

(No Model.)

O. C. WHITE.
LATHE TOOL REST.

No. 315,686.

Patented Apr. 14, 1885.

Fig. 1.

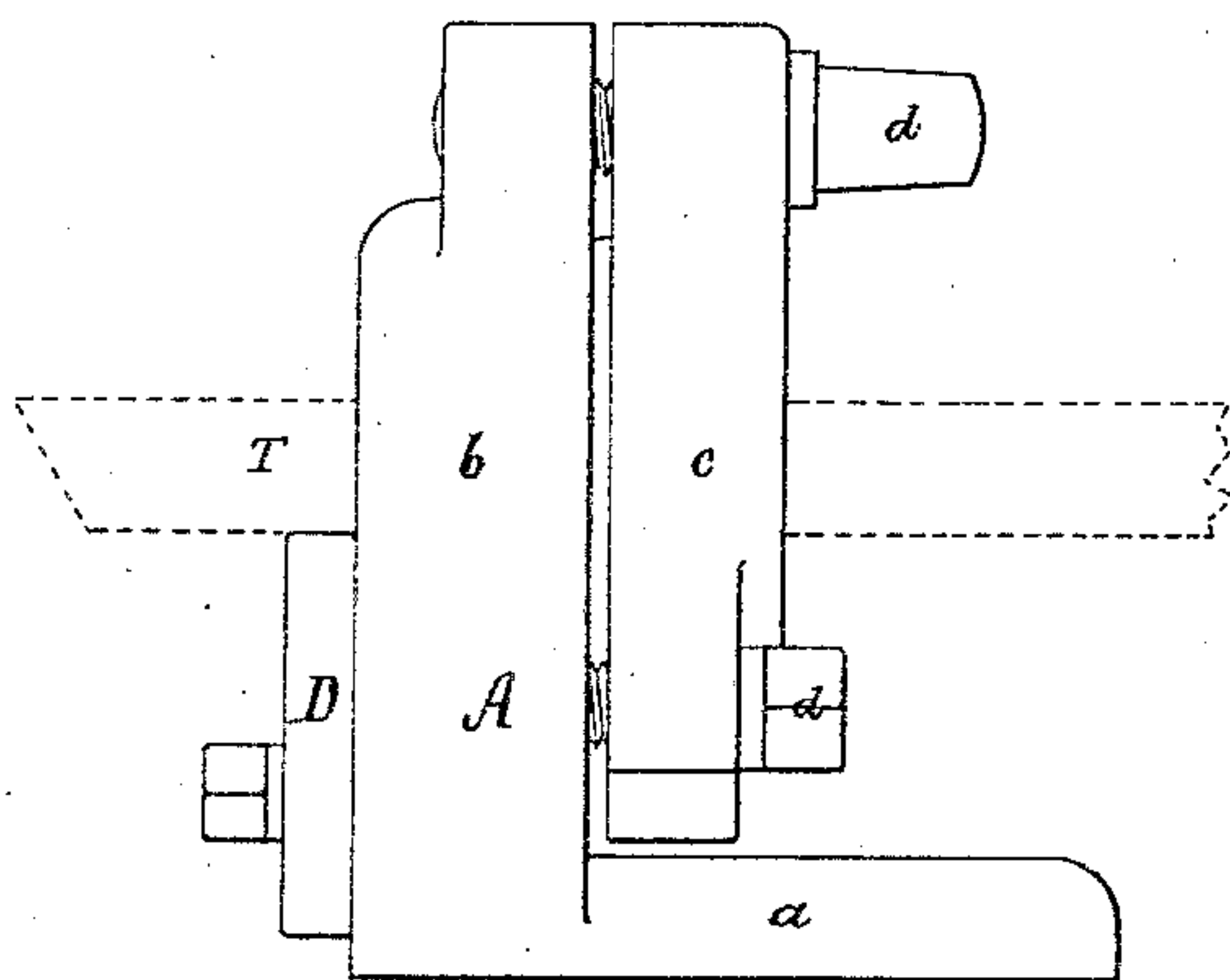


Fig. 2.

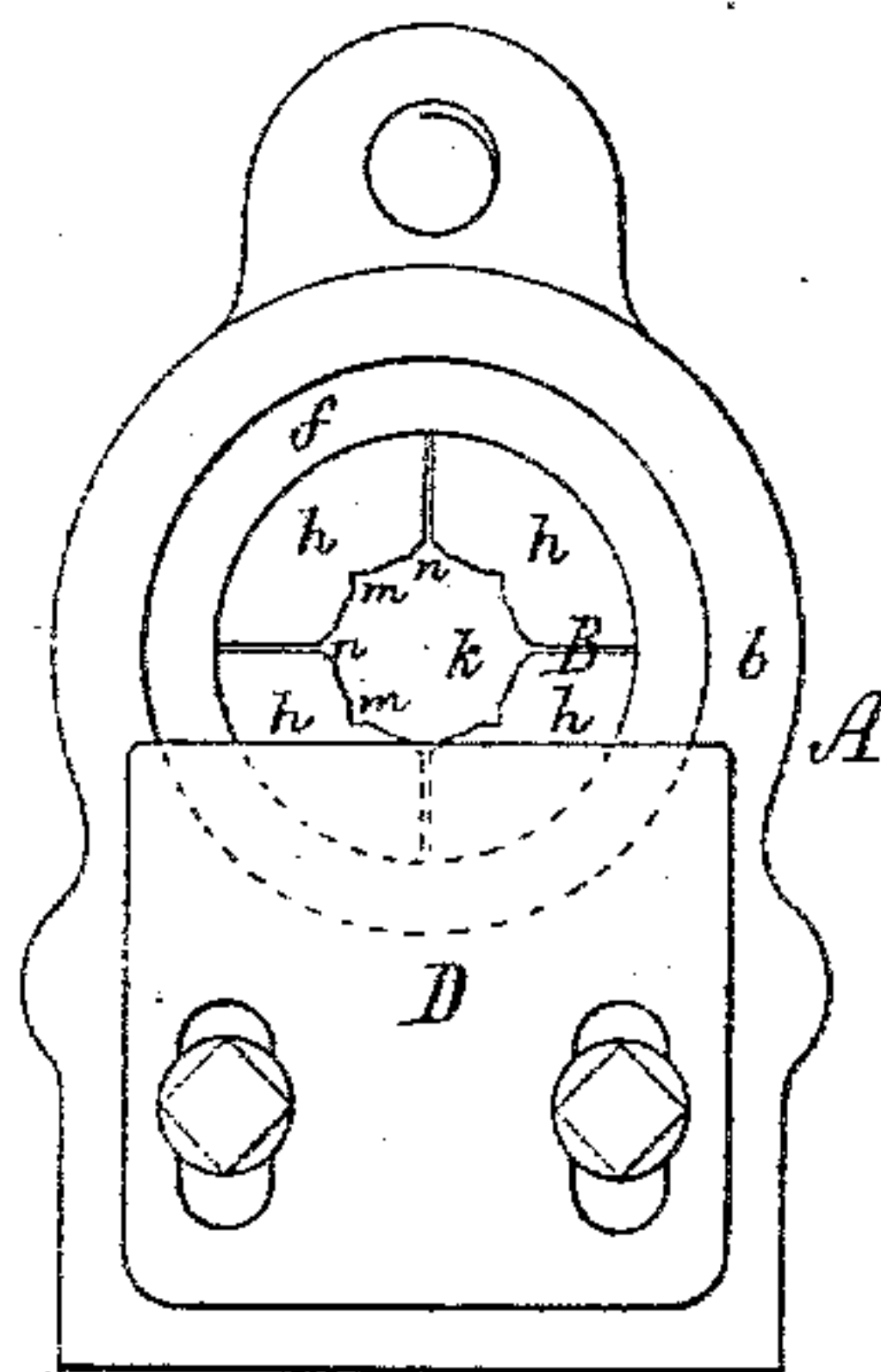


Fig. 3.

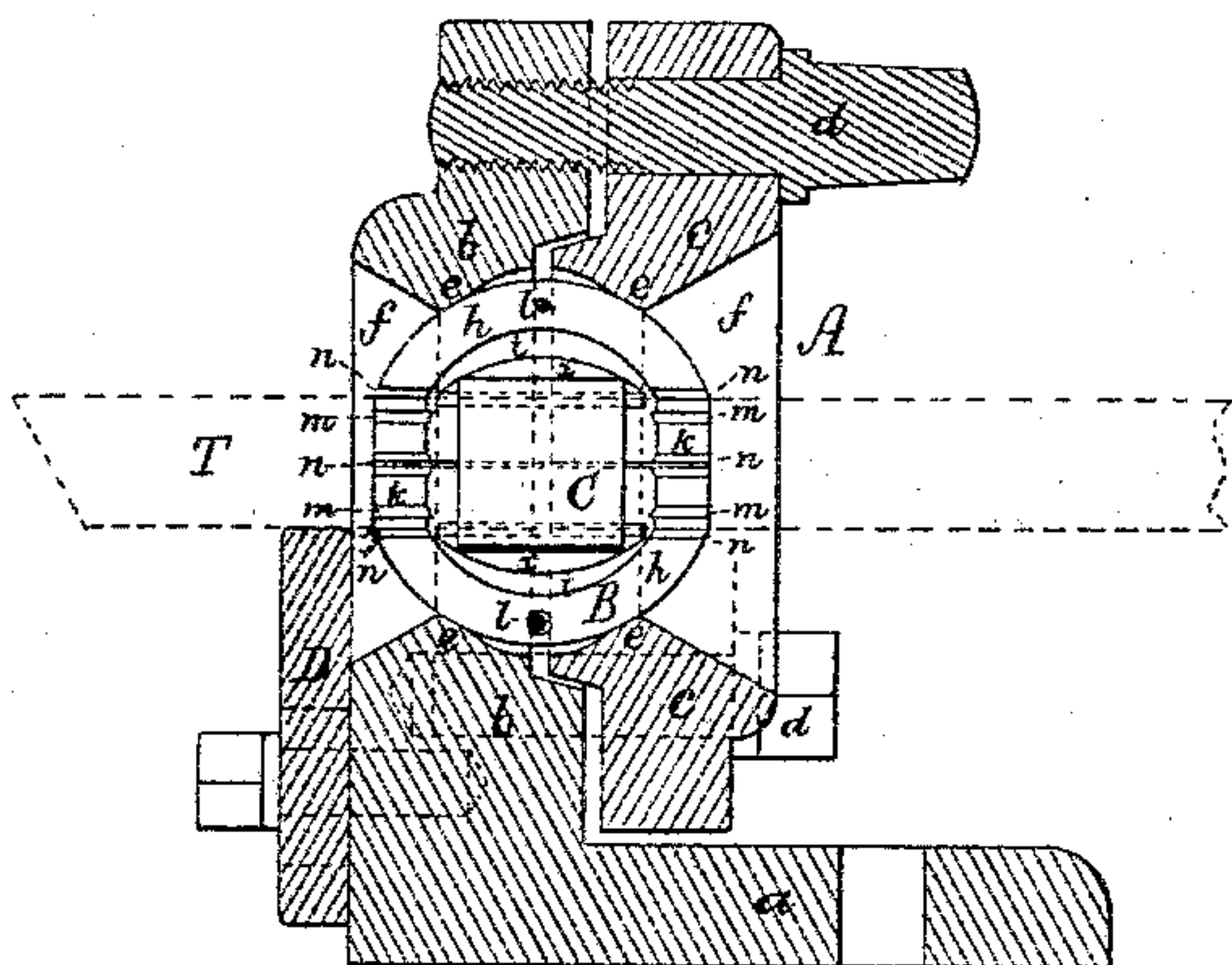


Fig. 4.

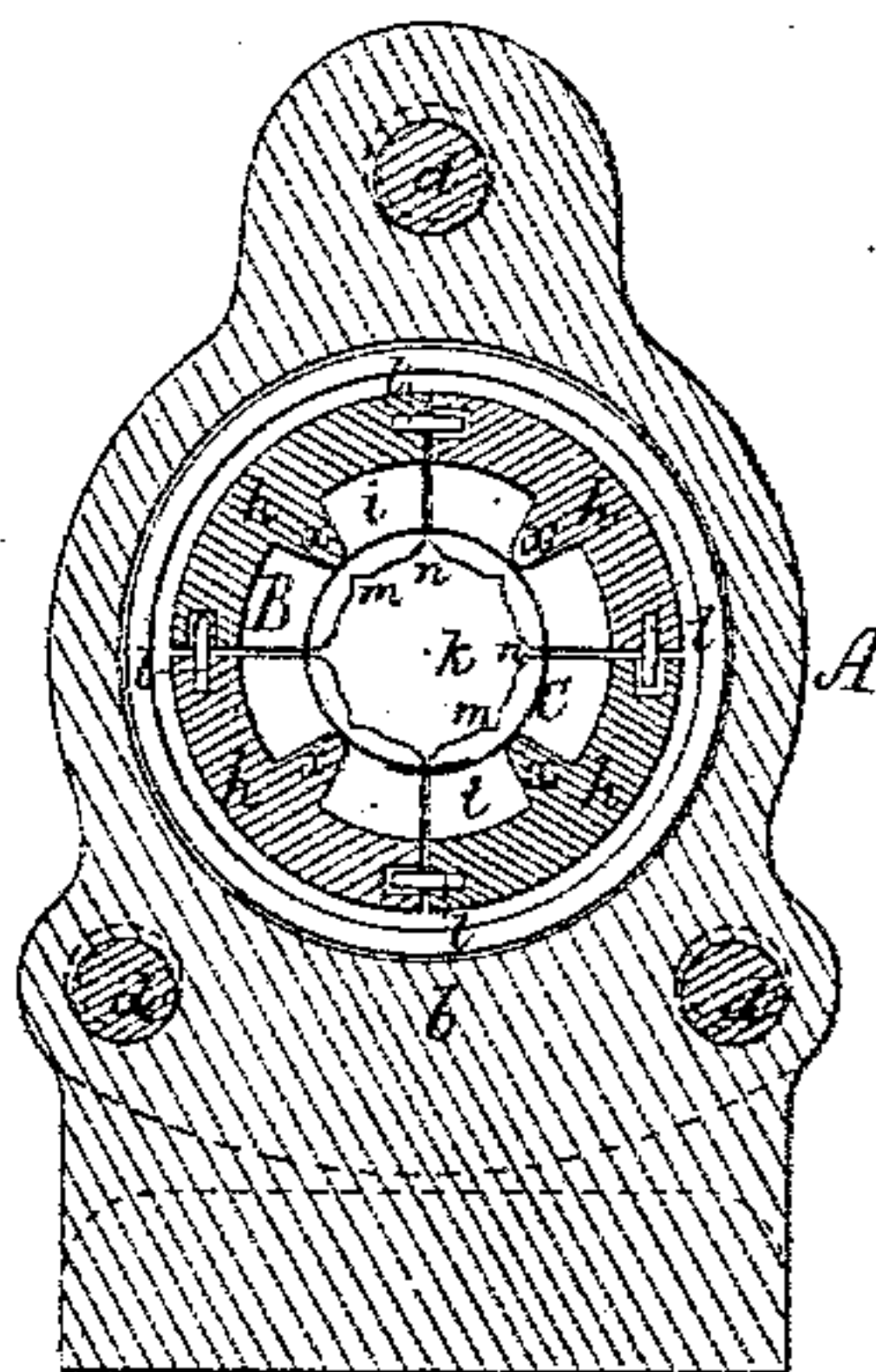


Fig. 6.

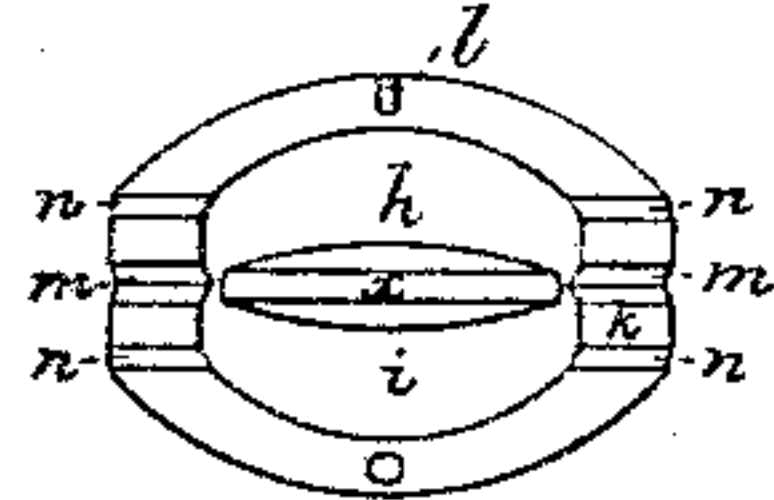
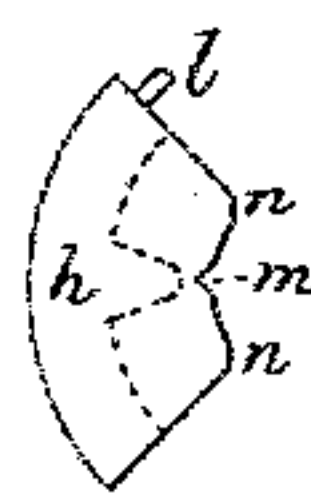


Fig. 5.



Witnesses
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LATHE TOOL-REST.

SPECIFICATION forming part of Letters Patent No. 315,686, dated April 14, 1885.

Application filed June 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, OTIS CONVERSE WHITE, of the city and county of Worcester, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Tool-Posts for Turning-Lathes; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side elevation, Fig. 2 an end view, Fig. 3 a longitudinal section, and Fig. 4 a transverse section, of a tool-rest provided with my invention, the nature of which is defined in the claims hereinafter presented. Fig. 5 is an end view, and Fig. 6 an innerside view, of one of the sections of the clamping-ball of such tool-rest.

In such drawings, the body A of the tool-post is represented as composed not only of a base, *a*, and a standard, *b*, erected thereon and in one piece therewith, but of a movable cap, *c*, applied to the standard on its rear side, and connected to it by three headed screws, *d*, which go through the cap and screw into the standard. Both cap and standard are spherically socketed, as shown at *e*, to receive a spherical ball, B, the socket having one flaring mouth or opening, *f*, leading into it in the standard *b* and another in the cap *c*. The ball is divided into separate parts or sections *h*, (four of such being represented,) their planes of division being at angles to each other and in one diameter of such ball. Furthermore, such ball is not only chambered spherically concentrically with its circumference, (the chamber being shown at *i*,) but it has in it a bore, *k*, diametrically of it.

Within and extending around the chamber *i* there is a circular band-spring, C, whose office is to bear against the quadrants or several sections of the ball to force them apart from each other. Furthermore, each quadrant or section of the ball has one or more pins or dowels, *l*, extending from it into the section next it and loosely therein, such serving to keep the sections in their due relations to each other when the tool may be out of its socket. Each section *h* of the ball has in the middle of its inner edge a groove, *m*, extending from end to end of such edge and right angular in transverse section. Furthermore, each section is

beveled at opposite parts of its inner edge, as shown at *n*, a bevel of either edge of each section being at or about a right angle to the next adjacent bevel of the next adjacent section. These bevels and the grooves in the sections are intended to enable a turning or boring tool having a prismatic shank to be grasped by the ball and held from revolving laterally therein, the angular edges of the tool-shank entering the grooves or between the bevels of the sections. A tool having a round or cylindrical shank may be extended through the bore of the ball, and held or grasped firmly by such ball when the latter is contracted by setting up the screws *d*.

In front of the mouth of the standard *b*, and extending across such, is what I term the "tool-bearing" D, upon the top of which the tool rests when it is in a proper position for use. This bearing may be in one piece with the standard, or it may be in a separate piece secured to the standard by screws going through slots in it, (the said bearing,) and screwed into the standard, the same being to enable the bearing to be adjustable in height to admit of the tool being held either horizontally or inclined, as occasion may require.

In Figs. 1 and 3 a turning-tool is shown at T in dotted lines as extending through the bore and chamber of the ball and resting on the bearing D.

The ball may be turned within its socket so as to cause the tool to stand horizontally or obliquely at either of necessary angles of inclination, as it may be desirable for it to perform its duty to the best advantage. On the screws *d* being back-turned, the ball, on being relieved of the pressure of the cap tending to contract it, will be expanded by the spring within it, such being in order to enable a tool to be removed from the bore of the ball or to be inserted therein. By setting up the screws *d*, the ball will be compressed by and between the cap and the standard, and will be caused not only to be contracted firmly upon the shank of the tool, but to be strongly grasped in the socket *e* of the tool-post.

I do not herein claim a ball or sphere in sections and having a hole through it diametrically, and arranged within a socket in sections, and provided with means of clamping them on

it, (the said ball,) to contract it upon a rod or article extending through it.

I claim—

1. The lathe tool-post, substantially as described, consisting of the base *a*, the spherically-socketed standard *b*, and cap *c*, arranged, and having mouths *f* and connected by screws *d*, as explained, and of the ball disposed within the socket of such standard and cap and divided into separate parts or sections *h*, and bored diametrically and chambered concentrically, and having within and around the chamber a spring for expanding the sections or forcing them apart relatively to each other, all being substantially as set forth.

2. The lathe tool-post composed of the recessed and socketed standard *b* and cap *c*, their connection-screws *d*, the series of bored and chambered ball-sections *h*, their expansion-spring *C*, and the tool-bearing *D*, arranged substantially and to operate as described.

3. The chambered and bored ball *B*, having each of its sections *h* provided at its inner edge with an angular groove, *m*, and bevels *n*, as set forth, in combination with the recessed and

socketed standard *b* and cap *c*, having the ball between them and connected by screws, all being essentially as represented.

4. The tool-post composed of the base and recessed and spherically-socketed standard and cap, their connection-screws, and the ball disposed within the socket of such standard and cap, and divided into separate parts or sections and bored diametrically and chambered concentrically, all being substantially as described.

5. The tool-post composed of the base and the recessed and spherically-socketed standard and cap, their connection-screws, and the ball disposed within the socket of the said standard and cap, and bored diametrically and divided into separate sections or quadrants connected by dowels, as set forth.

6. The tool-post provided with the tool-bearing *D* extending across it, (the said post,) substantially as set forth.

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Witnesses:

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