

(No Model.)

G. P. VAN RIPER.

BOBBIN FOR SILK SPINNING MACHINES.

No. 278,673.

Patented May 29, 1883.

Fig 1

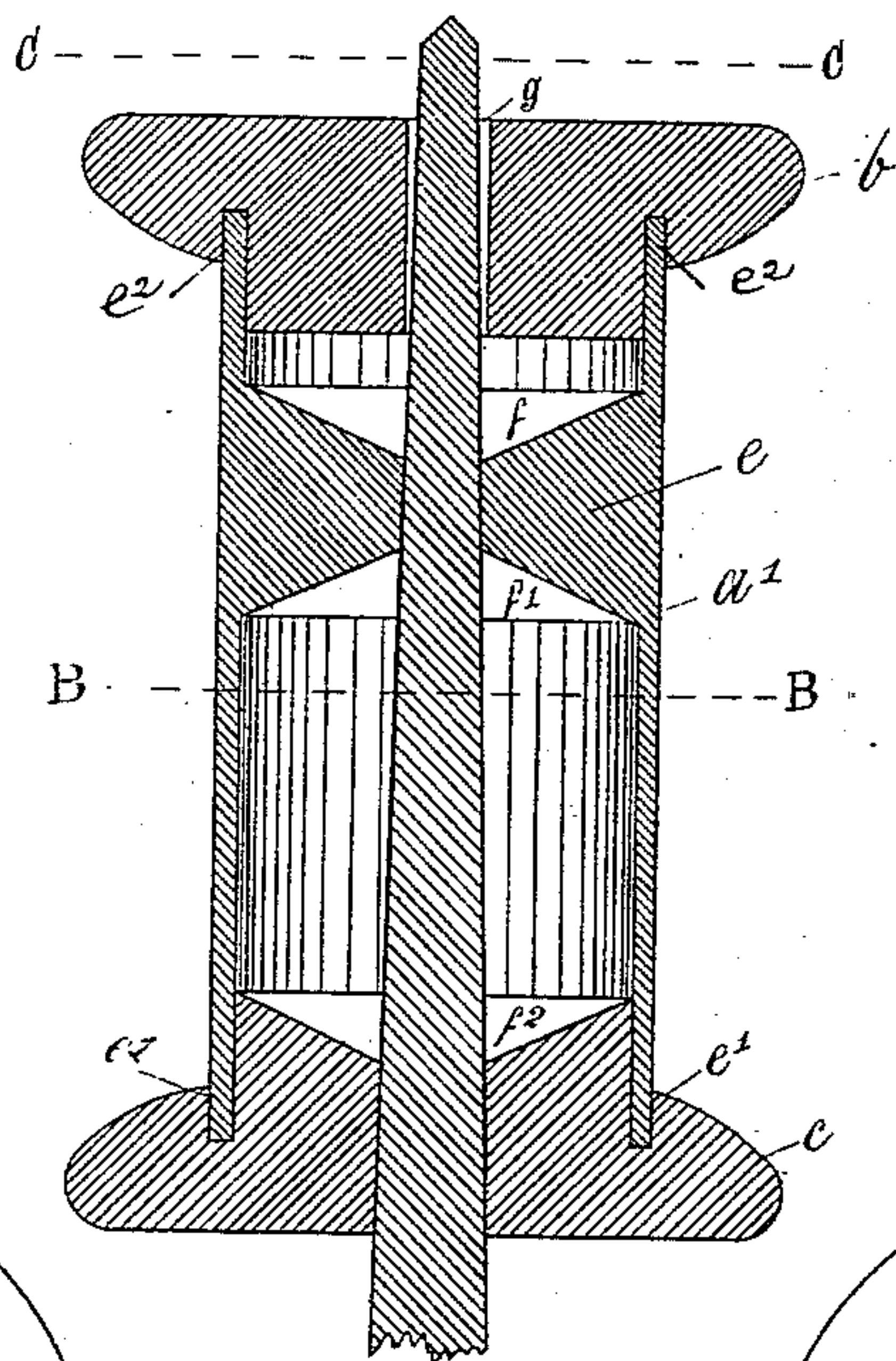


Fig 3

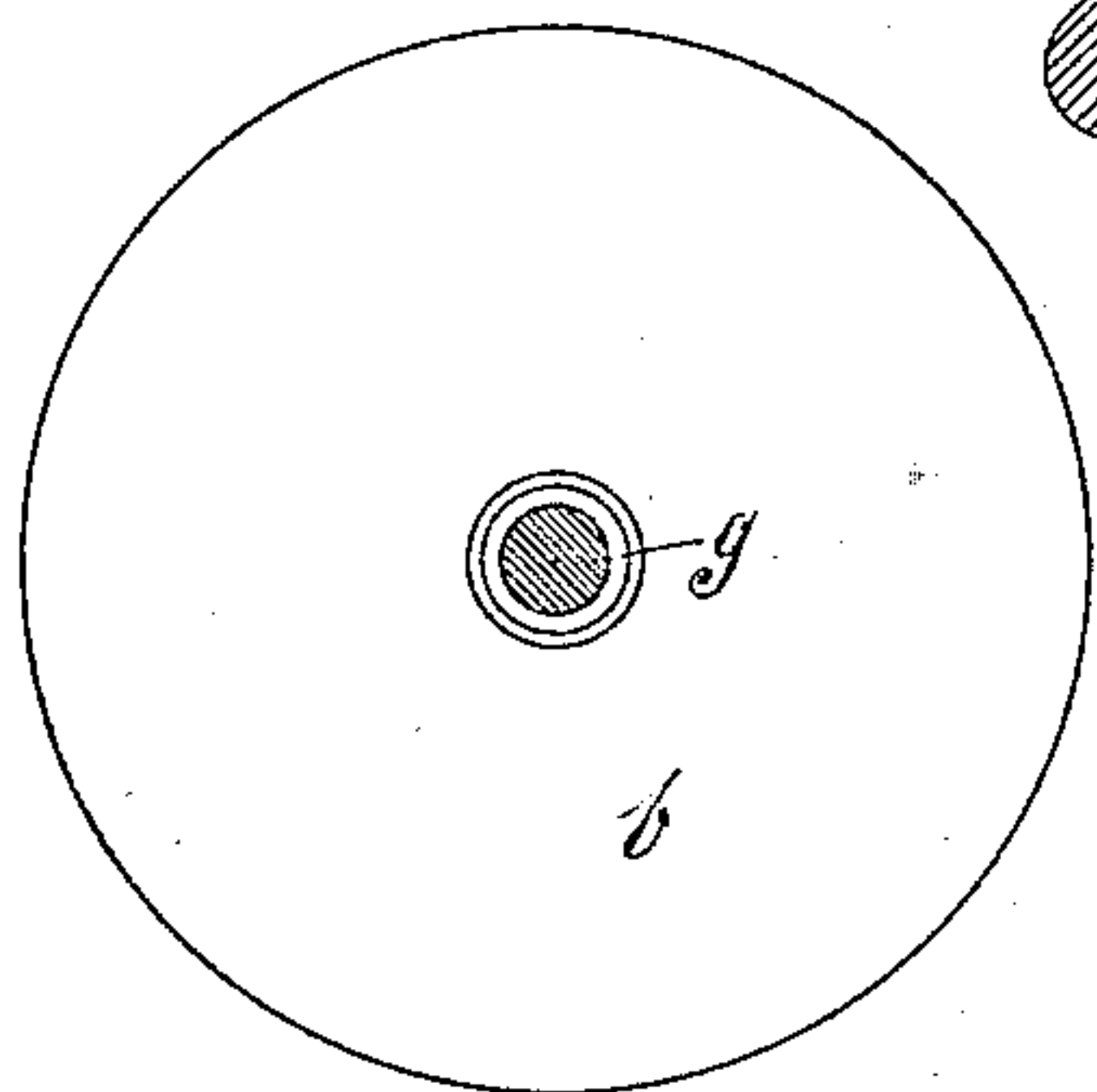


Fig 4

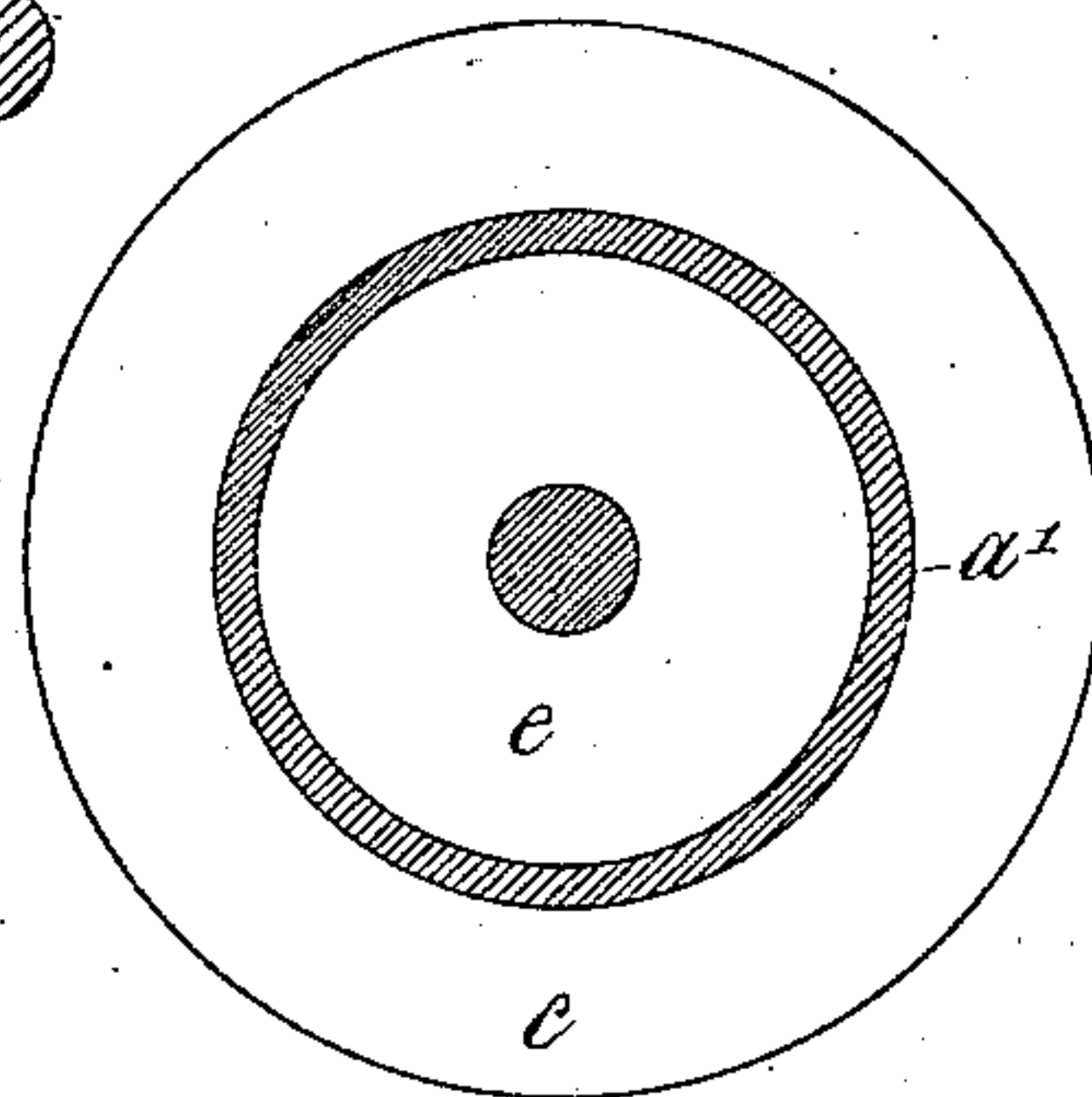
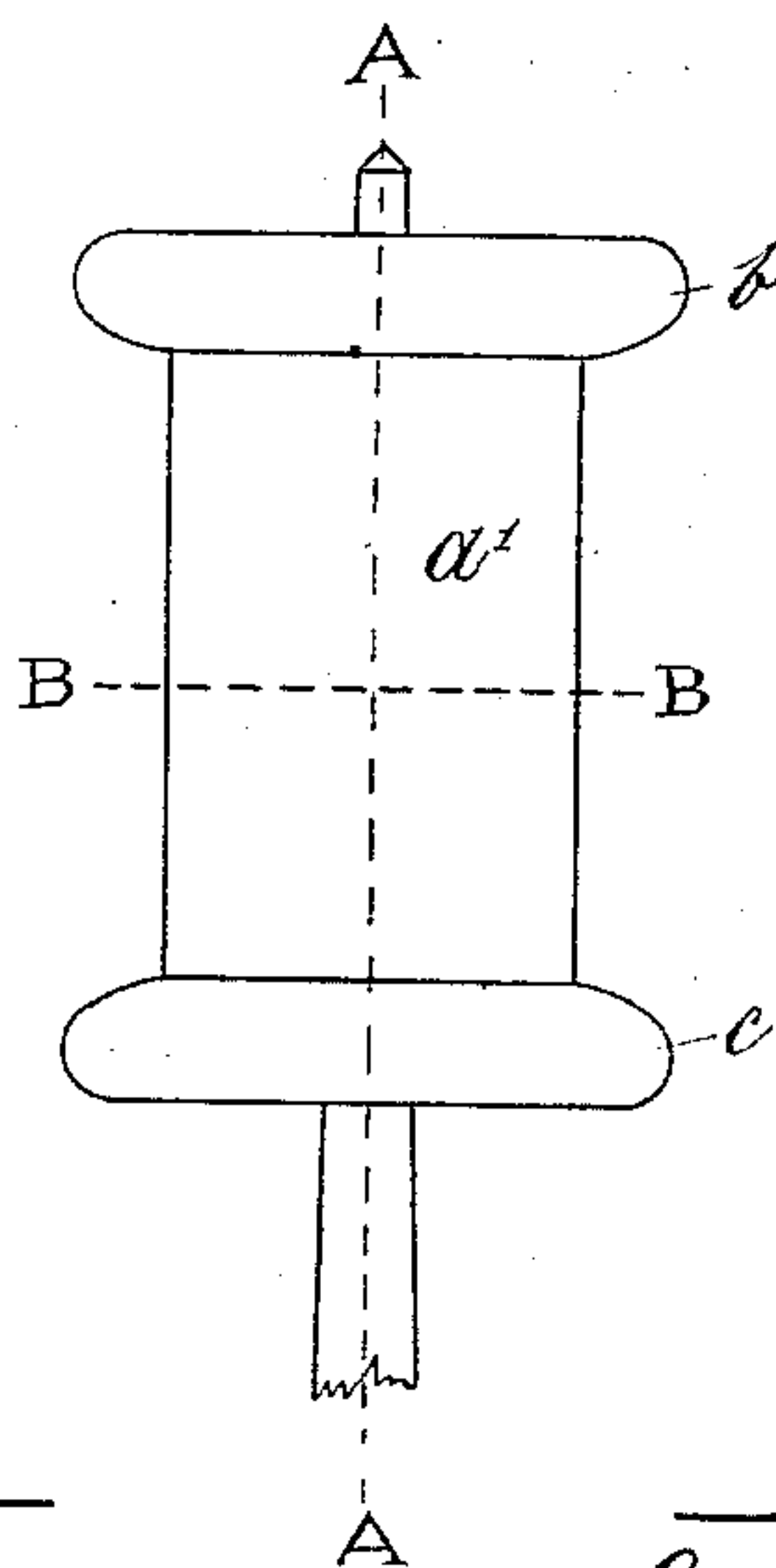


Fig 2



Witnesses

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# UNITED STATES PATENT OFFICE.

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## BOBBIN FOR SILK-SPINNING MACHINES.

SPECIFICATION forming part of Letters Patent No. 278,673, dated May 29, 1882.

Application filed October 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE P. VAN RIPER, a citizen of the United States, residing at Paterson, Passaic county, State of New Jersey, have invented a new and useful Improvement in Bobbins for Silk-Spinning Machines, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The object of my invention is to produce a bobbin for silk-spinning machines of such new construction as that the same can be used on the doubling and winding machines, doing away thereby with the necessity of keeping several kinds of bobbins on hand.

Figure 1 of the drawings is a central vertical sectional view on line A A of Fig. 2, showing the manner of its construction and its adaptation to the spinning-spindle, a part of which is shown. Fig. 2 shows the bobbin and spindle in elevation. Fig. 3 is a plan taken on the line C C, and Fig. 4 is a plan on the line B B of Fig. 1.

*a* represents a spinning-bobbin of the class known as "frame-bobbins," and is constructed as follows: The barrel *a'* is cylindrical in form, and is bored or hollowed out at each of its ends by a suitable tool prepared therefor. The sides of the barrel *a'* are left sufficiently strong to prevent the same from being crushed by the ordinary usage of the same. On the inner surface of the barrel *a'*, and near the top of the same, there is formed a bearing, *e*, having top and bottom sloping surfaces, *f f'*. The top surface, *f*, slopes downward to the spindle and to the hole prepared for the spindle in the center of the bearing *e*. The lower surface, *f'*, of the bearing *e* slopes upward to the spindle and to the hole prepared therefor in the bearing *e*. By constructing the bearing *e* in the manner stated—that is, with the sloping surfaces *f f'*—the outer bearing-surfaces on the sides of the barrel *a'* are much greater than are the inner bearing-surfaces on the spindle, giving strength and resistance to the barrel *a'* thereby. The top or head *b* and bottom or head *c* are made large enough in their diameters to form suitable flanges or projections for the bobbin *a*. The flanges are suitably rounded, and project over the outer surface of the barrel *a'*. That part of the thickness of the top or head *b* and bottom or head *c* not occupied by the projections

or flanges is rabbeted down by the turning-tool to the same diameter as the inside of the barrel *a'* and enters the same, and forms suitable shoulders or supports for the ends of the barrel *a'*. At the base of the shoulders, formed by rabbeting the heads *b c*, there are formed suitable grooves, *e' e''*, to accommodate the ends of the barrel *a'*, which enter the grooves *e' e''*, and which are glued or otherwise fastened therein. The head *c* and the interior bearing, *e*, are provided with tapering holes to adapt them to fit nicely on the spindle of the spinning-machine. The top or head *b* is provided with a hole, *g*. The hole *g* is the same in size as the hole formed in the bearing *e*, and, being of a size the same as the spindles of the doubling and winding machines, is adapted to fit thereon. The hole in the bottom or head *c* is larger than the hole *g* in the top or head *b*, and larger than the hole formed in the center of the bearing *e*, and is of a size adapted to fit the bottom of the spinning-spindle, as shown in Fig. 1. The spinning-spindle where the same enters the bearing *e* is of a size the same as the spindles of the doubling and winding machines, which spindles are of the same size their entire length, their size being the same as the hole *g* in the head *b* and the hole in the bearing *e*. Thus it will be seen that the bobbin *a*, when the same is removed from the spinning-spindle with the spun fiber, may be placed on the spindles of the doubling and winding machines. The spaces between the heads *b c* and bearing *e* are hollow.

In practice the bobbin *a* is placed on the spinning-spindle of the spinning-machine, which it is adapted to fit. The sloping form *f'* of the under side of the bearing *e* serves to guide the end of the spindle to the hole prepared therefor in the center of the bearing *e*. After entering the hole in the bearing *e* the end or top of the spindle, which is smaller than the hole *g*, will be guided through the hole *g* by the bearing *e*, the top of the spindle being small enough to allow for any inaccuracy of motion of the spindle between the bearing *e* and head *b* to make certain the entrance of the spindle. After the spindle has entered and passed through the hole *g* the bobbin *a* will, by gravity, settle down on the spinning-spindle until the same finds its adjustment thereon. The flanges or projections formed on



the head *b* and bottom or head *c* serve to keep the spun fiber on the barrel *a'* of the bobbin *a*. It will be seen that the bobbin *a*, when the same is in place on the spinning-spindle of the spinning-machine, is held thereon by the bottom or head *c* and bearing *e* independently of the top or head *b*, the top of the spindle being too small to bear thereon. The particles of dirt, should any enter the bobbin *a* through the hole *g*, by reason of the spindle of the spinning-machine being smaller at that point than the hole *g*, the same will fall on the sloping surface *f'* of the upper side or top of the bearing *e*, and will tend down to the center, to the spindle, and to the hole prepared for the spindle in the center of the bearing *e*, and when the bobbin *a* is removed from the spindle after being filled with spun fiber the particles will pass through the hole in the center of the bearing *e*, and will fall on the top of the inner surface, *f*<sup>2</sup>, and pass out at the hole in the center of the same. Thus it will be seen that the sloping surfaces *f'* *f*<sup>2</sup> will prevent the dirt from accumulating in the hollow parts of the barrel *a'* of the bobbin *a* by causing the same to pass out, through the holes prepared for the spindle, in the various handlings of the bobbin *a*. After the bobbin has been filled with spun material it is taken from the spinning-spindle, and may be placed on the doubling or winding spindles, either of which it is adapted to fit by reason of the hole *g* in the top or head *b* and the hole in the center of the bearing *e*, both of

which are of a size the same as the doubling and winding spindles, which adapts the bobbin *a* to fit thereon. The bobbin *a*, when the same is placed on the spindles of the doubling and winding machines, will be supported thereon by the top or head *b* and the bearing *e*, independently of the bottom or head *c*, the hole in which is too large to admit of the doubling and winding spindles bearing thereon.

By my invention the same bobbins can be used on the spinning, doubling, and winding machines, doing away with the necessity of keeping more than one kind of bobbins therefor, preventing much inconvenience and loss of time in selecting and separating different kinds of bobbins, as at present. The use of my invention I confine to silk, exclusively.

Having described my invention and its use, what I claim, and desire to secure by Letters Patent, is—

As an article of manufacture, a bobbin having a barrel, *a'*, provided with a bearing, *e*, having sloping surfaces *f* *f'*, bottom or head *c*, having a sloping surface, *f*<sup>2</sup>, top or head *b*, having a hole, *g*, the heads *b* *c* having flanges or projections, and grooves *e'* *e*<sup>2</sup>, into which are glued or otherwise fastened the ends of the barrel *a'*, substantially as set forth.

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Witnesses:

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