G. RICHARDSON.

Guide for Spooling and Winding Machine.

No. 167,272. Patented Aug. 31, 1875.

Fig. 1.

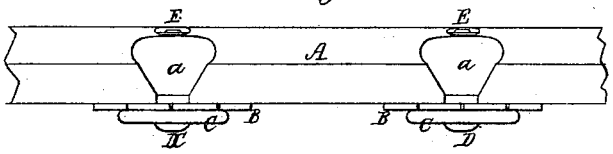

Fig. 3.

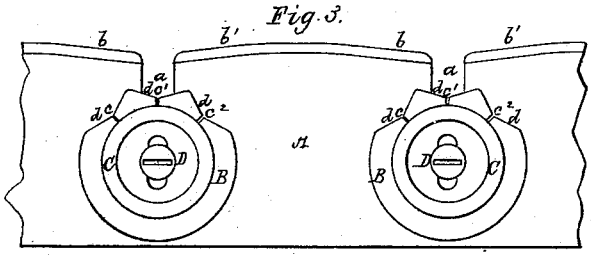

Fig. 2.

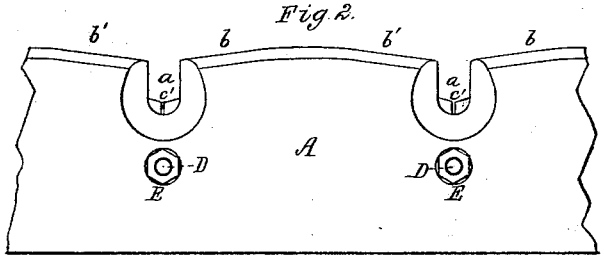

Fig. 4.

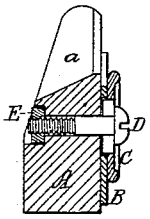

Fig. 5.

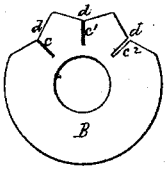

Fig. 6

Witnesses.

S. N. Piper

L. N. Müller.

Geo. Richardson

by his attorney.

R. H. Eddy

UNITED STATES PATENT OFFICE.

GEORGE RICHARDSON, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN GUIDES FOR SPOOLING AND WINDING MACHINES.

Specification forming part of Letters Patent No. **167,272**, dated August 31, 1875; application filed July 20, 1875.

To all whom it may concern:

Be it known that I, GEORGE RICHARDSON, of Lowell, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Guides and Guide-Rails of Machinery for Spooling and Winding Yarn; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a rear elevation, and Fig. 3 a front elevation, of a portion of a spooling-machine guide-rail with my invention applied thereto. Fig. 4 is a transverse section taken through the said rail, one of its adjustable slotted guides, and rotary yarn-rests. Fig. 5 is a side view of one of the said guides, and Fig. 6 is an elevation of one of the yarn-rests.

Heretofore in most, if not all, machines for spooling yarn the slotted guides have projected above their bar or carrier, or they have had angular guide-wires leading to them, and inserted in, and projecting from, the support-rail, both in front of and above it, in which latter case the guides were not rotary, each having but one slit or notch; but with my present invention the guide-bar not only projects above each of the guides—which is a rotary disk slotted radially, connected with it—but is provided with a mouth therefor, and with slopes leading into such mouth, the object of which is to enable yarn, when, in passing from the bobbin to the spool, it may be dropped on the top of the guide-bar, to readily and automatically find its way into the mouth, and thence into the slot, of the guide connected therewith. Furthermore, each of the guides is a rotary flat plate or disk furnished with two or more radial slits, with a tapering throat to each to lead the yarn into it, and each guide has in it concentrically a hole having a diameter larger than that of the shank of the confining-screw of the guide, and there is applied to such guide a rotary yarn-rest, which is pivoted in the guide, and slotted to admit of the guide being moved up or down on its clamp-screw. This yarn-rest is a plate, circular in shape, by preference, and made of some hard material. I usually construct it of cast-iron with a chilled rim, but it may be of steel or other suitable substance. By turning it around, more or less, a fresh portion of its circumference or perimeter may be brought, as occasion may require, up to the slit of the guide, and thus, when the yarn-rest may have become worn or cut in any place by the yarn while passing over it, it (the said rest) may be turned a little and fixed in place, so as to bring the yarn to bear on another part of the periphery or perimeter.

In the drawings, A denotes the guide-rail, provided at its upper edge with a series of mouths, *a a*, and having such upper edge sloped, as shown at *b b'*, toward each of the said mouths. In front of each mouth *a* is the adjustable and rotary yarn-guide B and the rotary yarn-rest C, which are held to the rail by a clamp-screw, D, going through them and into a nut, E, arranged as represented. The rotary guide B has a series of radial slits, *c* c^1 c^2, made in it, they being arranged as shown, and each differing in width from that next to it, and having a tapering throat, *d*, which, when in use, extends across the mouth *a*, and serves to aid in causing the yarn to pass into the slit.

From the above it will be seen that, as the yarn may be finer or coarser, a guide-slit, or suitable width for it, may be adapted to the receiving-mouth of the rail; also, that the guide-plate and the yarn-rest may be readily adjusted to the proper height. By having the yarn-guide B a flat rotary plate or disk slitted radially, and applied as described, the flat guide-rail A, and having the latter extended above the guide B, and there provided with the mouth *a* and inclines *b b'* to each of the guides B, we not only save the necessity of guide-wires to the rail, but are enabled to turn the guide so as to bring either of its slits into engagement with the mouth *a*.

I claim—

1. The rotary flat plate or disk yarn-guide B, provided with a series of radial slits, *c* c^1, and a tapering throat, *d*, to each, all being as and for the purpose described.

2. The combination of the rotary adjustable yarn-rest C with a slitted guide and the guide-rail A, all being arranged as described.

GEO. RICHARDSON.

Witnesses:

R. H. EDDY,

J. R. SNOW.