

(No Model.)

A. NEWELL.
TOOL POST.

No. 446,462.

Patented Feb. 17, 1891.

Fig. 1.

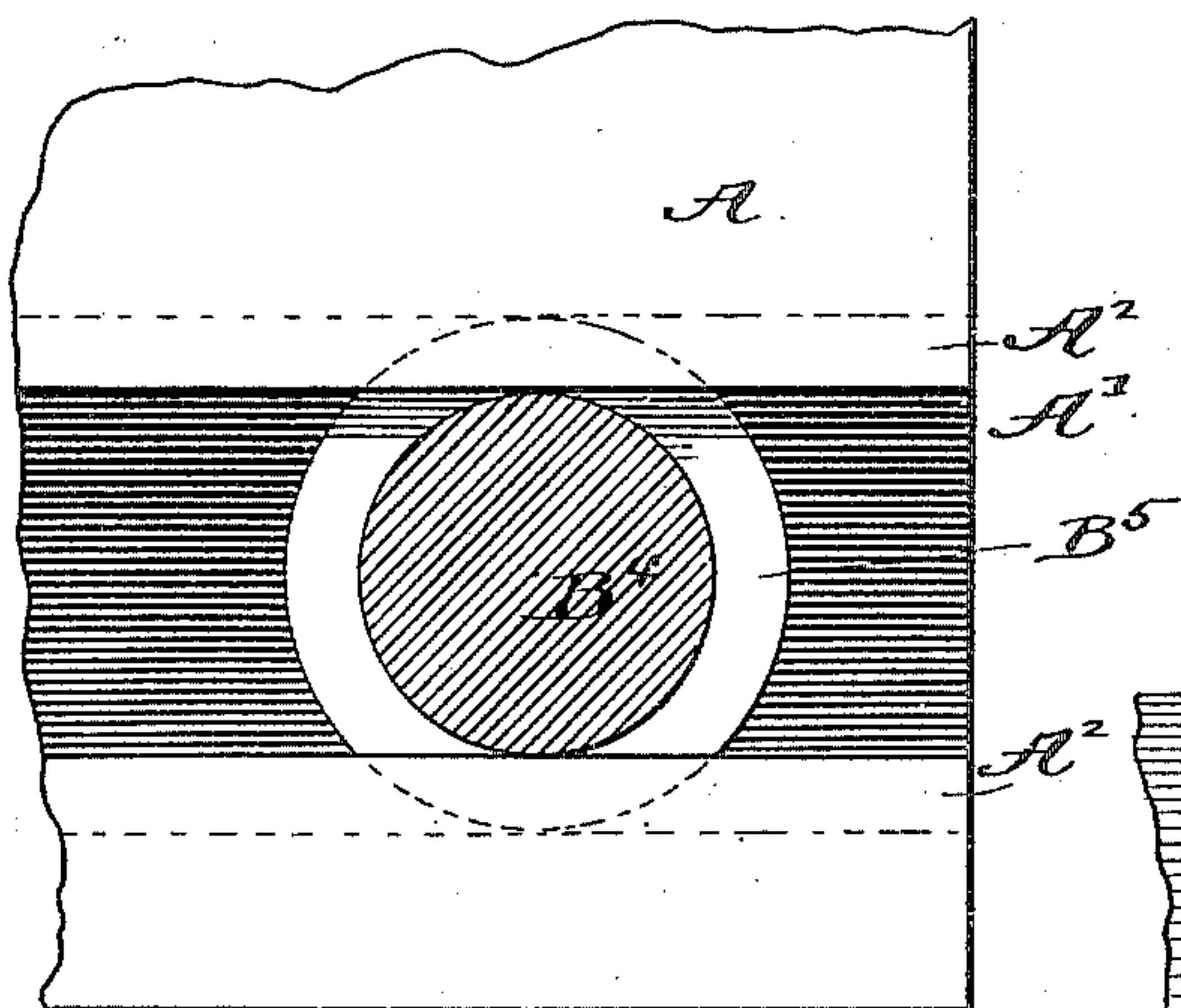


Fig. 2.

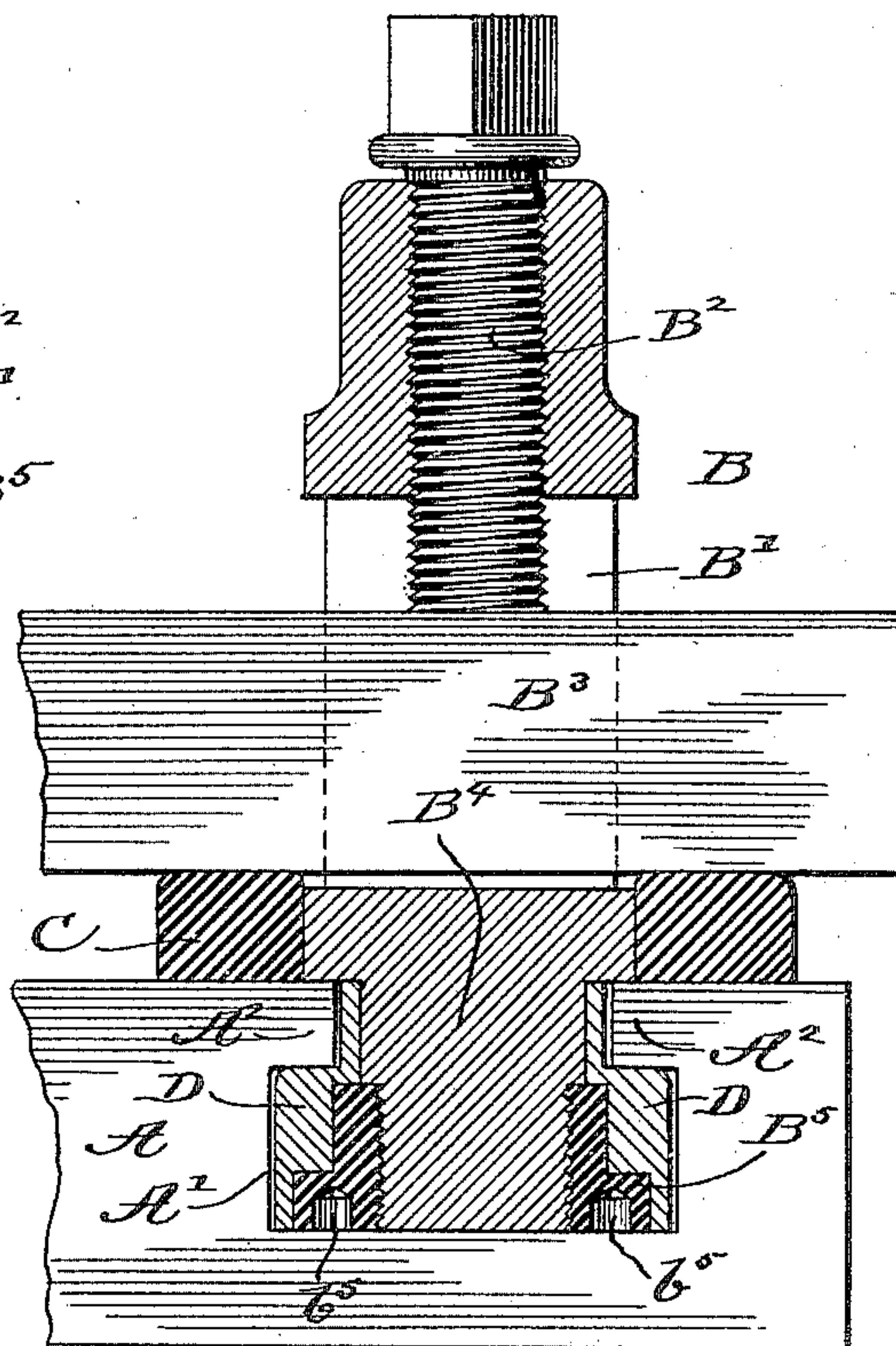


Fig. 3.

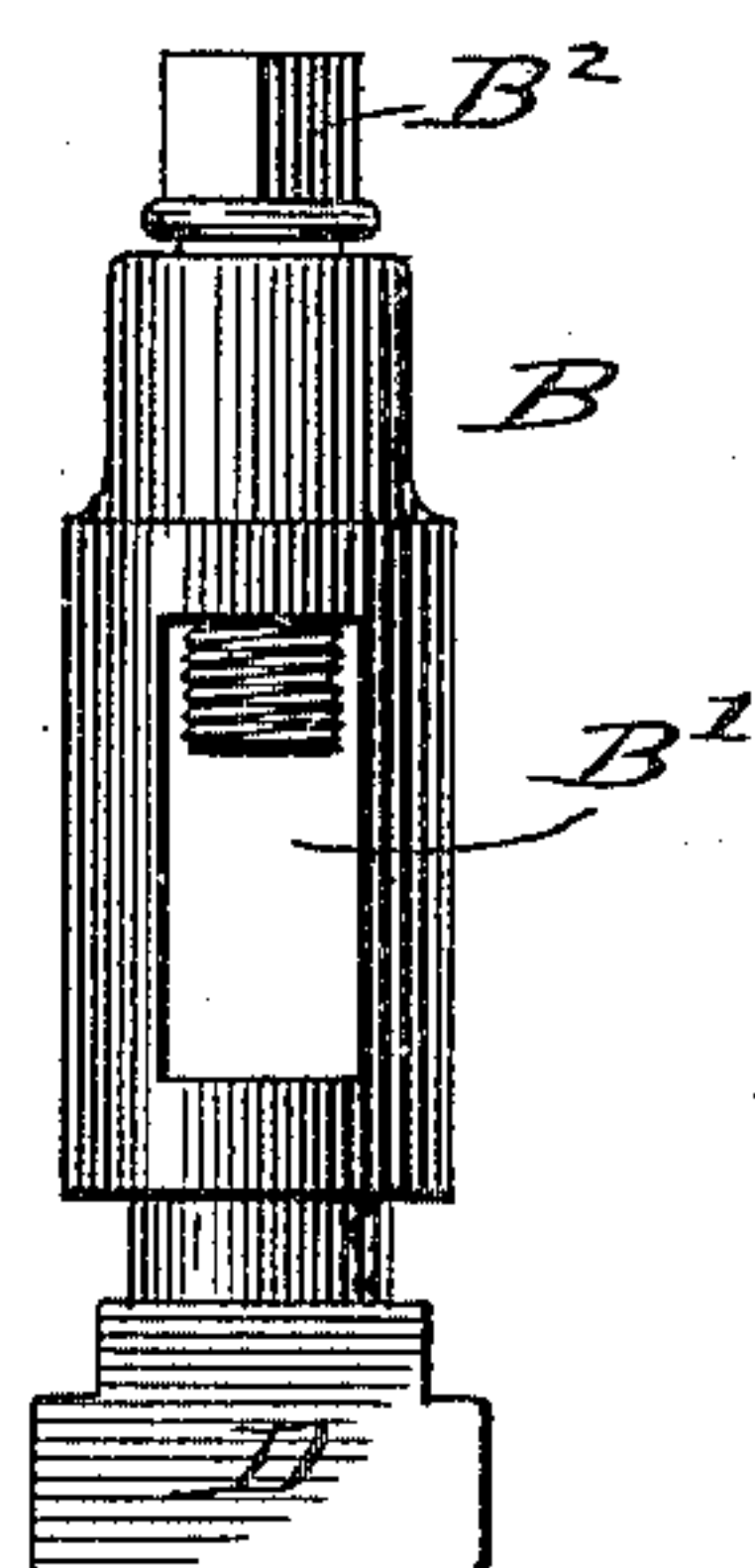


Fig. 4.

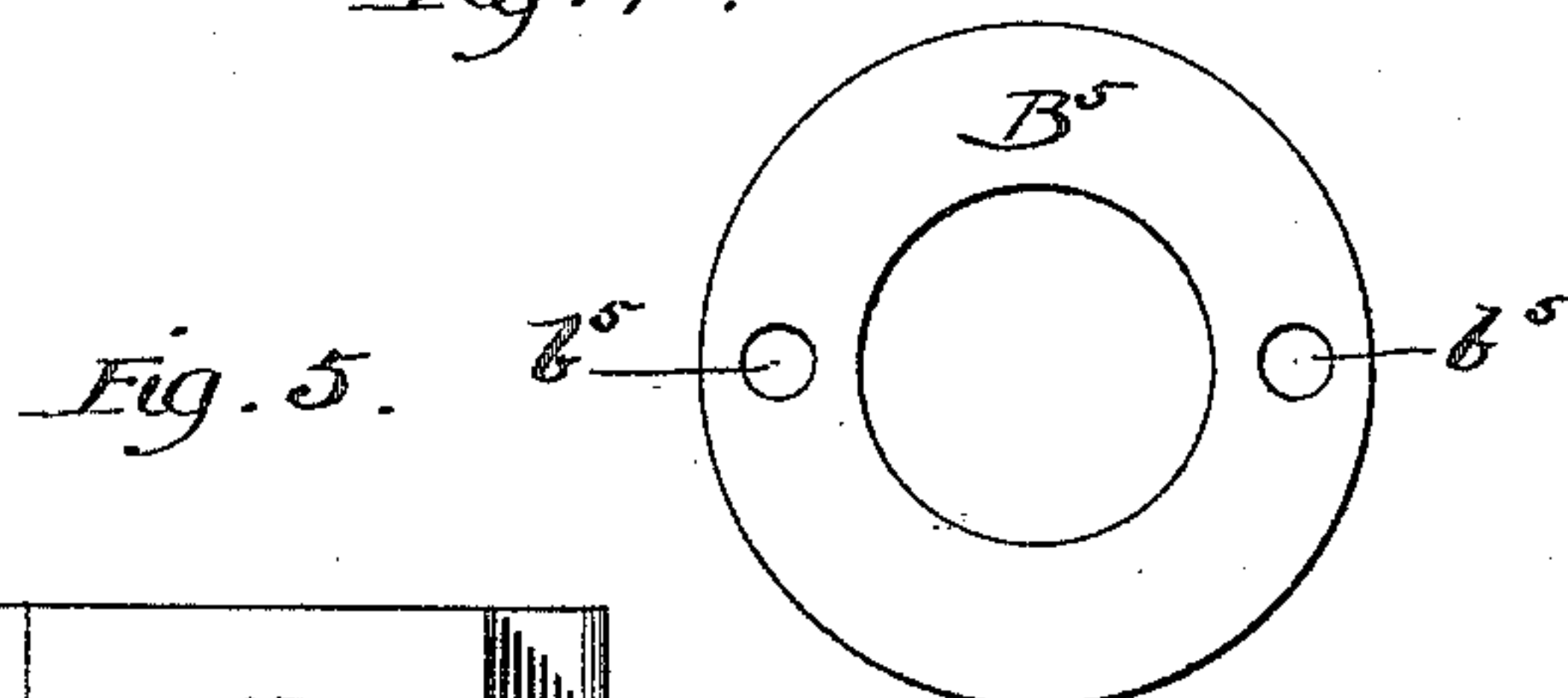
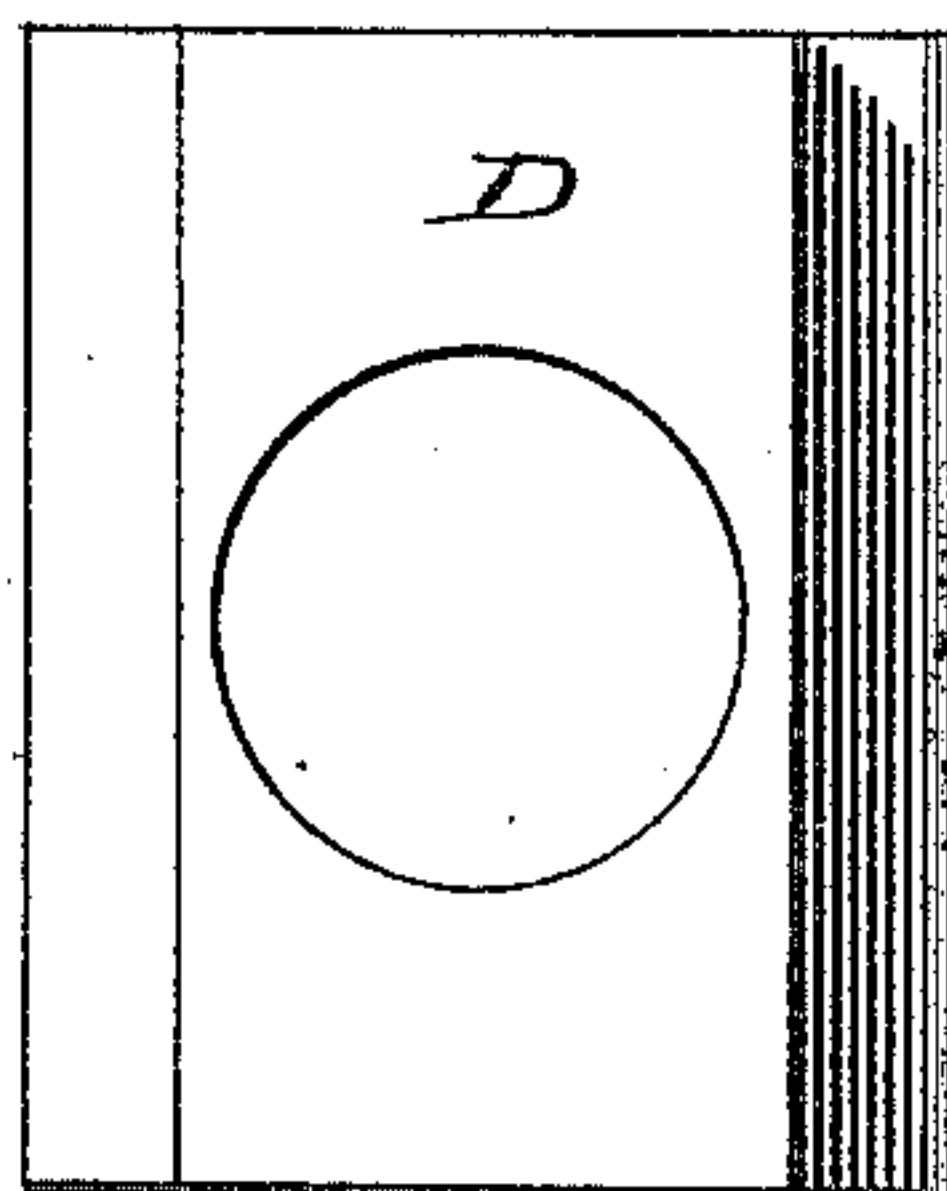


Fig. 5.



Witnesses:
Robert Ryan
Frank L. Stevens.

Inventor:
Augustus Newell
By Cyrus E. Lee
Attorney

UNITED STATES PATENT OFFICE.

AUGUSTUS NEWELL, OF CHICAGO, ILLINOIS.

TOOL-POST.

SPECIFICATION forming part of Letters Patent No. 446,462, dated February 17, 1891.

Application filed May 17, 1890. Serial No. 352,226. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS NEWELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tool-Posts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates particularly to tool-posts for lathes and similar machines, and has for its object to provide a tool-post having combined with it means for more thoroughly securing it in the post-block and for preventing injury to the engaging portions of said post and block.

In the accompanying drawings, Figure 1 is a detail view showing the foot by which the ordinary tool-post is secured within the post-block. Fig. 2 is a vertical section of a tool-post embodying my improvement and secured in a post-block shown endwise. Fig. 3 is an elevation of my improved tool-post and the foot-block applied thereto. Fig. 4 is a bottom view of the removable foot of my improved post. Fig. 5 is a plan of the foot-block detached from the post.

A is the post-block, having the channel A', provided at its upper portion with the flanges A², extending toward each other from the sides of said channel. Said block is well known in the art, and it is therefore deemed unnecessary to describe the same.

B is the tool-post. At the middle of said post is a vertical slot B', through which extends the tool B³, and B² is a set-bolt extending downward through the upper portion of the post into said slot and upon the upper side of the tool B³. These portions are not changed in my improvement. In the ordinary post the portion below the slot B' terminates in a cylindric neck B⁴, at the lower end of which is a circular foot consisting of a flange B⁵, extending outward uniformly from said neck beneath the flanges A² A².

C is the ordinary ring lying upon the block A around the post B beneath the tool B³ and supporting the latter. In driving the set-bolt

B² downward the post B is forced upward, so that the upper edge of the foot is drawn against the flanges A² A². Thus the post and the ring C are bound to said block. Only a small portion of each side of the foot B⁵ is engaged with the flanges A² A². The entire strain is therefore upon a limited portion of said foot and upon a limited portion of said flanges. The strain, being thus concentrated, is intensified to such an extent as to dent and chip the material and destroy the straight faces of said flanges and said foot. Then the post is with difficulty held rigidly, and when it is shifted longitudinally in said channel the upright position cannot be maintained. In many cases so much of the foot is broken and worn off that the post cannot be further used.

By an inspection of Fig. 1 it will be seen that there are four recesses or tapering spaces within the channel A' between the sides of the foot B⁵ and the vertical walls of said channel, into which dirt and chips from the machine may lodge and wedge to interfere with the horizontal shifting of the post. To obviate these difficulties I have combined with the neck and foot of the post a foot-block, which surrounds said foot and neck and fills such a considerable portion of the channel A' as to furnish ample bearing-surface to give the required strength to the apparatus and to prevent the injury done to the parts by concentration of this strain. Furthermore, the shape of said foot-block is such as to avoid converging recesses in which dirt and chips may lodge and wedge. In the drawings the foot and neck are both smaller than the channel A', and the foot is lower down in the channel than is the case in the ordinary construction.

D is the foot-block. This is of such dimensions as to fill the channel A' transversely, and is of sufficient length to provide the desired bearing-surface to make contact with the faces of the channel A'. To make room for the foot B⁵, a recess D² is formed in the lower face of the block D. In surrounding said foot said block bears against the side and upper faces of the entire circumference of said foot, as well as against the entire circumference of the face of said neck. Thus the strain between the foot and the foot-block and be-

tween the foot-block and the post-block is distributed over a large extent of surface, and if the said parts are made true the post will stand very firmly at any point within the channel A', and will always stand accurately perpendicularly with reference to the face of the post-block. In drawing the set-bolt B² the foot B⁵ is drawn against the foot-block D, and said block is drawn upward against the flanges A² A². The foot B⁵ is separable from the neck B⁴ and threaded to the lower portion of said neck after said foot-block has been placed upon said neck. As said foot is to set wholly within said foot-block, so that the faces of the two will be flush with each other, provision for engagement with a wrench may be made by forming in the lower face of said foot-wrench sockets b⁵.

I claim as my invention—

1. The combination, with a tool-post having a neck B⁴, of a foot-block surrounding said neck and of proper dimensions to fit into the channel of the post-block of a lathe or similar machine and having in its lower portion a recess, and a separable foot applied to the lower portion of said neck within said foot-block, substantially as shown and described.

2. The combination, with a tool-post having a neck B⁴, of a foot-block surrounding said neck and of proper dimensions to fit into the channel of the post-block of a lathe or similar machine and having in its lower por-

tion a recess, and a foot threaded to the lower portion of said neck within said foot-block, said foot having in its lower face wrench-sockets b⁵, substantially as shown and described.

3. The combination, with a tool-post having a neck B⁴, of a foot-block surrounding said neck and having an upward extension and being of proper dimensions to fit into and fill transversely the channel of the post-block of a lathe or similar machine and having in its lower portion a recess, and a separable foot applied to the lower portion of said neck within said foot-block, substantially as shown and described.

4. The combination, with a tool-post having a neck B⁴, and a foot-block surrounding said neck and having an upward extension and being of proper dimensions to fit into and transversely fill the channel of a post-block of a lathe or similar machine, and having in its lower portion a recess, and a foot threaded to the lower portion of said neck within said foot-block, said foot having in its lower face wrench-sockets b⁵, substantially as shown and described.

In testimony whereof I affix my signature, in presence of two witnesses, this 1st day of May, in the year 1890.

AUGUSTUS NEWELL.

Witnesses:

ALBERT W. BARNUM,
CYRUS KEHR.