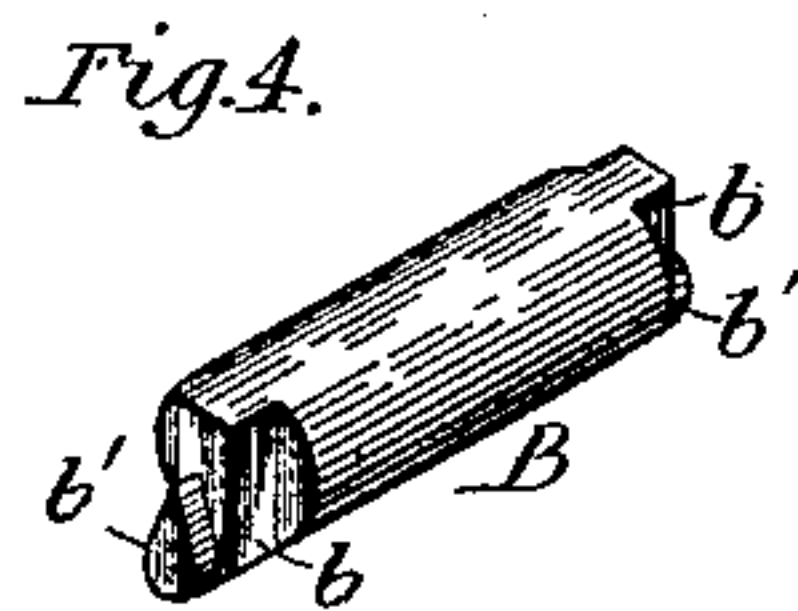
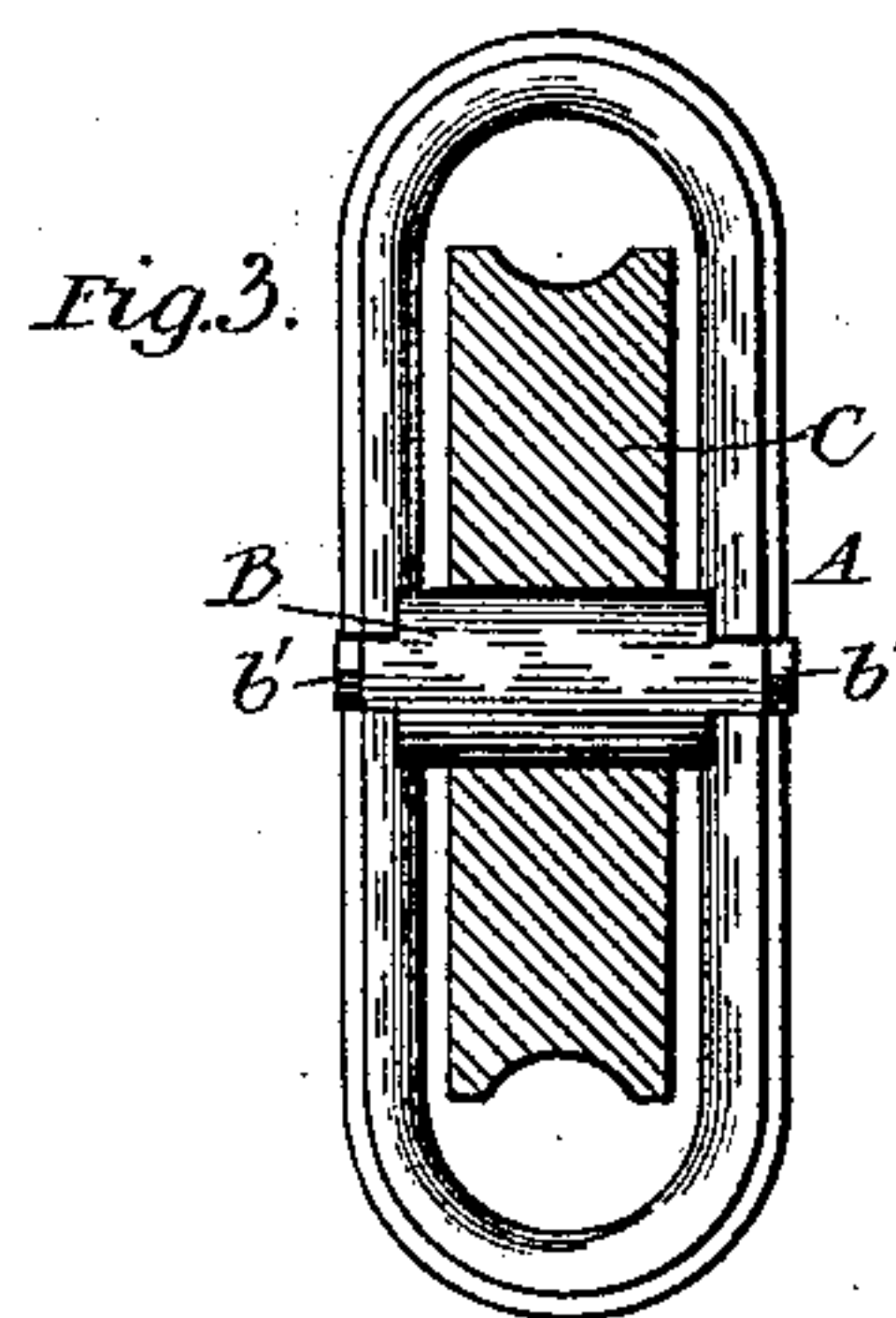
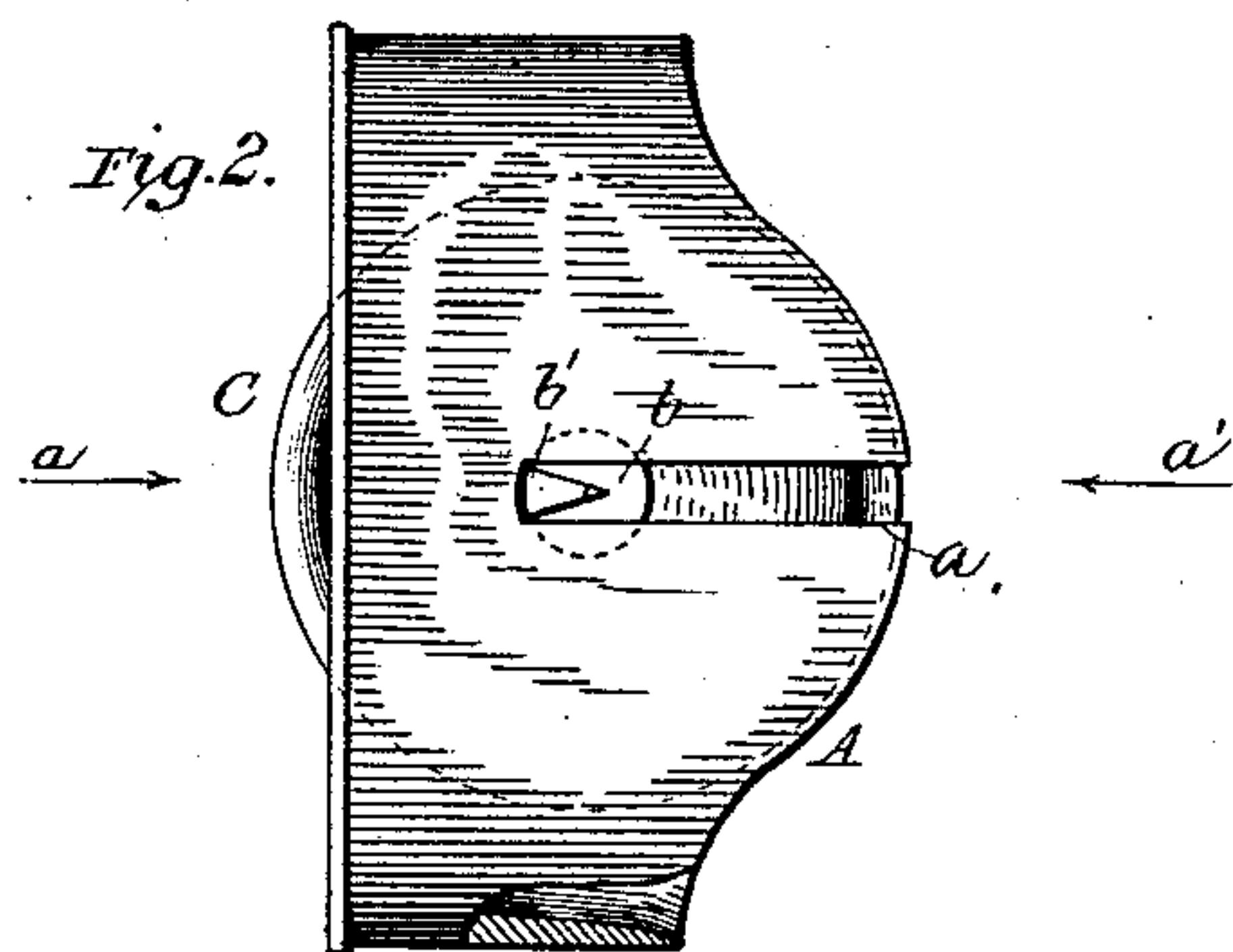
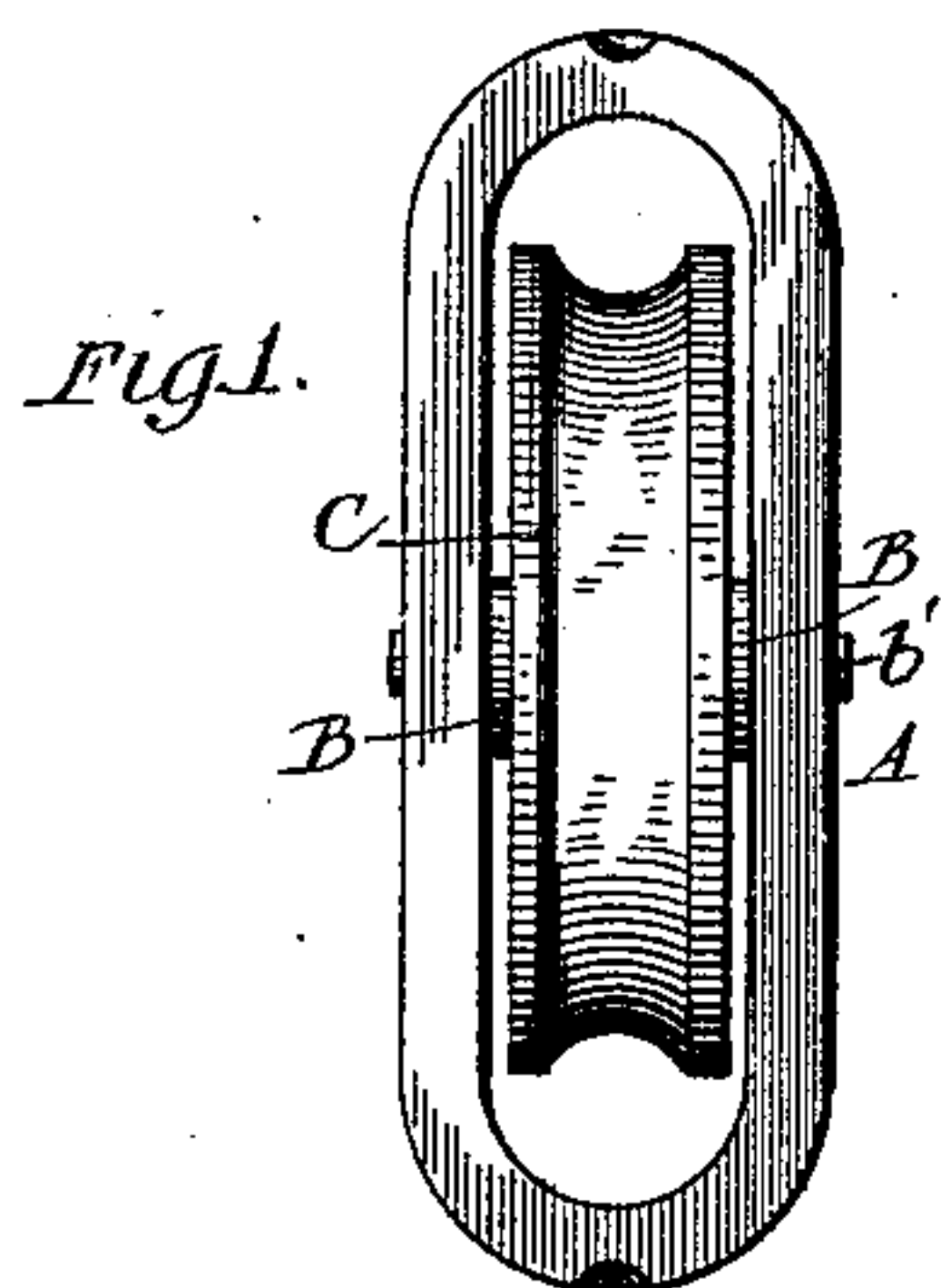


(No Model.)

J. KNECHT.
SASH CORD GUIDE.

No. 444,363.

Patented Jan. 6, 1891.



Witnesses:

Harry S. Rohrer.

Walter Norton

Inventor

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by

Walter Norton,
his Attorneys

UNITED STATES PATENT OFFICE.

JOHN KNECHT, OF FREEPORT, ILLINOIS.

SASH-CORD GUIDE.

SPECIFICATION forming part of Letters Patent No. 444,363, dated January 6, 1891.

Application filed December 21, 1889. Serial No. 334,514. (No model.)

To all whom it may concern:

Be it known that I, JOHN KNECHT, a resident of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Sash-Pulleys; 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 pertains to make and use the same.

My invention relates to improvements in sash-pulleys, and is fully described and explained in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved sash-pulley, the view being in the direction indicated by the arrow *a*, Fig. 2. Fig. 2 is a side elevation of the pulley. Fig. 3 is a view partly in rear elevation and partly in central vertical section, the view being in the direction indicated by the arrow *a'*, Fig. 2; and Fig. 4 is a perspective view of the arbor on which the pulley proper is mounted.

In the views, A is a pulley-case of ordinary size and form, having in its side walls parallel slots *a*, extending from the rear margin of the case to a point in front of the proposed axis of the pulley.

Within the case is an arbor B, preferably of greater diameter than the width of each of the slots *a*, and having flattened ends *b* fitting closely in said slots, and these flattened ends are preferably provided with wedge-shaped projecting lugs *b'*, whose function is hereinafter explained.

On the arbor B is mounted a pulley C of ordinary form and material, rotating freely upon the arbor, and the operation of this pulley when the parts are connected and in operative position is the same as that of any sash-pulley of ordinary construction.

The parts of this device are assembled by first placing the arbor within the pulley, leaving the ends *b b* projecting slightly be-

yond the pulley-faces, and then inserting the arbor by a lateral movement in the slot *a a* and forcing into the position shown in Fig. 2, when the device is ready for use. The length of the body of the arbor is preferably such that when the parts are connected the sides of the case are sprung slightly outward from their normal condition, the inward pressure of the sides being borne by the shoulders at the ends of the body of the arbor, and the friction thus created is sufficient ordinarily to prevent the accidental displacement of the arbor. When the pulley is inserted in a window-jamb, however, the lugs *b'* are seated in the material of the jamb and form positive stops to prevent the movement of the arbor in the case.

The ends *b b* of the arbor, though preferably flattened, as shown, may be of any other form, if desired; but the flattened shape shown prevents rotation of the arbor in the case, and thereby prevents any tendency of the arbor to leave its working position by reason of the rotation of the pulley. The slots *a* in the case are preferably at right angles to the front face thereof, in order to facilitate the molding thereof; but they may evidently be placed at any other angle, if desired.

Having now described and explained my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with the case A, having the slots *a*, of the arbor B, having the wedge-shaped end *b'* projecting beyond the side walls of the case, substantially as and for the purpose set forth.

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

JOHN KNECHT.

Witnesses:

J. A. CRAIN,

A. C. FERGUSON.