F. PRATT.

PAPER YARN SPOOLS

No. 187,556. Patented Feb. 20, 1877.

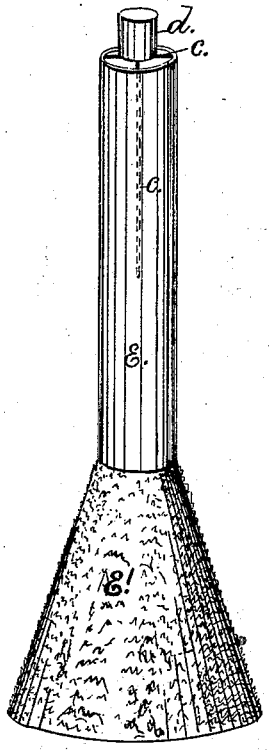


FIG. I.

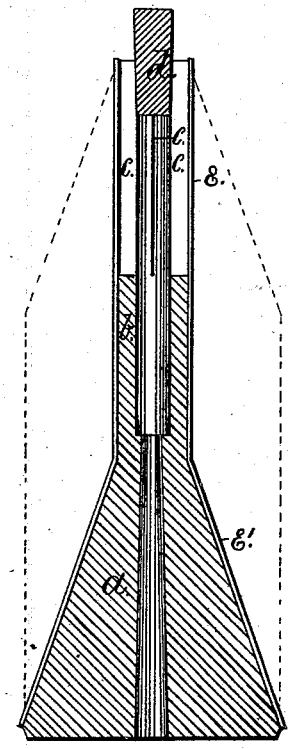


FIG. II.

WITNESSES.

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FRANCIS PRATT, OF PAWTUCKET, RHODE ISLAND.

## IMPROVEMENT IN PAPER YARN-SPOOLS.

Specification forming part of Letters Patent No. **187,556**, dated February 20, 1877; application filed November 22, 1876.

*To all whom it may concern:*

Be it known that I, FRANCIS PRATT, of Pawtucket, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Yarn-Spools; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification.

Figure 1 is a perspective view of my improved yarn-spool, showing the paper tube secured to the spool. Fig. 2 is a vertical section of the same

This invention has reference to that kind of yarn-spools in which the lower end is provided with a conical base, and on which the yarn is wound in close spirals and bound by an open spiral binding-thread, so that the conical form of the base is always preserved, and the thread can be unwound or taken from the spool without turning the same, each conical layer being drawn off successively.

The object of the invention is to furnish a cheap form, which may be readily secured to the spool proper, and on which the yarn can be wound, and with which the yarn can be sent to any place, and be readily taken off, in the usual manner, without sending the spool and having to return the same.

The invention consists, first, in providing a paper shell, which is placed on the spool, and on which the yarn is wound, and on which the same is carried to any place where the yarn is to be used, thus reducing largely the number of spools in use, and retaining the spools on the spindles, by which the wear of the spools is greatly reduced, and both spindles and spools will run better and more truly; second, in providing a roughened surface at the conical part of the spool-shell, instead of covering this part with cloth or flannel, as is now required, so as to prevent the slipping of the yarn on the conical part; third, in the peculiar arrangement of the upper end of the spool, by which the shell is firmly secured to the spool and readily released, as will be more fully set forth hereinafter.

In the drawings, *a* is the base or conical part of the spool. *b* is the upper part of the same, being usually of uniform diameter. *c* *c* are slits sawed down a portion of the upper end of the spool, and *d* is a plug, which is pushed into the hole in the upper part of the spool, so as to expand the same and force it against the paper shell. E is the cylindrical upper portion of the paper shell, and E′ is the lower conical base. The conical base must be arranged to firmly retain the first layer of yarn wound on the same in close spirals, as the same would have a tendency to slip on either a wooden spool or a paper shell. Spools usually have the conical base covered with cloth or flannel. This would be too expensive in the paper shell, and to produce a like effect at the least possible cost, I coat the base with glue, paste, or varnish, and cover the same with sawdust or any other cheap material, by which the yarn is prevented from slipping on the base.

Yarn usually wound on such conical bobbins is a regular article of merchandise, and is frequently transported considerable distances to knitting and other mills. The reduction of freight is therefore an important item, and, by sending the spool on a cheap shell made of paper or other similar material, sufficient to withstand the ordinary handling, the weight is materially reduced.

When, as heretofore, the spool is shipped with the yarn, or even when the spool in the same manufactory is to be wound on one machine, and has to be taken to another, a large number of spools have to be kept on hand and in repair, which is the more difficult, as the spool must turn absolutely true, so as to make a uniform cop, and the frequent handling, and particularly the shipping, injures the spools, so that a good and uniform spool or cop can be wound with great difficulty, and only by careful adjustment.

By the use of the shell E E′, all these difficulties are avoided, and the spools can remain permanently fixed to the spooling-machine, as the shell only is removed. Such spools will be more durable, can be made better and of better material, and the yarn handled with greater facility. The shells may be used again, or, when their cost is less than the cost of returning the same, may be otherwise utilized.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

1. The shell E E′, arranged to form the base for a conical yarn-spool, and provided with a roughened surface, substantially as described, and for the purpose specified.

2. The combination, with the shell E, provided with the conical base E′, of the spool *a b*, provided with the slits *c c*, and the plug *d*, as and for the purpose described.

FRANCIS PRATT.

Witnesses:

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