

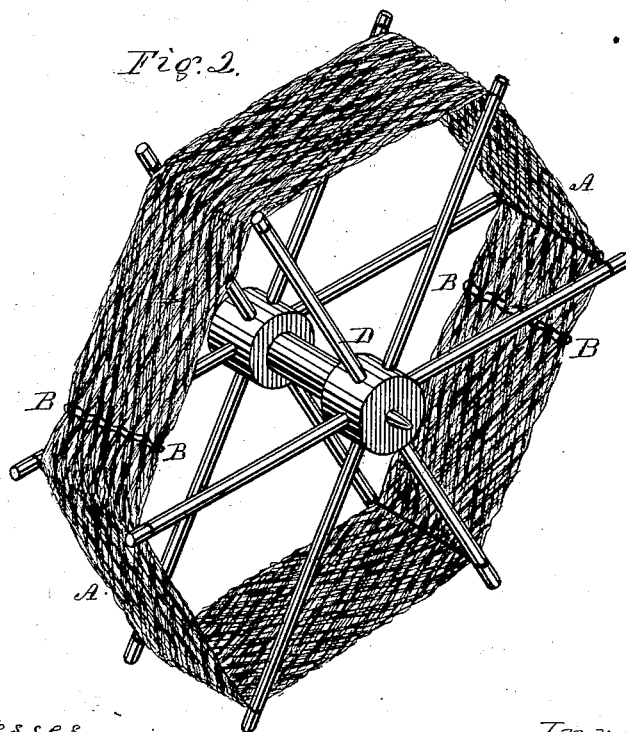
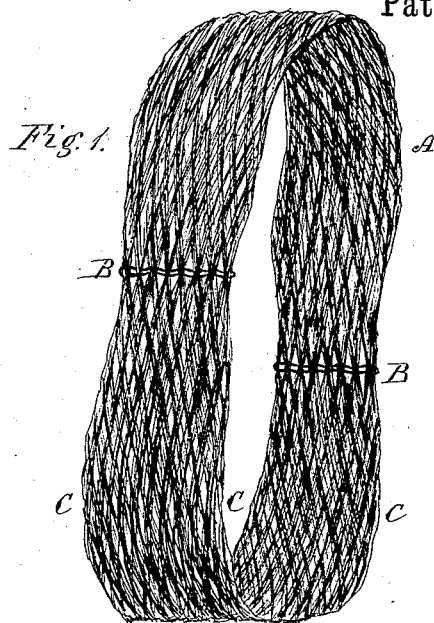
(No Model.)

J. M. GRANT.

ART OF REELING AND WINDING SILK AND OTHER THREAD.

No. 267,192.

Patented Nov. 7, 1882.



Witnesses:

Edwin F. Dimock
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UNITED STATES PATENT OFFICE.

JAMES M. GRANT, OF HARTFORD, CONNECTICUT.

ART OF REELING AND WINDING SILK AND OTHER THREAD.

SPECIFICATION forming part of Letters Patent No. 267,192, dated November 7, 1882.

Application filed June 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. GRANT, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in the Art of Reeling and Winding Silk and other Thread; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention relates to a novel manner of winding silk or other thread upon the reels in a reeling-machine preparatory to its being dyed.

The object of my invention is to provide an improved skein of silk (whereby a greater quantity can be reeled upon the same machine in a given time, and to provide at the same time, for making these skeins in a proper form to receive the dye in the best manner, and be ready after the dyeing to be placed upon the swift for unwinding upon bobbins in the customary manner.

In the present method of manufacturing silk the thread, previous to dyeing, is wound into skeins upon a reeling-machine, in which some twenty or more small skeins containing generally one thousand yards, or less, are wound upon a set of parallel bars set around an axis forming a long reel. Each skein is tied up by itself, and the reel is taken down or collapses to release the separate skeins. These small skeins are then dyed and then placed separately upon swifts to again unwind them. Larger skeins than above named have been found inconvenient, if not impracticable, on account of becoming tangled in the dyeing and difficult to unwind. By means of my improvement I am enabled to wind skeins of twenty-four thousand yards, or more, in each separate skein upon the reels, thus saving a great amount of labor in taking down the reels to remove the skeins, and the larger skeins wound in my improved manner can be placed at once upon the swifts and unwound without difficulty.

My improvement consists in winding the silk or other thread upon the reel in the form

of a wide band, in which the thread crosses from side to side as it is wound, somewhat in the manner now employed, but so arranged as not to form single skeins by passing one layer over the other. I prefer to have the thread cross in five-sixths of one revolution of the reel, although other proportions will answer. When the required quantity has been wound, I lace the skein or band, before it is removed from the reel, in one or more places, generally on opposite sides of the reel, so as to divide it into a number of parts and hold it in its flat or band-like condition. This lacing constitutes the chief point of my invention, and is what preserves the skein in its shape and prevents its becoming entangled in the process of dyeing. After lacing, the skein is removed from the reel, and passes into the hands of the dyer. After winding in the manner above described the skein is so laid, one thread crossing the other, that its texture is more open even than the small skeins wound in the ordinary manner, and although much larger the dye easily penetrates to every part and insures a uniform color. These several threads cannot become matted together, as with the ordinary skein wound in the customary manner.

In the accompanying drawings, illustrating my invention, Figure 1 shows a skein of silk wound and laced according to my improved method. Fig. 2 shows the skein placed upon a swift, ready to be wound off on bobbins.

A is the skein. B is the lacing by which it is held in form while being dyed. C shows a part of the skein drawn apart so as to show the structure and the manner in which the threads cross each other. D is the swift upon which the skein is placed for unwinding. When the skein has been placed in its proper position upon the swift, the lacings B are removed, and the whole can then be unwound without difficulty, there being much less entanglement between the separate strands than with the small skeins wound in the customary manner.

By means of my invention a great saving is made in the expense of manufacture, the waste of silk is greatly reduced, and less skill is required in the winding after the dyeing, thereby dispensing with the high-priced skilled operatives now employed upon this work.

What I claim as my invention is—

1. A skein of silk or other thread wound up-
on a reel diagonally from side to side, in the
manner described, and laced back and forth
5 across its width to preserve its form, substan-
tially as set forth.

2. The combination of the lacing B with a

wide skein of silk or other thread in which
the strands are diagonally crossed, substan-
tially as described.

JAMES M. GRANT.

Witnesses:

THEO. G. ELLIS,
EDWIN F. DIMOCK.