

(No Model.)

A. A. DAVIS.

SPEEDER.

No. 272,216.

Patented Feb. 13, 1883.

Fig. 1.

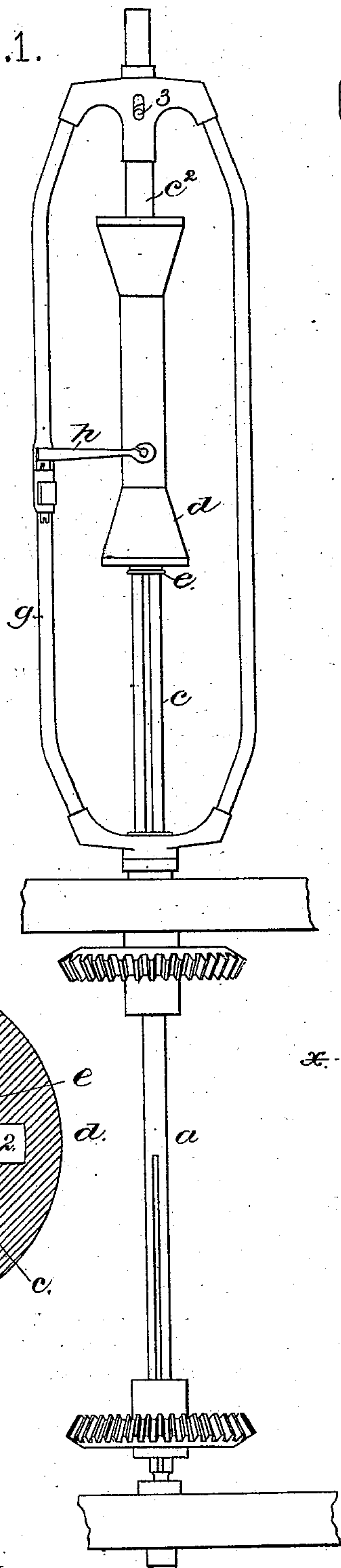


Fig. 4.

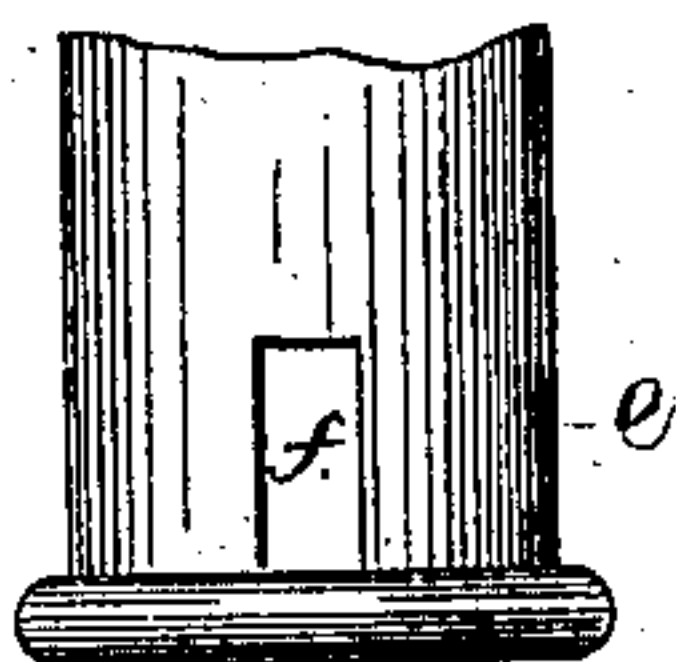


Fig. 3.

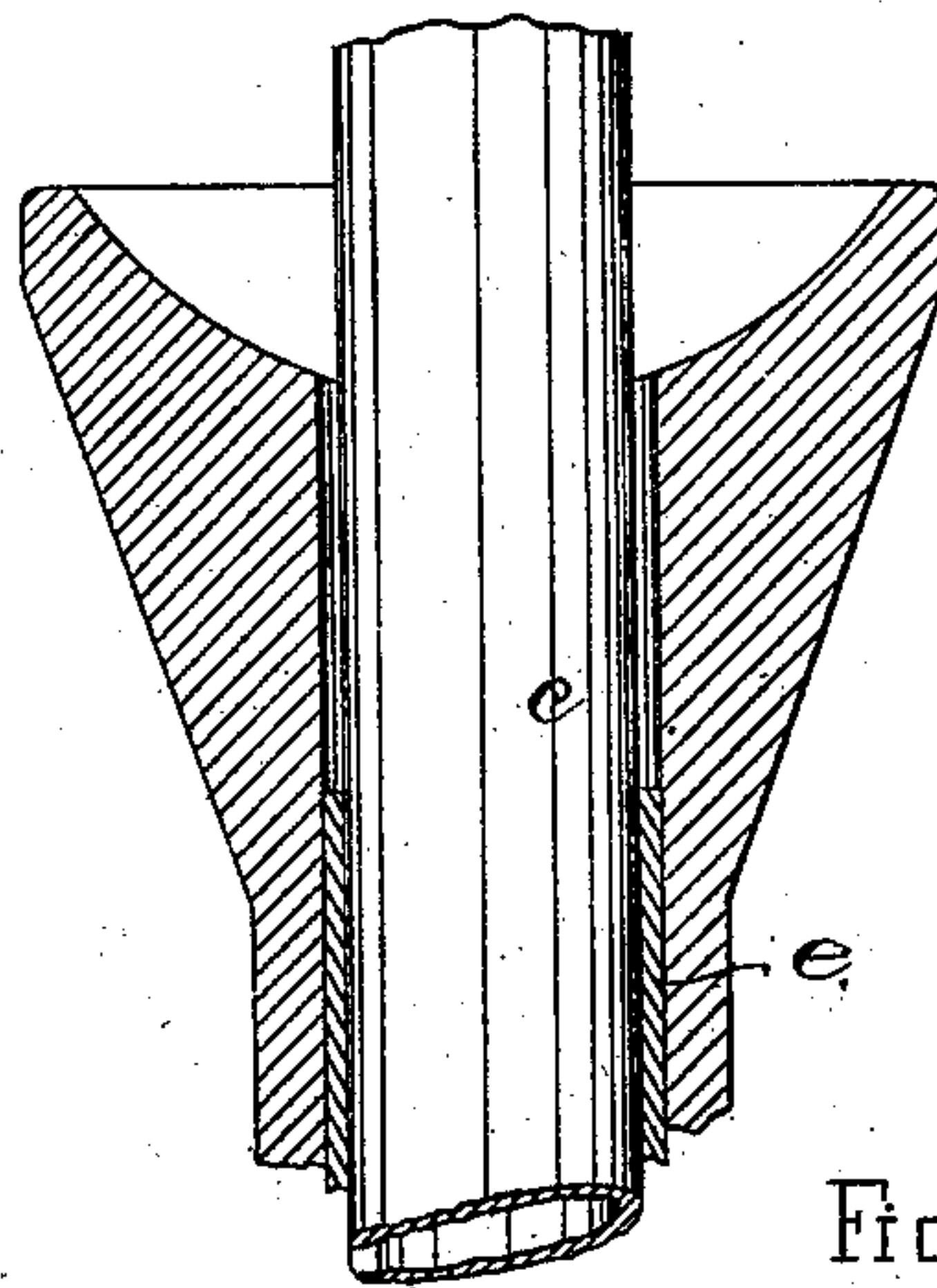
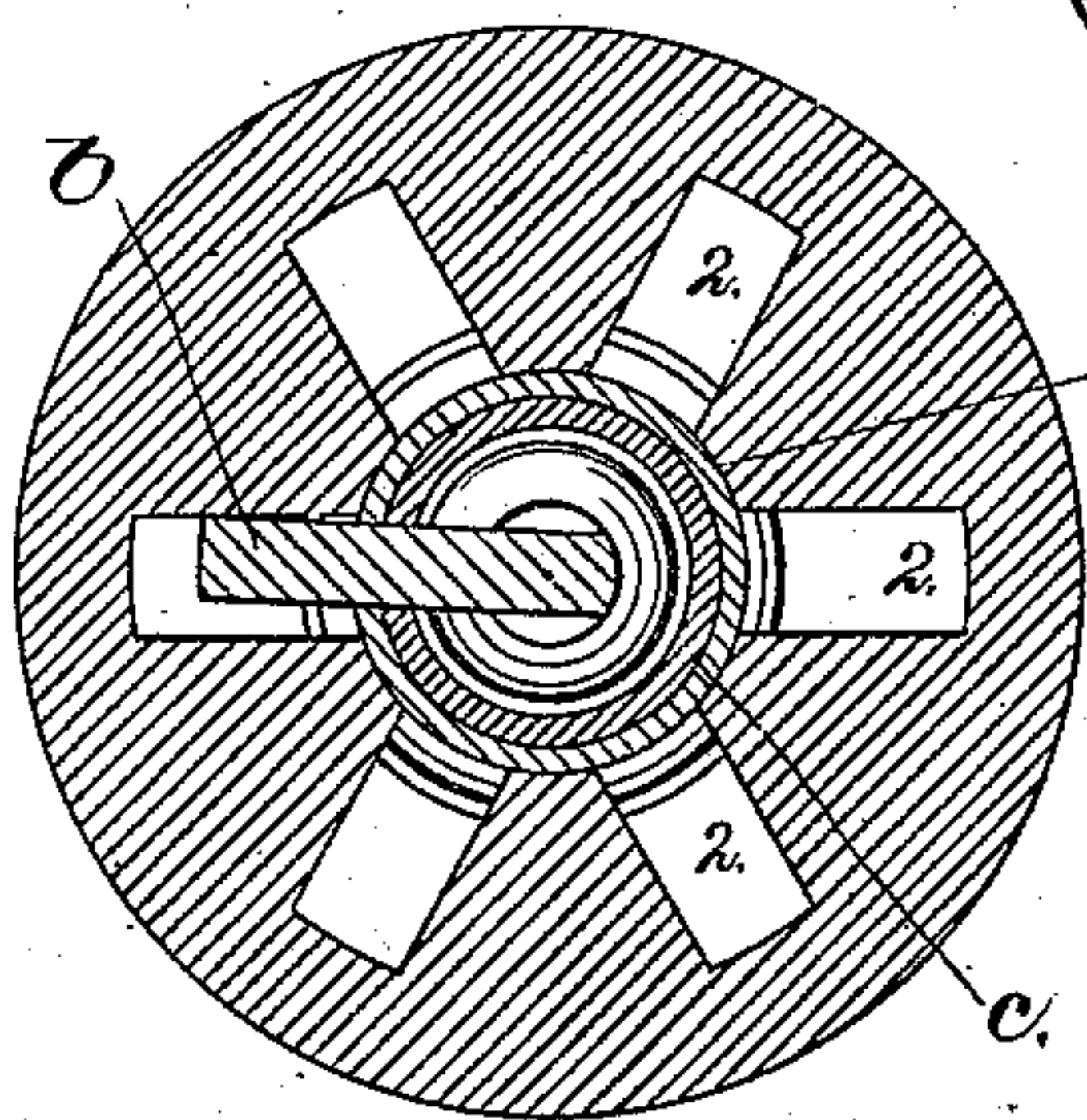
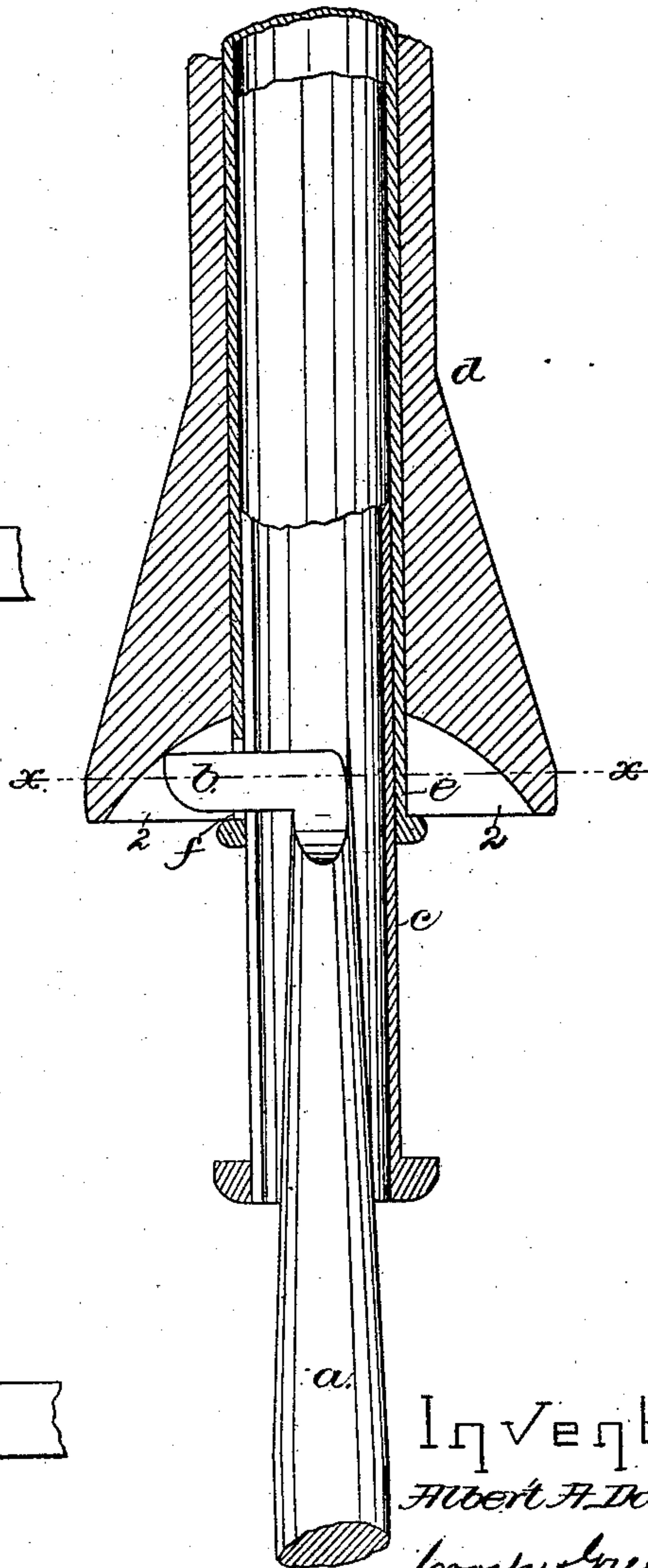


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT A. DAVIS, OF LOWELL, MASSACHUSETTS.

SPEEDER.

SPECIFICATION forming part of Letters Patent No. 272,216, dated February 13, 1883.

Application filed August 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. DAVIS, of Lowell, county of Middlesex, State of Massachusetts, have invented an Improvement in Speeders, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to that class of machines known as "speeders," and is an improvement on the United States Patent No. 228,809, June 15, 1880, to which reference may be had. In the apparatus described in that patent the bobbin slides up and down on the quill, and is rotated by means of a hook or prong carried by the spindle, which prong extends out through a longitudinal slit in the quill and engages a radial notch within the head of the bobbin, the engagement of the said hook or prong and bobbin during the descent of the latter and the spindle depending upon the weight of the bobbin and that of the yarn load thereon. In practice, when the bobbin has but little yarn upon it, it has been found that the bobbin, by reason of its friction against the quill friction, increased by rapid centrifugal action, fails to descend properly, and the hook or prong becomes disengaged from the notch in the bobbin, when the latter ceases to be rotated. To avoid this difficulty I have provided a bobbin-receiving sleeve, which I have introduced between the metallic quill on which the spindle has heretofore slid and the interior of the bobbin. The bobbin fits this sleeve, and the latter is engaged by the hook or prong of the spindle, and is moved up and down on the quill by the spindle, so that the inner surface of the bobbin is not subjected to sliding friction and does not touch the quill.

Figure 1 represents in side elevation a sufficient portion of a speeder-frame to illustrate my invention; Fig. 2, an enlarged sectional detail of parts of the bobbin, sleeve, quill, and spindle; Fig. 3, a section of the bobbin, sleeve, quill, and hooked or pronged part of the spindle, on the dotted line *x*, looking upward; and Fig. 4 is a detail showing in side elevation the lower end of the sleeve.

The spindle *a*, having the hook or prong *b*, the slotted quill *c*, bobbin *d*, and means to rotate the spindle, are substantially as in the patent referred to, so need not be herein further described. The bobbin is rotated by means of the hook or prong *b*, which enters one of the notches, 2, in its head.

In this my invention I provide the bobbin-receiving sleeve *e*—a stiff and rigid sleeve, preferably of thin metal—which I place upon the quill, and I then place the bobbin upon the sleeve, the bobbin having, if desired, a more or less adhesive fit thereon. The sleeve, at one side, near its lower end, is provided with a short slot, *f*, through which is extended the hook or prong *b*, so that the said sleeve is moved up and down in unison with the spindle, and is compelled to follow the spindle as the latter descends. The bobbin is placed upon this sleeve, and the hook or prong *b*, in engagement with the slot *f* and notch 2, rotates the sleeve and bobbin. In this way the interior of the bobbin in its reciprocation is not subjected to friction upon the quill, as heretofore, and the hook or prong *b* and bobbin-head cannot become disengaged during the winding of the yarn thereon. The flier *g* and the presser *h* are and may be as usual in speeder-frames. The upper end of the quill is held in place by the sliding rod *c*², having a pin, 3, by which to move it.

I claim—

The flier, hooked spindle, and quill, combined with the bobbin-receiving sleeve *e*, provided with a slot or opening to be engaged and moved upon the quill by the hook of the spindle; whereby the bobbin is relieved from frictional contact with the quill, substantially as described.

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

ALBERT A. DAVIS.

Witnesses:

G. W. GREGORY,
B. J. NOYES.