ELIZA D. MURFEY.

Bearing-Surface for Spindles.

No. 166,885. Patented Aug. 17, 1875.

Fig. 1.

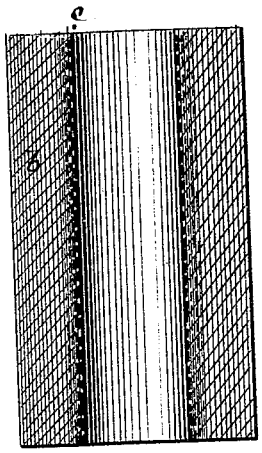
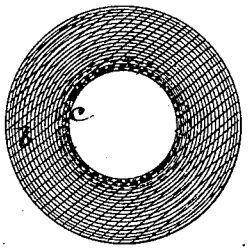


Fig. 2.



Witnesses.
John Becker.
Fred Haynes

Eliza D. Murfey
by her Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

ELIZA D. MURFEY, OF NEW YORK, N. Y.

IMPROVEMENT IN BEARING-SURFACES FOR SPINDLES.

Specification forming part of Letters Patent No. **166,885**, dated August 17, 1875; application filed March 4, 1875.

CASE A.

To all whom it may concern:

Be it known that I, ELIZA D. MURFEY, of the city, county, and State of New York, have invented a certain new and useful Improvement in Bearing and Wearing Surfaces for Spindles and other Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to bearing and wearing surfaces for different purposes, such as the bolsters and steps of spindles, the lining of axle-boxes and journal-boxes, the packing of stuffing-boxes, the guides of machinery, and pickers for looms.

The invention consists in a hollow cylinder or tube composed of a roll or coil of paper treated with plumbago or other lubricating material, and compressed in an axial direction to give it a compact and firm character. In this latter respect the invention essentially differs from other tubular paper bearings described in previous Letters Patent issued to me.

To give the bearing a self-lubricating character the paper, or that portion forming the inner coils of the tube, has any suitable lubricating compound, preferably one having plumbago as a leading element, applied to it; also, if desired, the paper may be treated, either in part or in whole, with a hardening solution, to insure solidity and the holding of the coils of the tube together after compression.

The drawing represents the invention as applied to a spindle-bolster.

Figure 1 is a longitudinal section, and Fig. 2 a transverse section.

The following mode of proceeding will answer as well as any other to show how the invention is, or may be, carried out. Thus, I take tissue or other paper, in strips of the required length and width, and, to make the bearing self-lubricating, apply to the one end or portion of it, for a given distance, any suitable lubricating compound or solution, but preferably one in which plumbago forms a leading element. The paper may also be treated with any suitable hardening solution; or, if desired, the strip may be divided into two—namely, a short strip treated with the lubricating material, and forming the inner coiled portion of the bearing, and a long strip, treated only with the hardening material. It will suffice, however, to refer to the strip as a single one.

The paper, thus or otherwise suitably prepared, is coiled or rolled on a mandrel, and the whole then placed in a tube or mold, which should be perforated to allow of the expulsion of moisture from the paper, which, even if not treated as hereinbefore described, should be more or less saturated either with water or an adhesive liquid. I then apply power to either or both ends of the paper bearing by means of one or more compressing-rings or pistons actuated by any suitable means, and serving to compress the paper bearing in direction of its axis, which gives a firm and compact character to the bearing, resembling in solidity a metal bearing, but which may be self-lubricating, and is cheaper and lighter.

In the drawing, *b* represents the paper coiled or rolled, and subsequently compressed, as described; and *c*, the lubricating compound applied to that part of the paper which forms the inner portion or wearing-surface of the bearing.

I claim—

A bearing or wearing surface for journals and other purposes, composed of a paper coil or roll compressed in direction of its axis, substantially as specified.

ELIZA D. MURFEY.

Witnesses:

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