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P. W. KIERNAN.

APPARATUS FOR EXPANDING OR STRETCHING TEXTILE FABRICS.

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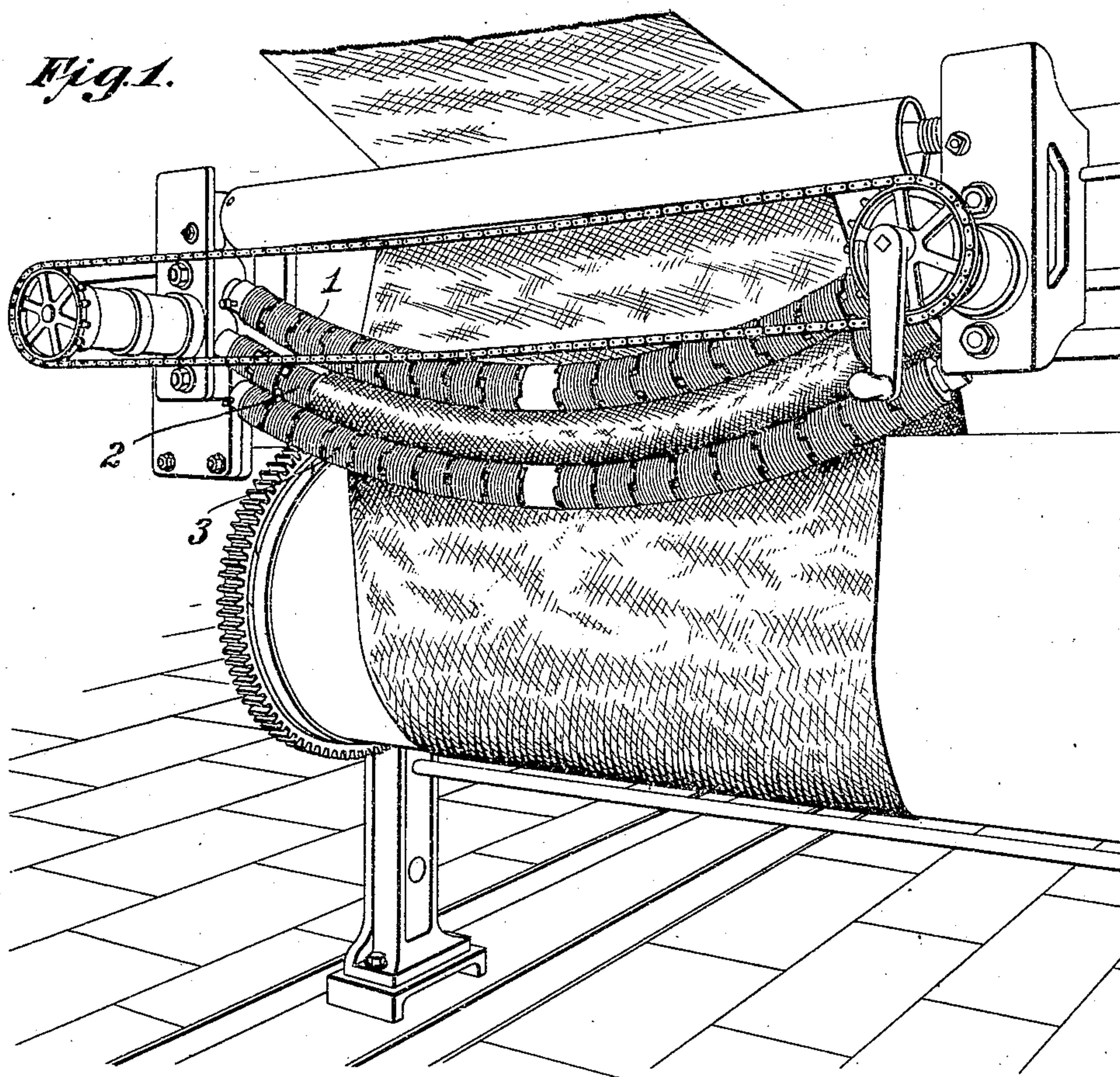
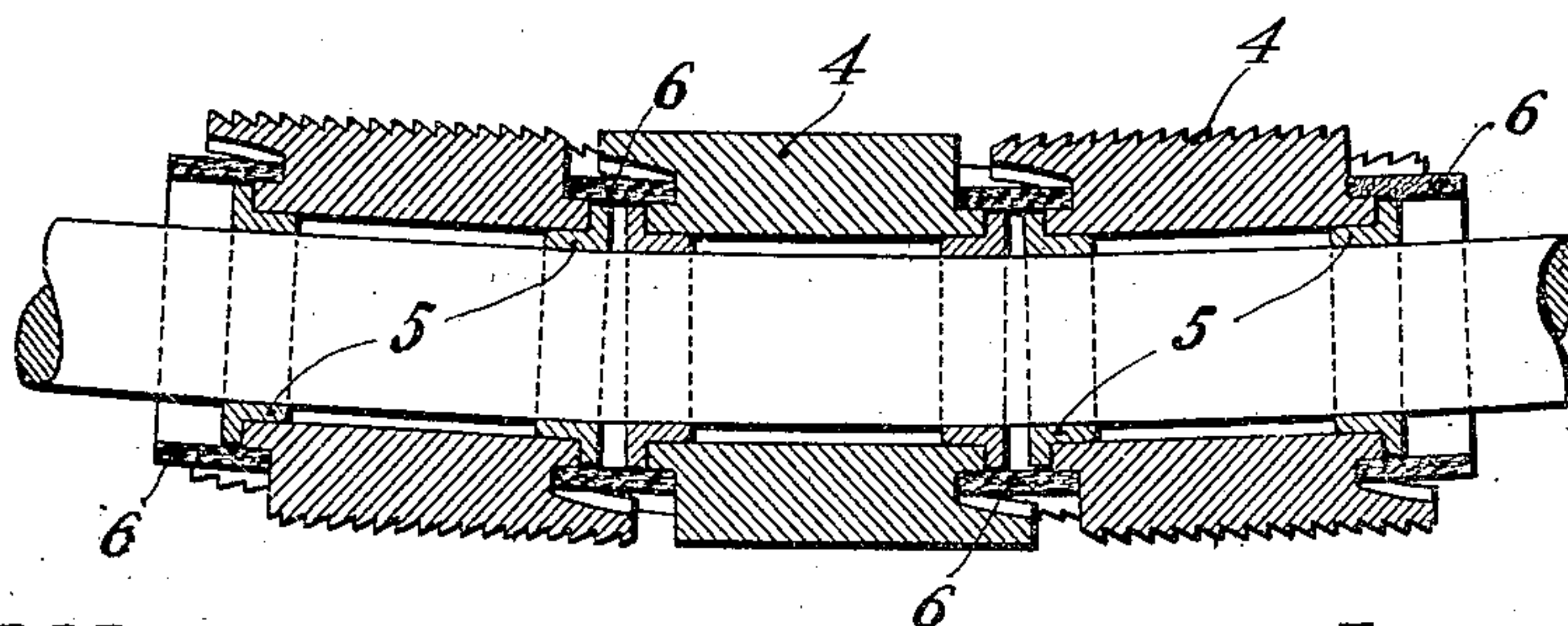


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR EXPANDING OR STRETCHING TEXTILE FABRICS.

No. 868,098.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PATRICK W. KIERNAN, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Expanding or Stretching Textile Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an improvement in apparatus for expanding or stretching textile fabric, having as its object to improve the construction and operation of such apparatus.

The invention consists in the construction hereinafter described and particularly defined in the claims.

In the accompanying drawings, illustrating the preferred form of the invention, Figure 1 is a perspective view of the apparatus, and Fig. 2 is a longitudinal sectional elevation of a portion of one of the expanders.

In the well known Mycock apparatus (in connection with which the invention is illustrated see Patent No. 687,847, Dec. 3, 1901), each expander consists of a series of grooved expander sections mounted upon a curved bar. Three of these bars, provided with expander sections, mounted on suitable brackets, are used. The expander sections are provided, in the Mycock apparatus, with a wooden bushing at each end to form bearings for the support of the section on the bar. The wooden bushings, in the use of the apparatus, are blackened by the wear to which they are subjected, and collect dirt and dust, then the natural abrasions of the bushings and the dropping of the abraded material on the fabric passing around them has been found in practice to constitute an objection, which, especially when the apparatus is used in connection with a calender, where such material is pressed into the fabric, is so serious as to require sometimes the re-washing of between five and ten per cent. of the fabric treated. The wooden bushings, too, break more or less frequently, and fragments of a bushing on the

fabric when it enters the calender cause the cutting of holes in the cloth. As shown in the drawing the expanders 1, 2 and 3 are made up of cylindrical sections 4, which have interlocking portions overhanging the bushings 5. The dirt, abraded material or fragments from the bushings fall out on the cloth through the spaces between the ends of the sections. To prevent this I have provided tubular washers 6 which lie between the successive sections and embrace the ends of the adjacent bushings. To obtain the best results these tubular washers should be made of some flexible or elastic material which will be compressed by the sections on the concave side of the bar and expand sufficiently to fill the larger space between the sections on the convex side of the bar. Washers of felt not only possess sufficient elasticity for this purpose, but in addition the absorptive nature of the felt secures the further advantage of affording the washer the capacity of holding oil, grease, dirt and abraded material, thereby preventing their access to the fabric operated upon.

I claim:—

1. An apparatus for expanding or stretching textile fabrics, having, in combination, an expander consisting of a curved rod provided with cylindrical expander sections provided with a bearing rotatably mounted thereon and washers located between the expander sections and covering the bearings, substantially as described.

2. An apparatus for expanding or stretching textile fabrics, having, in combination, an expander consisting of a curved rod provided with cylindrical expander sections provided with bearings rotatably mounted thereon and elastic washers located between the expander sections and covering the bearings, substantially as described.

3. An apparatus for expanding or stretching textile fabrics, having, in combination, an expander consisting of a curved rod provided with cylindrical expander sections provided with bearings rotatably mounted thereon and felt washers located between the expander sections and covering the bearings, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

PATRICK W. KIERNAN.

Witnesses:

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