(No Model.)

J. DALTON.

THREAD GUIDES FOR LOOMS, &c.

No. 347,028. Patented Aug. 10, 1886.

Fig. 2.

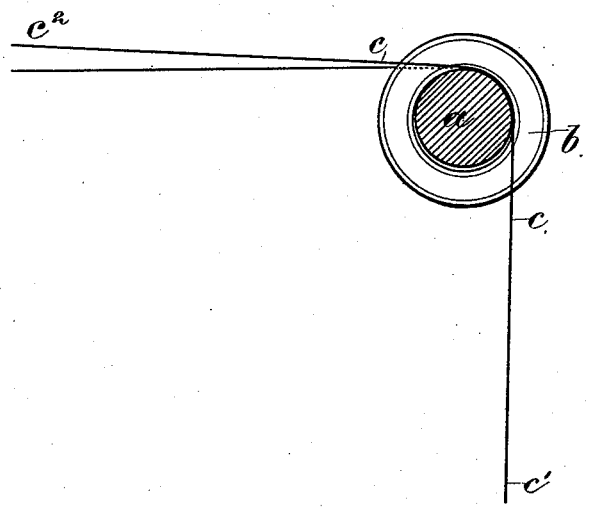


Fig. 1.

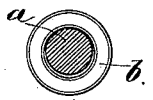


Fig. 3.

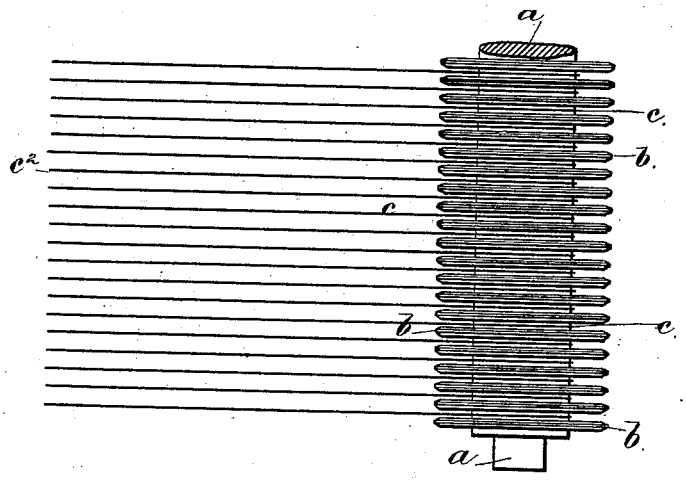
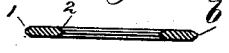


Fig. 4.



Witnesses
Harold Serrell
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UNITED STATES PATENT OFFICE.

JOSEPH DALTON, OF NEW YORK, N. Y.

THREAD-GUIDE FOR LOOMS, &c.

SPECIFICATION forming part of Letters Patent No. 347,028, dated August 10, 1886.

Application filed March 1, 1886. Serial No. 193,565. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DALTON, of the city, county, and State of New York, have invented a new and useful Improvement in Thread-Guides for Looms, Knitting-Machines, &c.; and the following is declared to be a description of the same.

The threads from the warp-beam usually pass up vertically and over the cradle-bar and draw off horizontally, or nearly so; hence if the threads are not separated before they pass over the cradle-bar, the pressure mats them together so that they are very liable to subsequently be broken and the fabric injured by the mending of the warps. This is especially the case with silk.

By my invention the threads are separated as they pass up from the warp-beam before coming into contact with the first cradle bar or roller. This is effected by thin guide rings or disks, perforated to pass freely over the cradle bar or roller; and these guide-rings alternate with the threads, so as to separate them one from another and prevent them becoming matted together in passing over the cradle-bar. I prefer to taper or round the inner and outer edges of these rings, in order to remove any burrs that might act to tear or injure the threads as they pass over the bar. These rings, being very thin, are adapted to the separation of the threads regardless of the gage or number of threads to the inch, the proper number of rings being placed upon the cradle-bar and the threads being laid between them.

In the drawings, Figure 1 is a section of the thread-bar and elevation of a ring. Fig. 2 is a similar view, also showing the threads, bars, and rings in enlarged size for clearness. Fig. 3 is a plan view of part of the thread-bar rings and thread; and Fig. 4 is a section of a single ring, showing the tapered or rounded edges.

a is the thread-bar or cradle-bar spindle, which is mounted in a loom or knitting-machine in brackets secured to the cradle-bar in the usual manner, and the same is free to revolve.

b are the guide-rings, which I prefer to make of thin sheet metal, although celluloid or similar substances might be employed, and these rings are threaded upon the cradle-bar spindle and are slightly larger than said spindle and are free to revolve or move sidewise upon the said spindle. In order that the surface of the guide-rings may be perfectly smooth, I prefer to taper or round the outer and inner edges, 1 2, of the guide-rings. This may be done by dies. These guide-rings *b* separate the threads *c* one from another as they pass over the cradle bar spindle, the portion of the thread c' coming up from the warp-beam, and the portion c^2 passing off to the guide and needles or harness of the machine, a single thread being placed between each pair of guide-rings.

I am aware that a bar with deep peripheral grooves, in which the threads pass, has been used; also, that disks between which threads pass have been pressed against such threads by a spring. These are not adapted to the object desired by me, because they will not yield to allow knots or inequalities to pass freely.

I claim as my invention—

1. The combination, with the cradle-bar spindle or thread-bar, of separate guide-rings around said spindle or bar, and adapted to move freely endwise thereof, and between which the threads pass and are kept apart, substantially as specified.

2. The combination, with the cradle-bar spindle or thread-bar, of loose separate guide-rings threaded upon said spindle or bar, the outer and inner edges of which are beveled or rounded, substantially as and for the purposes set forth.

Signed by me this 23d day of February, A. D. 1886.

J. DALTON.

Witnesses:
GEO. T. PINCKNEY,
HAROLD SERRELL.