

R. SIMON.
Reels for Skeining Silk.

No. 142,177.

Patented August 26, 1873.

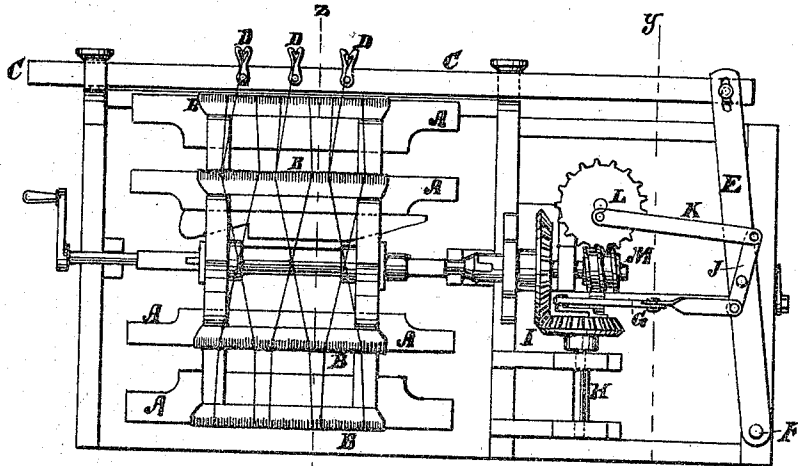


Fig. 1.

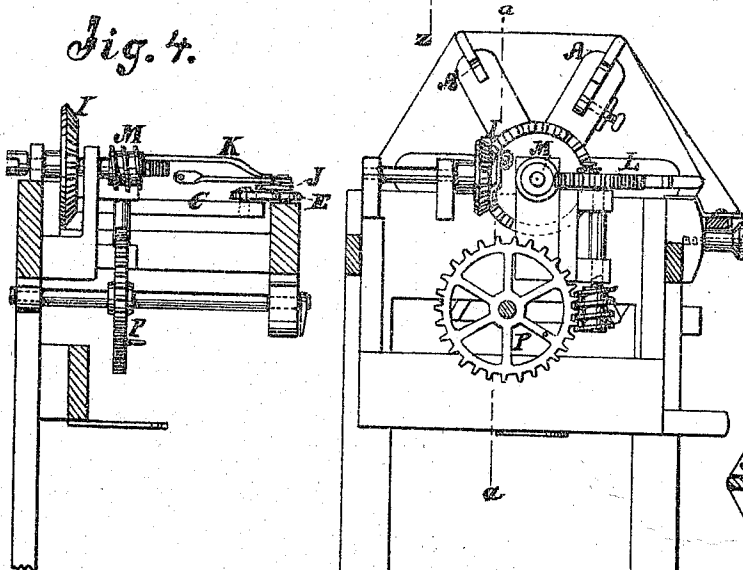


Fig. 4.

Fig. 3.

Fig. 2.

Witnesses:

H. Bernskenhoff.
H. J. Gueiro.

Inventor:

R. Simon
Per *Munnell*
Attorneys.

UNITED STATES PATENT OFFICE.

ROBERT SIMON, OF NEW YORK, N. Y.

IMPROVEMENT IN REELS FOR SKEINING SILK.

Specification forming part of Letters Patent No. **142,177**, dated August 26, 1873; application filed June 28, 1873.

To all whom it may concern:

Be it known that I, ROBERT SIMON, of the city, county, and State of New York, have invented a new and useful Improvement in Machines for Skeining Raw Silk, &c., of which the following is a specification:

For crossing the threads of "greges" thrown, raw, and soft silks, and other threads or yarns, in skeining them, to prevent the threads from mixing and knotting together, as they now do, and thus save much loss of time and waste of material in winding from the skeins upon bobbins, in consequence of the breaking and snarling common to the ordinary mode of skeining, I propose to have a wide reel with, say, six arms, and as many longitudinal bars, in the outer sides of which are small transverse grooves; and in combination with said reel, I have one or more traversing guides to lay the thread on the reel, the guide being operated so that it will cross the threads at intervals between some of the bars—say, every second pair—and lay them parallel, or nearly so, between the others, and at the same time shift at each revolution of the wheel by a slow forward and backward motion, independent of the crossing motion, so as to lay the threads parallel and not directly upon each other, and thus construct flat skeins with crossed threads, which will reel off without any snarling or knotting whatever.

Figure 1 is a plan view. Fig. 2 is a sectional elevation of Fig. 1 on line *yy*. Fig. 3 is a transverse section of the reel on the line *zz*, and Fig. 4 is a longitudinal section taken on the line *aa* of Fig. 2.

Similar letters of reference indicate corresponding parts.

A represents the longitudinal bars of the reel, which in this example are six in number, but may be any other even number of which the half will be odd. They are provided on the outer face with small grooves, corrugations, or notches B, capable of receiving and holding small threads of silk or other material side by side, and preventing them from sliding together when drawn diagonally between the bars of the reel for crossing. C is the thread-guide traverse-bar, carrying three or more thread-guides, D, according to the length of the reel. This traversing bar is connected to

one end of the lever E, which is pivoted to the frame at its other end, F, and between said points is connected, by the rod G, with a crank-shaft, H, which is geared, by the wheels I, with the reel, so that it makes three single strokes to one revolution of the reel, so as to cross the threads at every alternate space between the bars, and lay them parallel, or nearly so, at the other spaces, the latter being done while the crank is passing the centers.

By having a number of bars of which the half will be odd, and crossing in the alternate spaces, the crossing is reversed each time.

In order to shift the traverse sufficiently at each revolution of the reel to lay the threads side by side, and thus build up the skeins flatwise, so that the threads will not pile on each other and roll down the sides, and thus become mixed and snarled to some extent, and also so that the coils of thread will all be the same length, I cause the traverse to shift slowly, first one way and then the other, through a space as wide as I wish to make the skein, and thus lay the threads side by side over the space through which the traverse shifts, then back again in the same manner over the threads previously laid, and so on.

To cause this motion, I have in this case connected the crank-shaft to the lever E by one end of a vibrating bar, J, whose other end is connected, by a rod, K, with a slowly-moving crank-wheel, L, geared with the reel-shaft by a worm, M, so as to slowly shift the lever and the traverse, and thus cause the spreading out of the skeins flatwise.

Thus I propose to provide skeins which will reel off for winding bobbins without any of the waste of time, labor, material caused by the mixing, snarling, and breaking so common with the ordinary skeins. The notches B in the reel-arms facilitate this operation by holding the threads at the beginning of the operation from slipping together, but after a few layers have been put on the threads themselves prevent slipping.

P is a wheel for throwing the reel out of gear, and stopping it when the skein is completed.

I do not limit myself to any particular number of crossings to the skeins, but I prefer to cross it about three times.

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

1. The combination, with a crossing traverse-guide, of mechanism, substantially as described, for shifting it forward and backward to lay the threads side by side throughout the width of the skein, substantially as specified.
2. The combination, in a reel having a cross-

ing traverse-guide, of bars or arms A, provided with notches or grooves B or their equivalent, and mechanism for shifting the guide forward and backward to lay the threads side by side, substantially as specified.

ROBERT SIMON.

W. H. SANFORD,
CHARLES GELAN.