

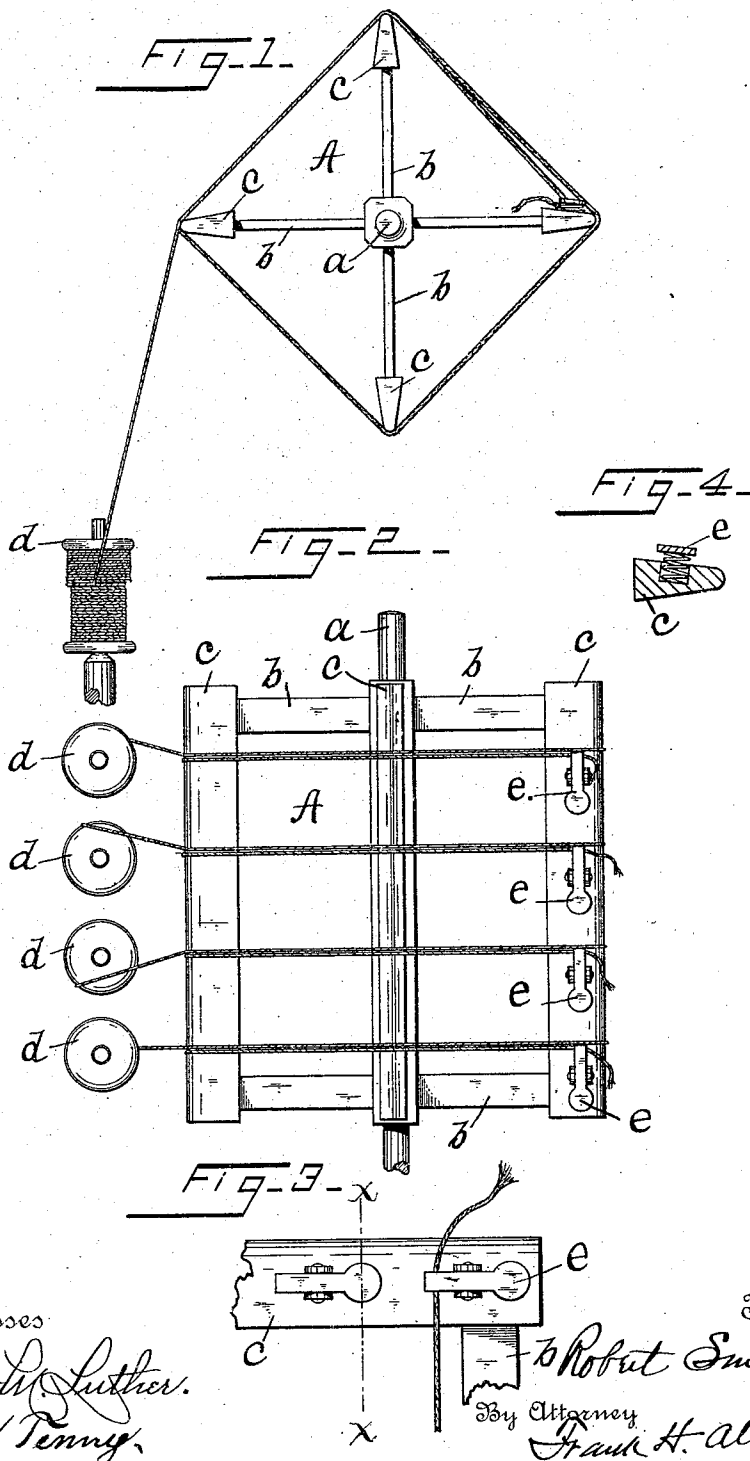
(No Model.)

2 Sheets—Sheet 1.

R. SMITH.
METHOD OF SKEINING YARNS.

No. 534,456.

Patented Feb. 19, 1895.



Witnesses

August M. Luther.
Allen Penny.

Inventor

Robert Smith
By *Attorney*
Frank H. Allen

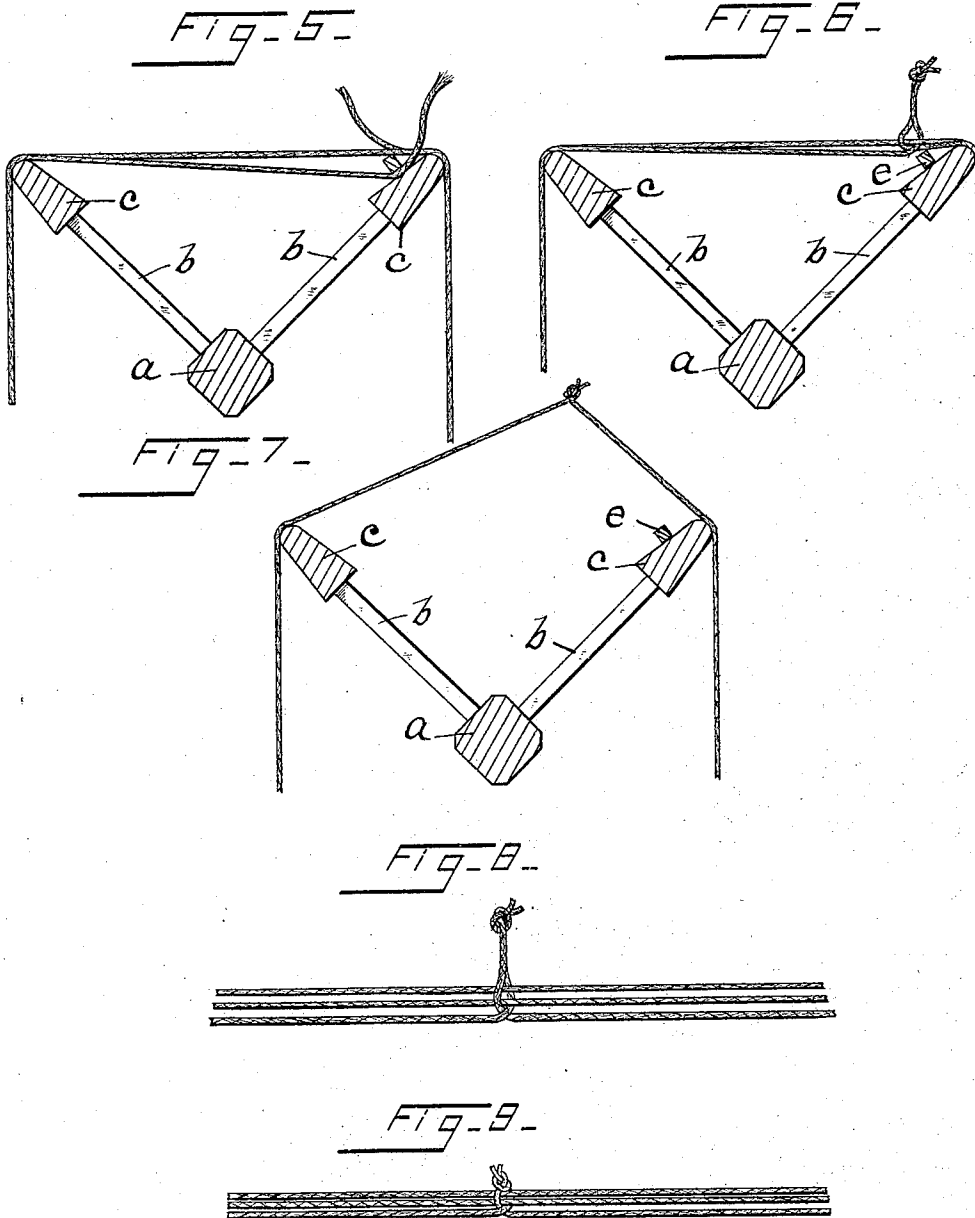
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UNITED STATES PATENT OFFICE.

ROBERT SMITH, OF NEW LONDON, CONNECTICUT.

METHOD OF SKEINING YARNS.

SPECIFICATION forming part of Letters Patent No. 534,456, dated February 19, 1895.

Application filed January 3, 1894. Serial No. 495,560. (No specimens.)

To all whom it may concern:

Be it known that I, ROBERT SMITH, a citizen of the United States, residing in the city and county of New London and State of Connecticut, have invented certain new and useful Improvements in Methods of Skeining Yarns, which improvements are fully set forth and described in the following specification, reference being had to the accompanying two sheets of drawings.

My invention relates to methods of skeining yarns, particularly those of silk, or other highly valuable material, and my purpose is to so improve such methods that the enormous waste heretofore resulting from trimming off the tied ends may be wholly avoided.

So far as I am familiar with the art to which my invention relates, it has been, and still is, a common practice with manufacturers of skein silk (such as embroidery silk, floss, or so called "twist"), to reel up several strands, then sever the silk, leaving ends long enough to be readily grasped. These projecting ends are then tied down close to the several strands of the skein, and the loose ends, outside of the knot, are then cut off and become so much "waste." In factories doing an extensive business this seemingly small waste amounts weekly to hundreds of dollars. My new method, while more easily and rapidly practiced, does away with all such waste and provides skeins identical in final appearance with those now produced by old methods.

To explain my said invention more clearly I have provided the annexed drawings, in which—

Figure 1 is an end elevation of a reel of simple form for practicing my new method of skeining, and Fig. 2 is a plan view of the same. Fig. 3 is a view of a portion of the clamping-rail of said reel, somewhat enlarged to show the spring-pressed levers provided to clamp the yarn-ends during the operation of reeling and Fig. 4 is a cross-sectional view on line $x-x$, of said Fig. 3. Figs. 5, 6 and 7 illustrate portions of said reel and explain the different steps or operations necessary to produce a skein by my new method. Fig. 8 shows that portion of a skein which includes the knotted

ends, as it appears before the slack is drawn out, as hereinafter described, and Fig. 9 is a similar view with said slack taken up, as it appears in the finished skein.

In the drawings A denotes a reel composed of a central shaft a with a series of radial arms b bearing at their outer ends bars c (here shown as four in number) that are parallel with the central shaft. Arms c form the reel proper upon which the yarn is to be wound and, for use with my new method, said reel should be slightly smaller in diameter than reels of the same class now used.

d denotes the spools or bobbins from which the yarn is reeled off. One of the arms c is provided with spring-pressed levers e whose free ends serve as clamps to hold the yarn-ends during the operation of reeling.

When it is desired to convert the yarn on spools d into skeins, the yarn-ends are first drawn forward to the reel A and secured under the free ends of the levers e . The reel is then revolved until the desired number of coils have been laid around said reel when the yarn is cut at a point which will leave projecting ends (as seen in Fig. 5) sufficiently long to be easily grasped and tied. Instead of tying said ends close down to the skein, as heretofore practiced, I tie them together at their extreme ends, as shown in Fig. 6, thus leaving the tied strands slack. The other coils of the skein are then drawn out, or spread, until the slack is taken up and the knot is drawn down to the skein, as seen in Fig. 7.

It will be remembered that I have stated above that the reel which I employ is of somewhat less diameter than ordinary reels, so that the coils of yarn, when first wound thereon, form a skein somewhat under size but when the slack is taken up, in the manner last above described, the several coils are enlarged and the skein is brought up to the usual size. It will therefore be understood that, to produce a skein of a given size, the reel must be of a diameter enough smaller than the finished skein to provide slack ends that may be easily grasped for tying. Before tying the cut ends of the yarn I, preferably, pass one of said ends around all of the other coils of the skein, as

seen in Figs. 6, 8 and 9, thus confining said other coils and preventing accidental displacement and entanglement of the same.

Having described my invention, I claim as
5 new and wish to secure by Letters Patent—

1. The described method of skeining yarns, consisting of reeling up the same in coils of less diameter than the finished skein, severing said yarn, tying together the ends and,
10 finally, drawing out and enlarging said skein, as set forth, to take up the slack.

2. The described method of skeining yarns,

consisting of reeling up the same in coils of less diameter than the finished skein, severing said yarn, passing one of the yarn-ends 15 around the other strands of the skein, tying said ends together and, finally, enlarging said skein, as set forth to draw the knot down to the skein.

ROBERT SMITH.

Witnesses:

FRANK H. ALLEN,
ALONZO M. LUTHER.