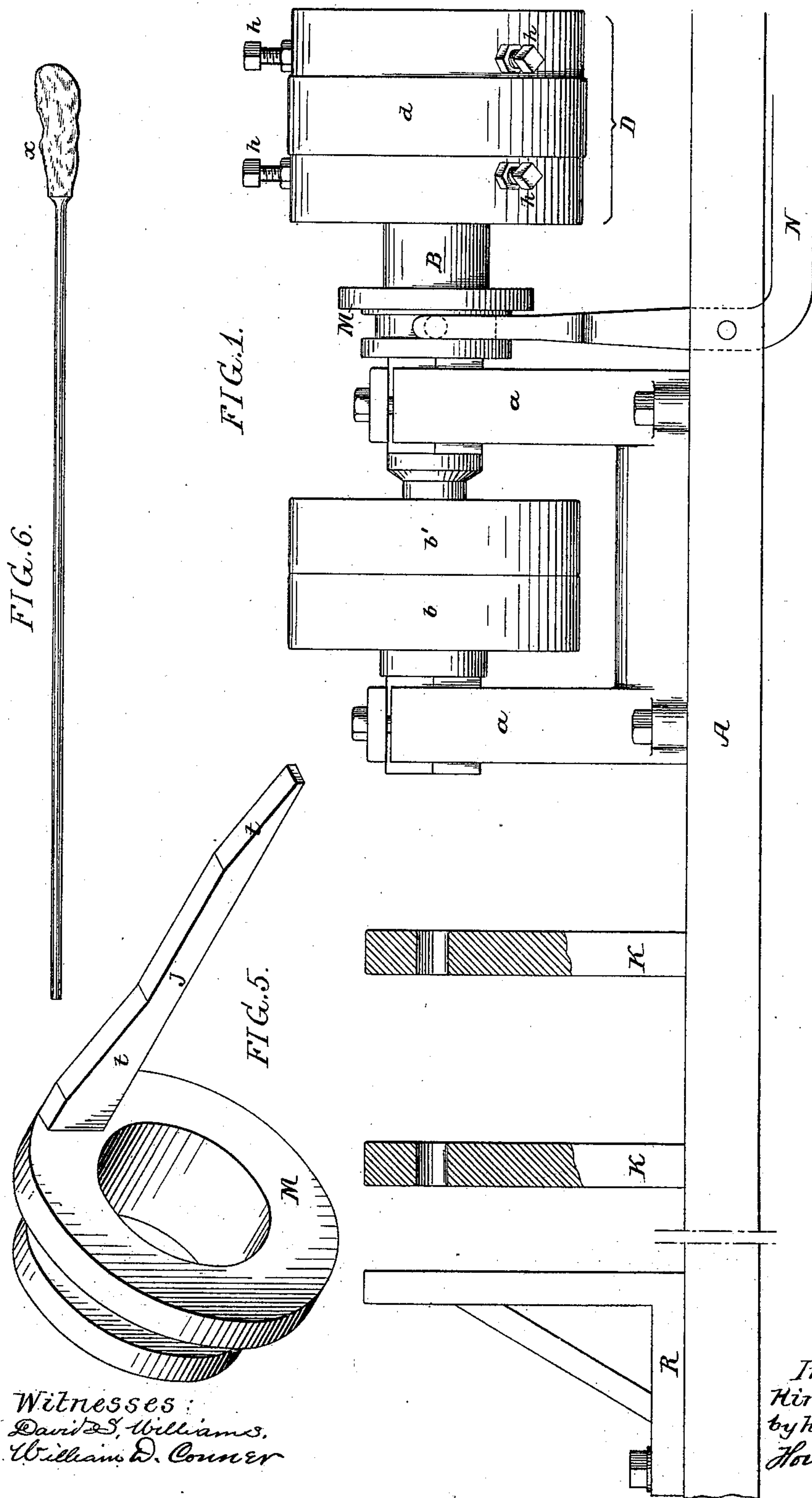
2 Sheets—Sheet 1.

H. PLUMB.

MACHINE FOR POLISHING WOODEN RODS.

No. 357,029.

Patented Feb. 1, 1887.



(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

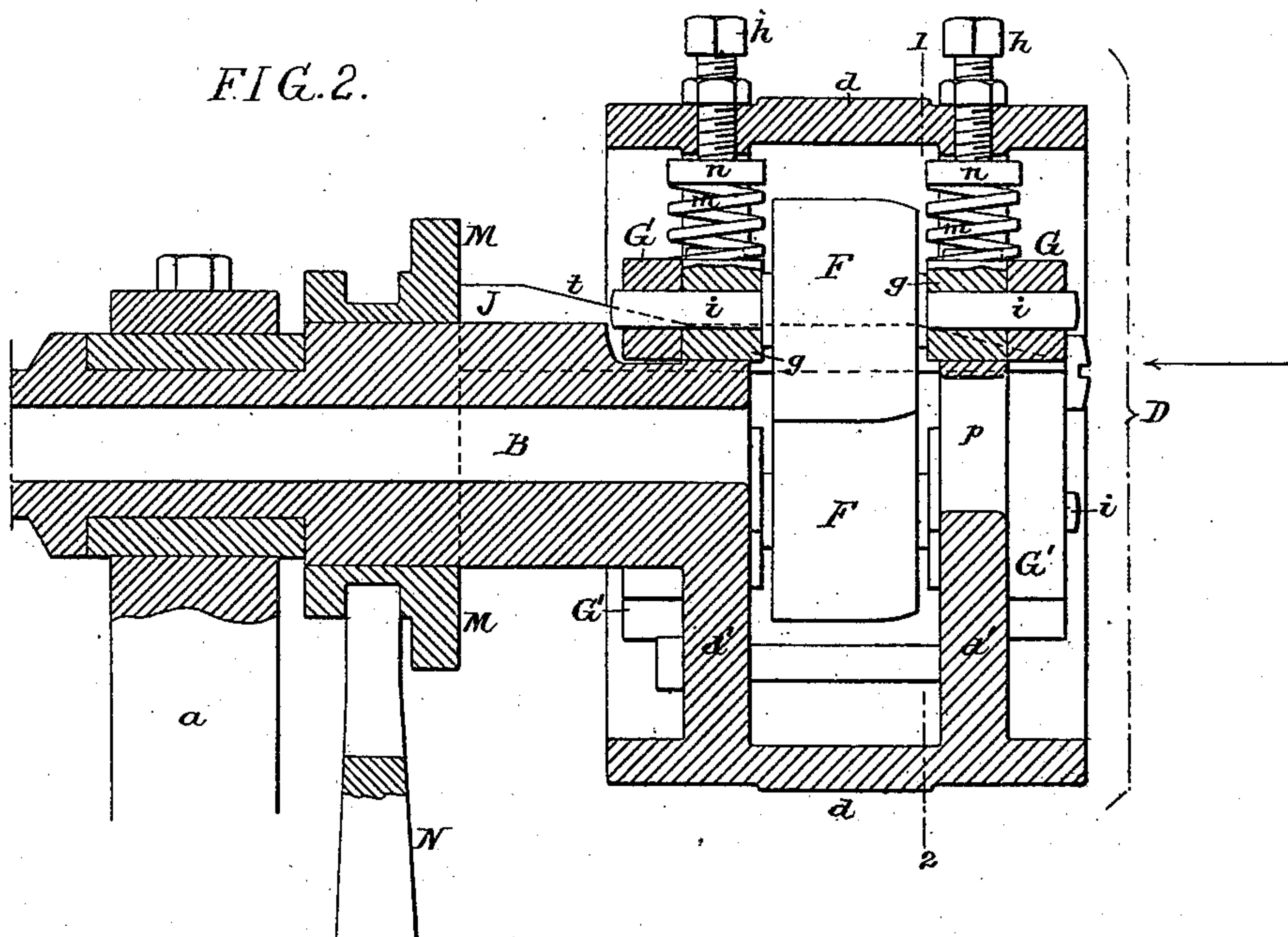


FIG. 3.

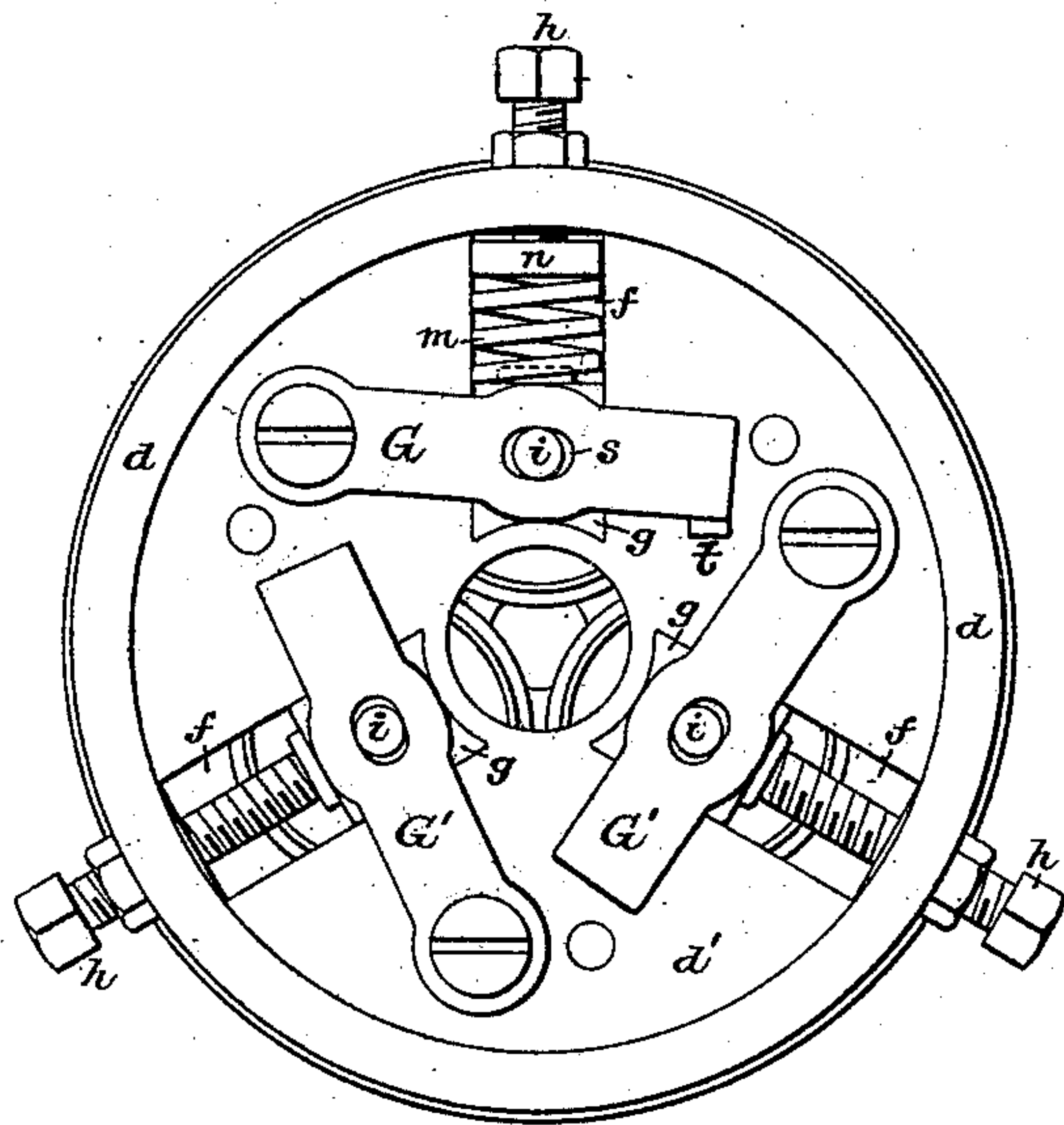
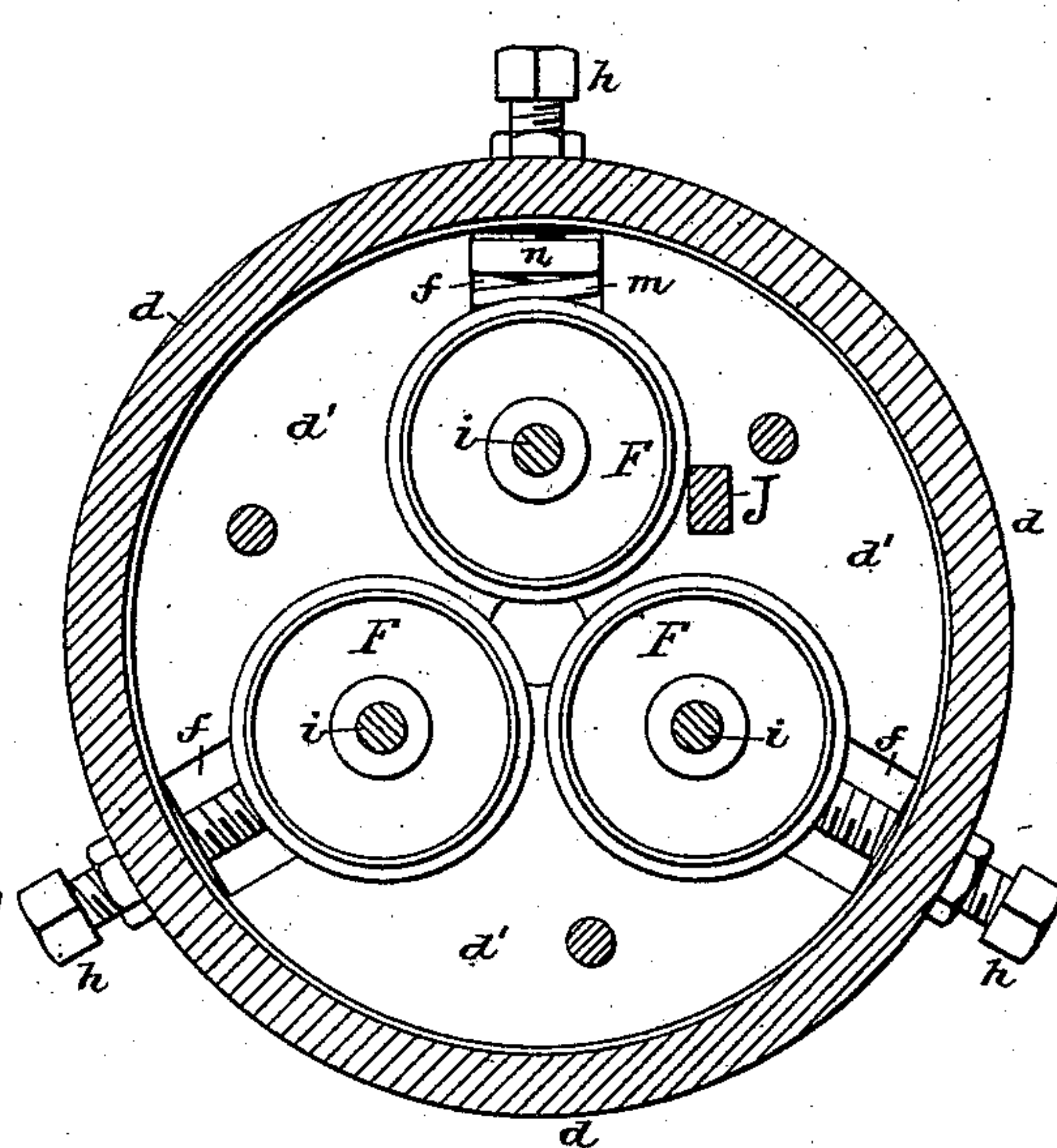


FIG. 4.



Witnesses
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HIRAM PLUMB, OF PHILADELPHIA, ASSIGNOR TO WILLIAM A. DROWN, OF
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MACHINE FOR POLISHING WOODEN RODS.

SPECIFICATION forming part of Letters Patent No. 357,029, dated February 1, 1887.

Application filed May 12, 1886. Serial No. 201,922. (No model.)

To all whom it may concern:

Be it known that I, HIRAM PLUMB, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Machines for Polishing Wooden Rods or Sticks, of which the following is a specification.

My invention relates to that class of machines in which a round wooden rod or stick
10 is polished or smoothed by the action of presser-rollers, which compress and condense the surface fibers of said rod or stick, the object of my invention being to so construct a machine of this class that it is adapted for acting
15 upon a rod or stick having a handle or other enlargement at one end.

In the accompanying drawings, Figure 1 is a side view, partly in section, of a stick or rod polishing machine constructed in accordance
20 with my invention. Fig. 2 is a longitudinal section of the polishing-head and part of the mandrel, this view being on a larger scale than Fig. 1. Fig. 3 is an end view looking in the direction of the arrow, Fig. 2. Fig. 4 is a
25 transverse section on the line 1 2, Fig. 2. Fig. 5 is a perspective view of part of the machine, and Fig. 6 is a side view, on a reduced scale, of one form of stick or rod which my improved machine is intended to polish.

30 A represents part of a work table or bench having standards *a a*, in which are formed bearings for a tubular mandrel, B, the latter being provided with a fast pulley, *b*, and a loose pulley, *b'*, for the reception of a belt from
35 any adjacent counter-shaft. Secured to or forming part of the outer end of the mandrel B is the polishing-head D, which consists in the present instance of an annular shell, *d*, having two connecting-webs, *d'*, in which are
40 formed radial slots *f* for the reception of the boxes *g* of the journals *i*, of three polishing-rollers, F. The journal-boxes of two of these rollers are acted upon by adjusting-screws *h*; but the screws *h* for the journal-boxes of the
45 other roller act through the medium of coiled springs *m*, interposed between said boxes and followers *n*, upon which the screws bear. By this means the rollers can be adjusted to any desired distance apart from each other, to ac-
50 cord with the diameter of the stick to be polished, said stick being passed in the direction

of the arrow through a central opening, *p*, in the outer web, *d'*, of the head, then between the rollers, and then through the tubular mandrel B, on issuing from which it comes under
55 the influence of guides K, the forward movement of the stick being arrested by contact of the end of said stick with an adjustable gage, R.

In an another application filed by me, and bearing even date herewith, I have described
60 a stick-polishing machine in which are a series of inclined rollers, each having a driving-shaft, and each being positively rotated upon its own axis. In such a machine the stick is rotated and fed forward by the action of the
65 rollers; hence such a machine is not adapted for acting upon a stick having a handle or other enlargement, *x*, at one end—such, for instance, as that shown in Fig. 6.

In the present machine the stick has no
70 rotating movement, and is not drawn into the polishing-head, as in the former machine, pressure being imparted to the stick in order to force it longitudinally through the head, and the rollers F having no positive move-
75 ment on their own axes, but being carried around by the head D and rotated by contact with the surface of the stick, so that the feeding of the stick into the machine can be stopped as soon as the handle or enlargement upon the
80 same has been reached, the end of the stick being then in contact with the gage R. In order to effect the withdrawal of the stick from the machine, however, it is advisable to re-
85 lease the same from pressure; hence I provide means for lifting the movable roller F away from the stick after the polishing of the latter has been completed and when it is desired to
90 withdraw the same. To the opposite webs *d'* of the head are hung levers G, which have
95 slots *s* for the reception of the journals *i* of the movable roller F—that is to say, the roller whose journal-boxes are provided with the spring-backing. The outer portions of the levers G are acted upon by the inclines *t* of a
100 cam-bar, J, which is secured to a grooved collar, M, free to move longitudinally on the mandrel B, and acted upon by a lever, N, which should terminate within convenient reach of the attendant of the machine. When
105 the collar and cam-bar are withdrawn, the inclines exercise no control over the journal-

boxes of the movable roller; but when the collar and cam-bar are drawn forward the inclines lift the ends of the levers G, and so elevate the journal-boxes of said movable roller as to free the latter from contact with the stick, the ready withdrawal of which is thus permitted.

Levers G' are connected to the journal-boxes of the other rollers F; but these levers are simply employed as a ready means of counterbalancing the head D, which is intended to be run at a very high rate of speed, so that the absence of a counter-balance would cause irregular running and irregular wear of the parts.

The rollers F are preferably beveled at the front ends, so as to permit the ready insertion of the stick between them.

I claim as my invention--

1. The combination, in a machine for polishing round wooden rods or sticks, of a hollow mandrel, a hollow polishing-head carried thereby, and a series of polishing-rollers the journals of which have bearings in said hollow head, all substantially as specified.

2. The combination of the hollow mandrel, the hollow head carried thereby, a series of rollers, and a series of journal-boxes for said rollers carried by the head and adjustable radially from and toward the center of the same, all substantially as specified.

3. The combination of the hollow mandrel, the hollow head carried thereby, and a series of rollers having bearings in said hollow head, the journal-boxes of one roller having a spring-backing, all substantially as specified.

4. The combination of the hollow mandrel, the hollow head, a series of polishing-rollers carried thereby, levers acting upon the journals of one of said rollers, and a cam whereby said levers are operated simultaneously to lift the roller, all substantially as specified.

5. The combination of the hollow mandrel, the hollow head, a series of polishing-rollers carried thereby, levers acting upon the journals of one of said rollers, a cam-bar acting on said levers, and like levers connected to the journals of the other rollers and serving as counter balances, all substantially as specified.

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

HIRAM PLUMB.

Witnesses:

WM. F. DAVIS,

HARRY SMITH.