

No. 790,662.

PATENTED MAY 23, 1905.

G. H. REYNOLDS.

SPOOL.

APPLICATION FILED SEPT. 24, 1904.

2 SHEETS—SHEET 1.

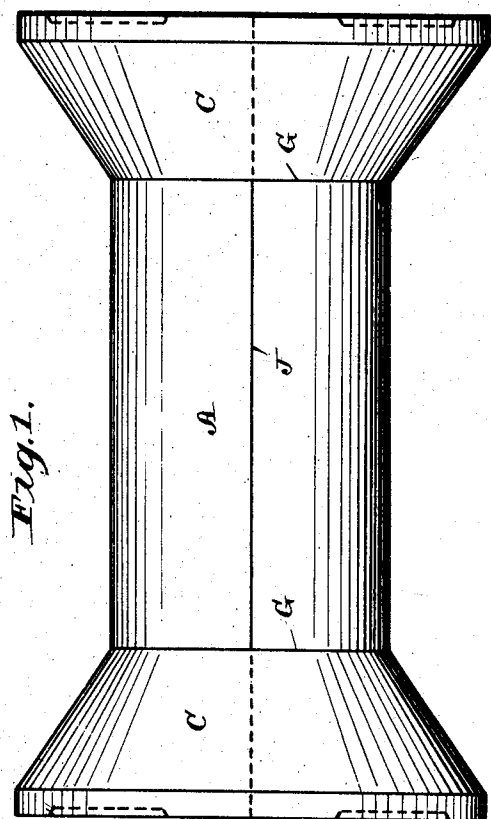
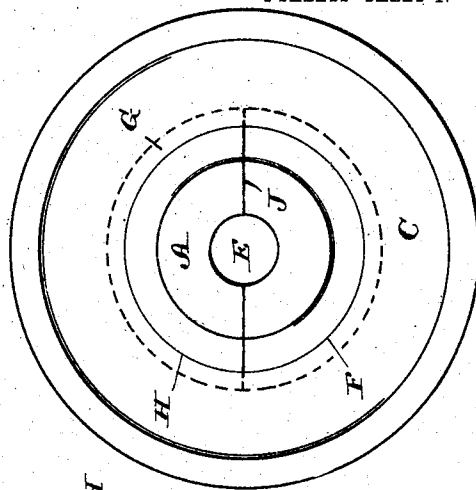
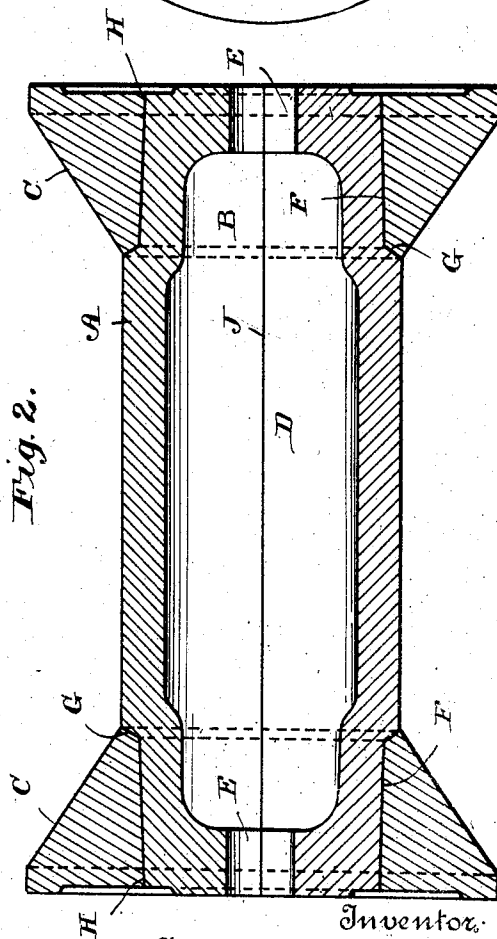


Fig. 3.



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2 SHEETS—SHEET 2.

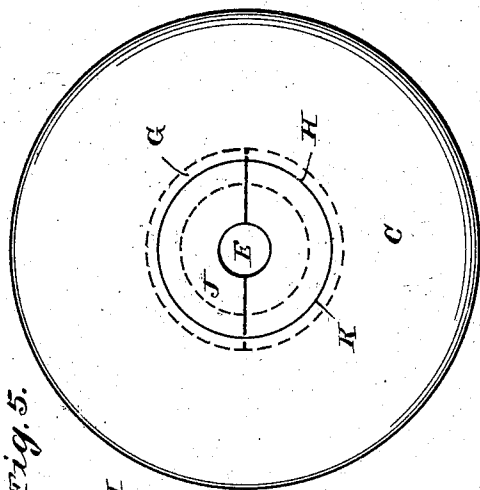


Fig. 5.

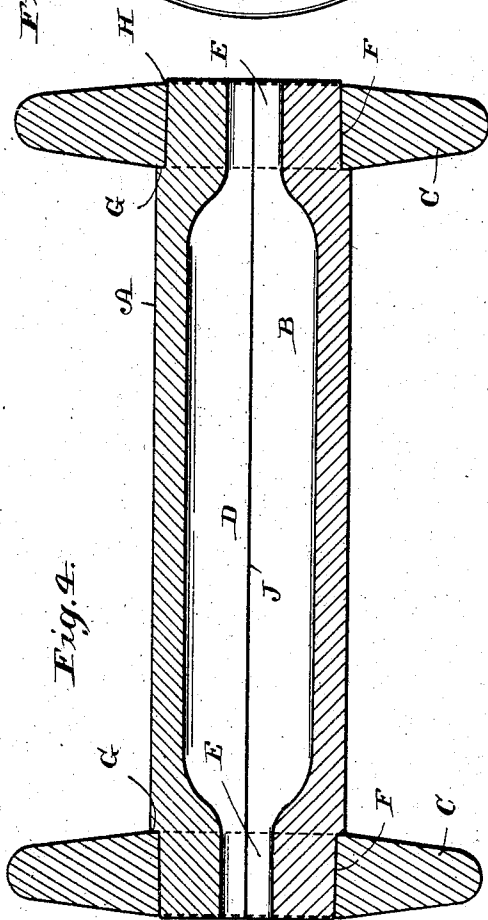


Fig. 4.

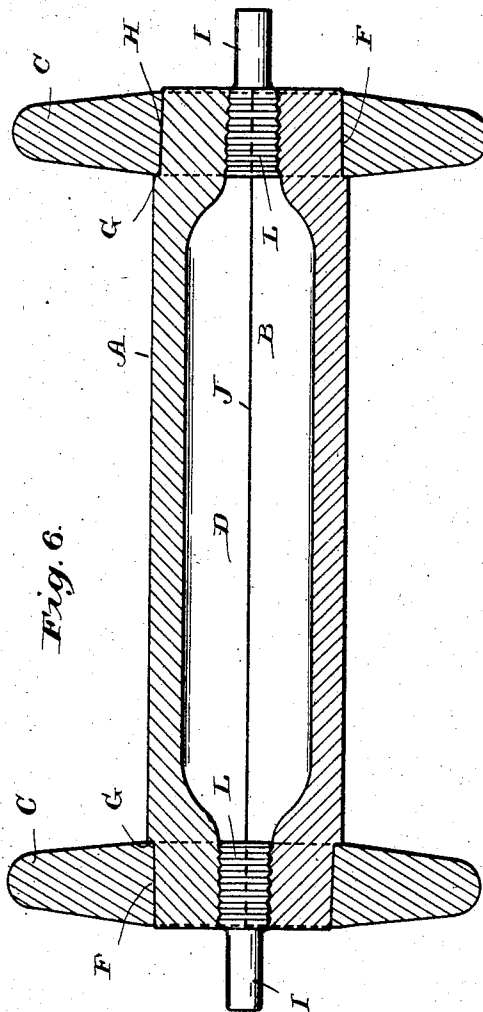


Fig. 6.

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GEORGE H. REYNOLDS, OF MANSFIELD, CONNECTICUT.

SPOOL.

SPECIFICATION forming part of Letters Patent No. 790,662, dated May 23, 1905.

Application filed September 24, 1904. Serial No. 225,851.

To all whom it may concern:

Be it known that I, GEORGE H. REYNOLDS, a citizen of the United States, and a resident of Mansfield, in the county of Tolland and State of Connecticut, have invented certain new and useful Improvements in Spools, of which the following is a specification.

This invention relates to an improved construction of spool such as is employed to wind cotton or thread upon for use.

It is the object of my invention to provide a durable construction of spool that can be economically manufactured from finely-divided compressed dry fibrous material and formed in sections, which are secured together.

Referring to the drawings forming a part of this specification, Figure 1 shows a side elevation of one of my improved spools complete. Fig. 2 shows a longitudinal central section of the same; Fig. 3, an end view; Fig. 4, a longitudinal central section of a slightly-different form of construction; Fig. 5, an end view of the construction shown in Figs. 4 and 6; Fig. 6, a central longitudinal section of a further construction, including pivotal pins upon which the spool may turn.

The spools illustrated in Figs. 1 to 3 are designed for general purposes, while those illustrated in Figs. 4 and 5 are designed more especially for manufacturer's use upon machines having a pin as a holder. The form illustrated in Fig. 6, containing end pins, is designed for use on a holder having sockets or bearings to receive the pins.

In my former patent, No. 764,206, I have described a form of spool which is composed of a plurality of longitudinal sections formed of fibrous material, and the construction herein disclosed is an improvement upon that class of spool, as will be apparent from the description to follow.

The several parts comprising my spool are formed of finely-divided fibrous material in its dry or natural state—as, for instance, from old paper, sawdust, shavings, wood-pulp, and the like. This material is placed in suitable dies subjected to heavy pressure and heat, which serves to form and securely bind the material together.

The construction of my present spool, as

will be observed, in part comprises a barrel portion A, having a central opening B there-through to form a bearing and insure lightness of construction. This barrel portion of the spool is formed of a plurality of longitudinal sections, which in practice are formed in suitable dies from dry finely-divided fibrous material. In the forming and compressing of this material into the shape illustrated the fibers are disposed lengthwise, which obviously lends the greatest possible strength to the structure, and especially in the direction of its axis. As stated, the central portion of the barrel is hollow, being preferably broader throughout the middle D than at the ends E, which ends obviously serve as bearings for the spool when placed upon a holder of a machine. The periphery F of the barrel, adjacent to each end, is smaller than the main body and is preferably slightly tapered, as shown, forming an annular shoulder G around said barrel near its end. This shoulder may be slightly beveled, as indicated in Fig. 2, or, if preferred, square, as shown in Figs. 4 to 6. The spool further comprises end heads CC, which in the present instance are formed separately from the barrel and contain holes H therein, which are slightly tapered, adapting them to fit upon the ends of the barrel in a way to tightly draw the sections together when shoved up against the shoulder G in a way to secure the parts rigidly in place. These heads are obviously made solid, and, like the sections of the barrel, are formed of dry fibrous material and in suitable dies. In my process of manufacturing these heads the fibers are disposed annularly throughout the part, thus rendering to it the greatest possible amount of strength, especially against lateral strain, which materially strengthens the construction of the spool.

In the drawings I have shown the spool formed of but four sections, two of which comprise the barrel and two the heads. It will be obvious, however, that the barrel may be formed of any number of longitudinal sections and each formed in practically the same way.

In the assembling of the spool-sections the edges J of the barrel members are laid together and then the heads are forced on the

tapered ends in a manner that will hold them together, producing a spool of the greatest possible strength and wearing properties. The several joints of the spool may be glued 5 or cemented, if desired.

In Fig. 6 I have shown pins I secured within the ends of the barrel, which are provided with serrations K to insure a firm engagement with the barrel when pressed together. These 10 pins project sufficiently to form pivotal ends to turn in the guides of a holder.

Having thus described my invention, what I claim is—

1. As a new article of manufacture, a spool 15 formed of finely-divided fibrous material and comprising annular heads, a barrel formed of a plurality of longitudinal sections secured together lengthwise having serrated inner surfaces, and pins with corresponding serrations 20 to engage said serrations of the barrel and secured intermediate of said barrel-section and projecting from the ends thereof.

2. As an article of manufacture, a spool 25 formed of longitudinal sections secured together lengthwise, and heads formed of finely-divided dry fibrous material the fibers of which are disposed annularly.

3. As an article of manufacture, a spool formed of finely-divided fibrous material, comprising longitudinal sections secured together 30 lengthwise of the spool, and having said fibers disposed lengthwise, and annular heads to engage said sections.

4. As a new article of manufacture, a spool composed of finely-divided dry fibrous material comprising a barrel formed of a plurality 35 of longitudinal sections having the fibers disposed lengthwise, head-sections on the ends of said sections with the fibers therein disposed annularly. 40

5. As a new article of manufacture, a spool formed of finely-divided dry fibrous material comprising a sectional barrel molded and pressed at a right angle to its axis and heads 45 also formed of finely-divided fibrous material molded and pressed in the direction of the axis of the spool to dispose the fibers annularly.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 22d day of September, A. D. 1904.

GEO. H. REYNOLDS.

Witnesses:

C. M. NEWMAN,
W. V. DEVITT.