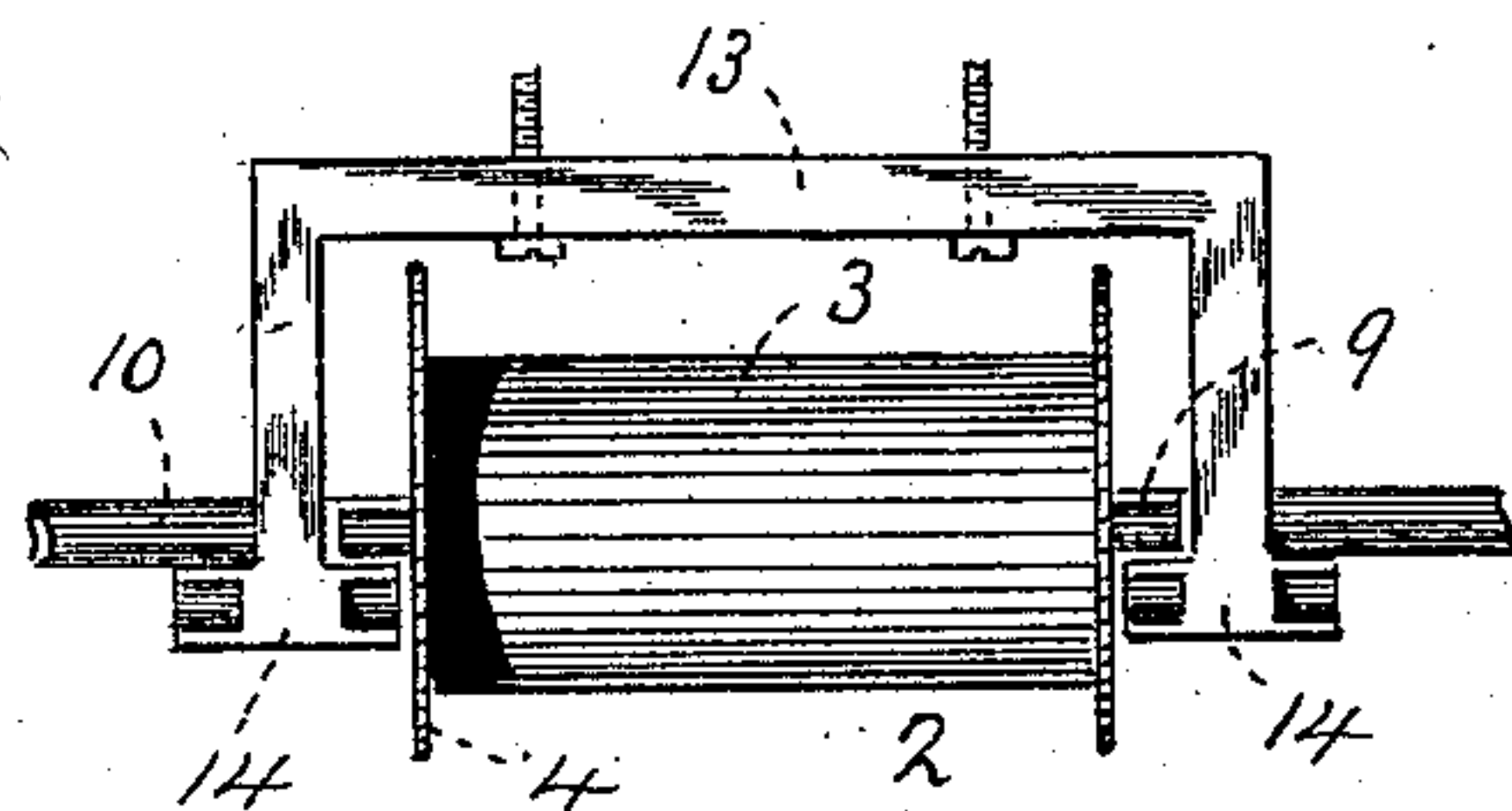
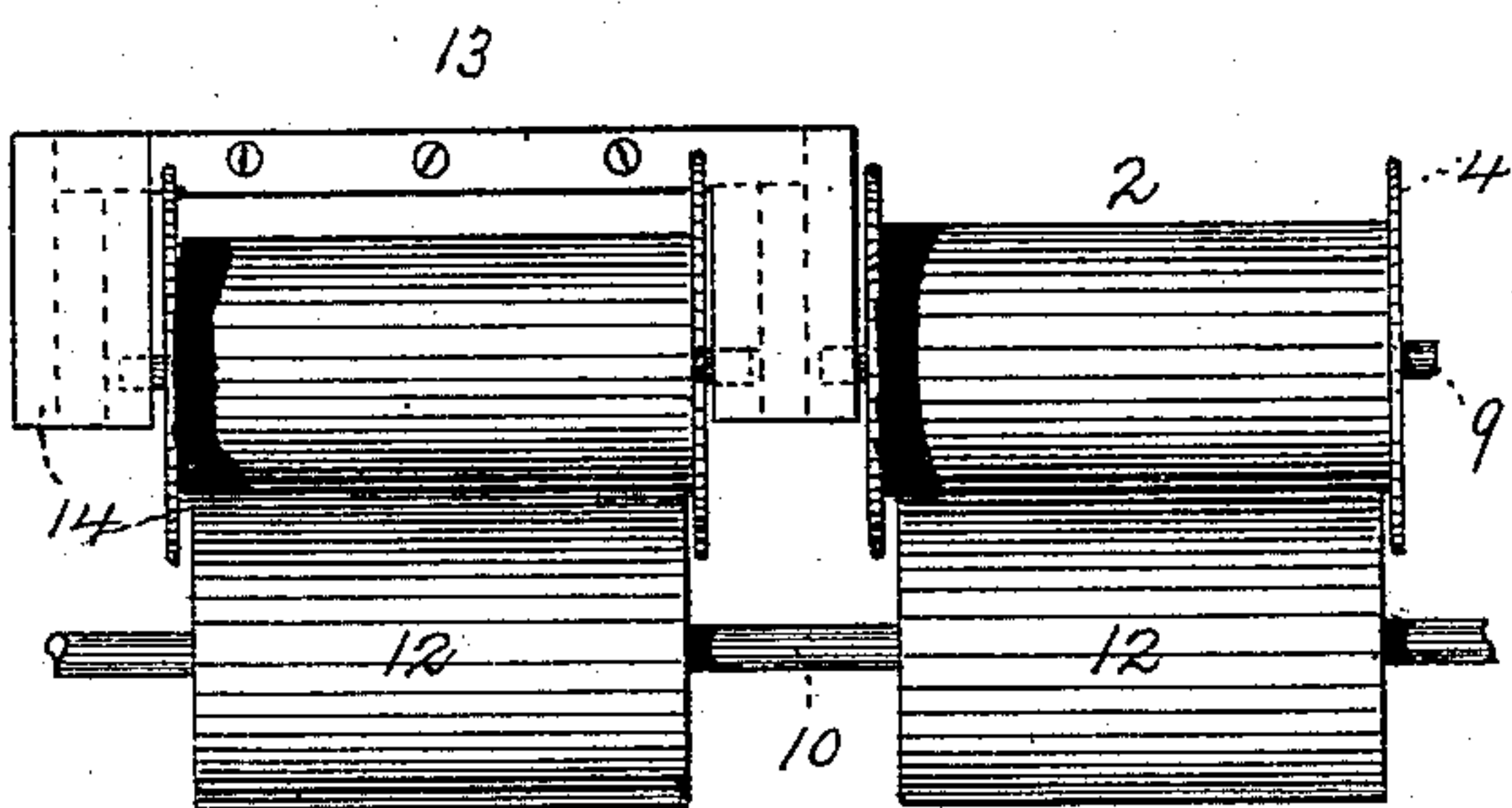
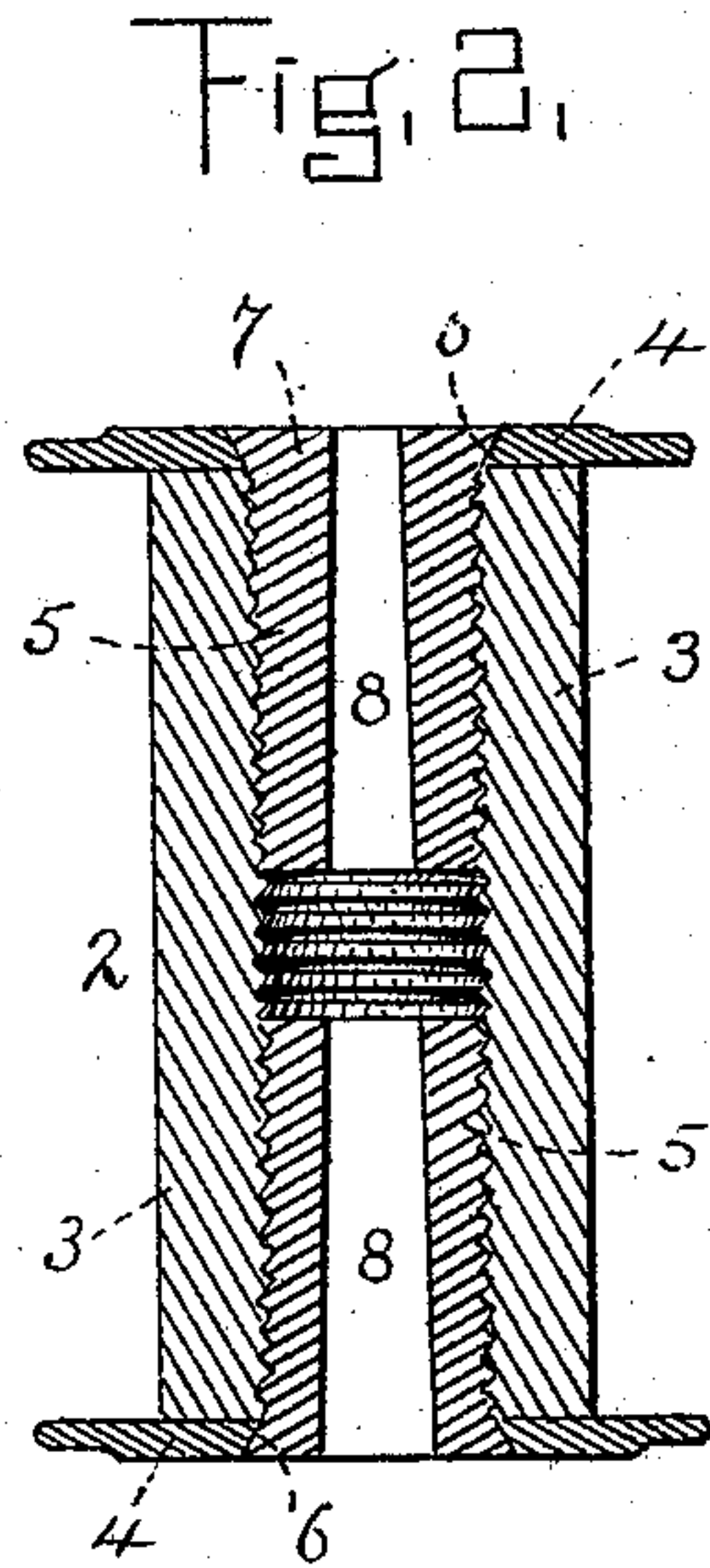
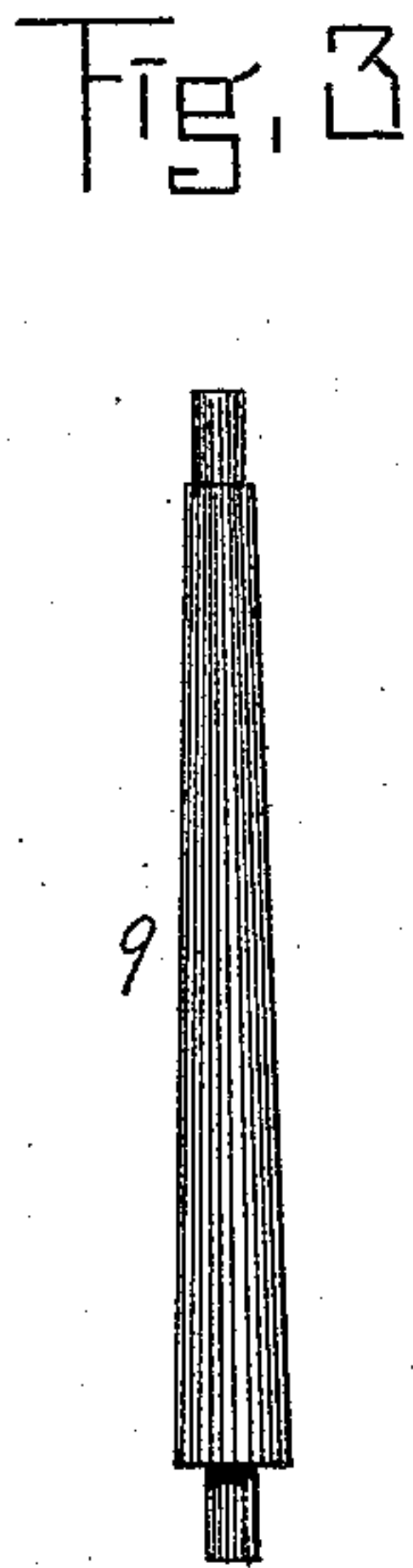
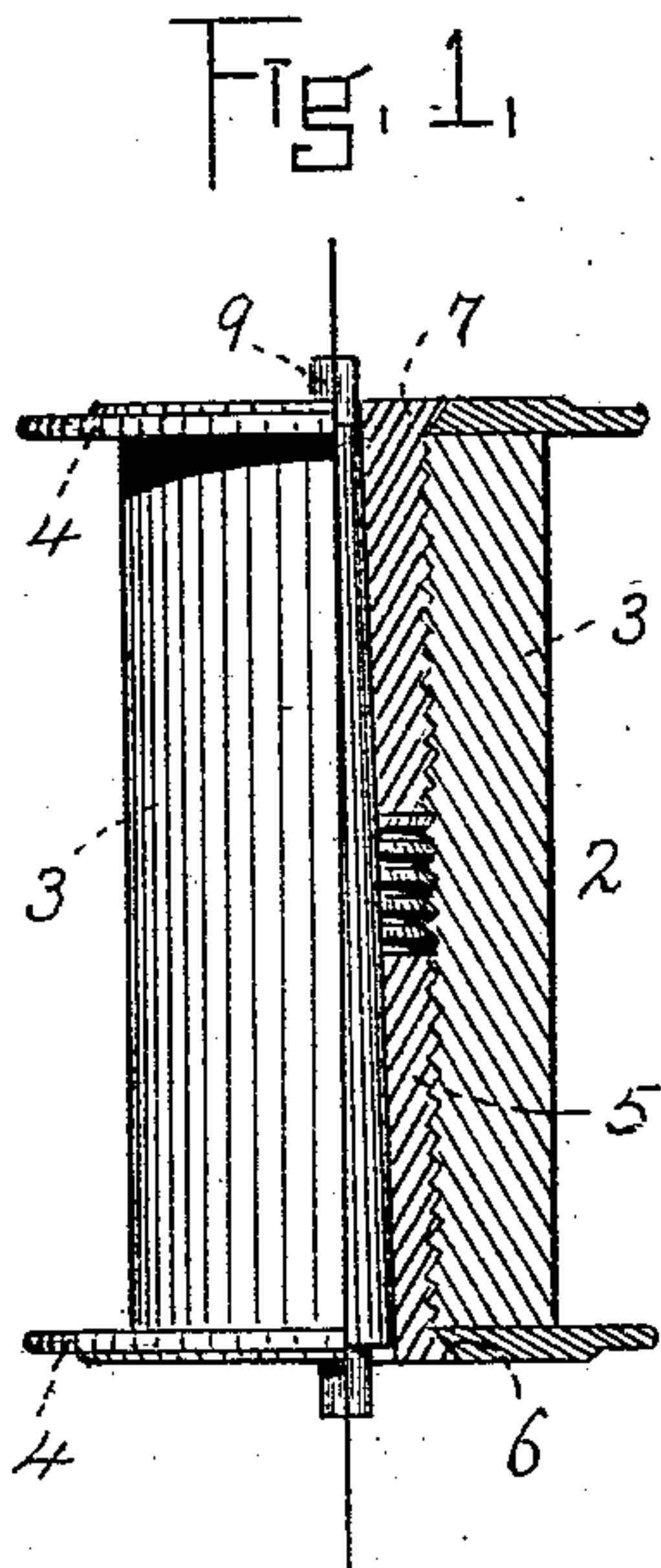


(No Model.)

G. PENDLETON, Jr.
BOBBIN OR SPOOL.

No. 455,453.

Patented July 7, 1891.



Witnesses.
Francis C. Starnwood
E. H. Baynton

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UNITED STATES PATENT OFFICE.

GURDON PENDLETON, JR., OF MELROSE, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO HENRY D. KLOTS, OF NEW YORK, N. Y.

BOBBIN OR SPOOL.

SPECIFICATION forming part of Letters Patent No. 455,453, dated July 7, 1891.

Application filed October 23, 1890. Serial No. 369,017. (No model.)

To all whom it may concern:

Be it known that I, GURDON PENDLETON, JR., a citizen of the United States, residing at Melrose, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Bobbins or Spools; 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in bobbins or spools. My improvements are particularly adapted to bobbins or spools employed in silk-spinning; and the object of my invention is to embody such a construction as will enable the bobbin or spool to be used as a spinning-bobbin, in which event it is mounted upon a spindle which serves for a revoluble axis, but likewise permits it to be employed as a receiving-bobbin when it is combined with a removable arbor, by which it is supported in suitable bobbin-hangers. In this way in the process of silk-spinning several transfers of the silk from spinning-bobbins to receiving-bobbins hitherto not of such construction as to enable one to be substituted for the other are avoided and the manufacture expedited.

The drawings herewith presented represent, in Figure 1, a sectional elevation of a bobbin or spool embodying my invention and fitted with a removable arbor. Fig. 2 represents the same without the arbor. Fig. 3 is an elevation of the arbor. Fig. 4 is a plan, and Fig. 5 an elevation, of the mode of operating a receiving bobbin or spool.

In the ordinary process of silk-spinning two distinct classes of bobbins or spools have been employed, one, termed the "spinning-bobbin," being formed, preferably, of wood, in order to be light, longitudinally bored, and adapted to be mounted upon a spindle and operated in the usual manner. The other or receiving bobbin, strictly speaking, is a spool, and preferably made with metallic heads, and is generally fitted with a central arbor, which is a permanent fixture, to enable the spool to be

mounted in a suitable manner hereinafter explained. It is evident from this description that the two bobbins are non-interchangeable; but each from its construction is limited to its own particular class of work.

The object of my invention is to render the receiving-bobbin capable of use either as a spinning-bobbin or as a receiving-bobbin. To this end I proceed as follows:

The bobbin as an entirety is shown at 2 as composed, preferably, of a wooden body portion 3 and fitted with the fixed metallic heads or thin circular disks 4 4. The latter are united with cylindrical tubular sleeves 5, exteriorly threaded, and which engage in the body of the bobbin. The heads 4 are centrally bored and formed with an outward chamfer 6, which engages with the upset end 7 of the sleeve, whereby the two are rigidly fastened together. The bores 8 8 of the said sleeves are made on a continuous taper, which extends the entire length of the spool, and said sleeves are adapted to receive a removable arbor or shaft 9, the ends of which are to extend a short distance beyond the end heads in order to form journals when the spool is serving as a receiving-spool. Thus by so constructing the spool it may be used without its arbor and then mounted upon a spindle to serve as a spinning-bobbin. On the other hand, when removed from the spindle, if the arbor is inserted the bobbin is then ready for use as a receiving-bobbin and is interchangeable as circumstances demand. With this premise I will state that in the former method, or that hitherto practiced in silk-spinning, the steps are ordinarily as follows when two distinct classes of spools are employed: First, the silk in the form of a skein is wound from said skein upon a bobbin, as stated, adapted for use solely upon a spindle; secondly, the silk is then spun from said bobbin and wound upon a receiving-bobbin constructed with a fixed arbor or central shaft; thirdly, when the silk requires a second spinning, which frequently occurs, the silk must be redrawn to a spinning-bobbin and again spun and rewound upon a receiving-bobbin. These steps are necessary, since at present the two classes of bobbins are non-interchangeable. By means of my improvements this transfer, attended

with increased cost and loss of time, is obviated, since when the silk requires a second spinning the receiving-bobbin upon which is now stored the silk which requires a second spinning, is quickly altered to become a spinning-bobbin. This is effected by withdrawal of its removable shaft, when it is in readiness to be placed upon a spindle, and the silk is then spun or twisted and stored upon a bobbin of this same construction, which now serves as a receiving-bobbin. Hitherto winding and spinning bobbins have not been interchangeable. Hence by removal of the shaft to convert the bobbin into one adapted for spinning the act of redrawing is avoided—that is, in the old way of procedure the silk now on a receiving-bobbin was rewound or redrawn and placed upon a second bobbin now used for spinning. This required time and labor before said silk was in readiness for a second spinning. In this manner the process of silk-spinning is greatly expedited, and a bobbin of my construction serves equally well for either a spinning or a receiving bobbin.

In Figs. 4 and 5 is shown the mechanism by which a bobbin is actuated when serving as a receiving-bobbin, after having the remov-

able arbor inserted in it. At 10 is shown a revoluble shaft upon which are fixed at equal intervals a series of drums 12, upon which rest the bobbins to be driven by rolling friction. To retain the bobbin in place, bobbin-hangers 13, of the usual construction, are provided and formed with the pendent arms 14, against which the ends of the arbor bear, while vertical rise of the latter with the bobbin is permitted, while enlargement in diameter ensues as it becomes filled.

What I claim is—

The improved bobbin or spool composed of a body portion, two end heads, and a longitudinal central bore with a continuous taper, combined with a removable arbor having a similar taper to the bobbin-bore and of a length to extend beyond the end heads, said projecting ends provided with cylindrical journals, the bobbin being adapted to serve either as a spinning or receiving bobbin, substantially as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

GURDON PENDLETON, JR.

Witnesses:

H. E. LODGE,

FRANCIS C. STANWOOD.