

(Model.)

J. PATON.

BELTING AND LACING.

No. 247,102.

Patented Sept. 13, 1881.

Fig. 1.

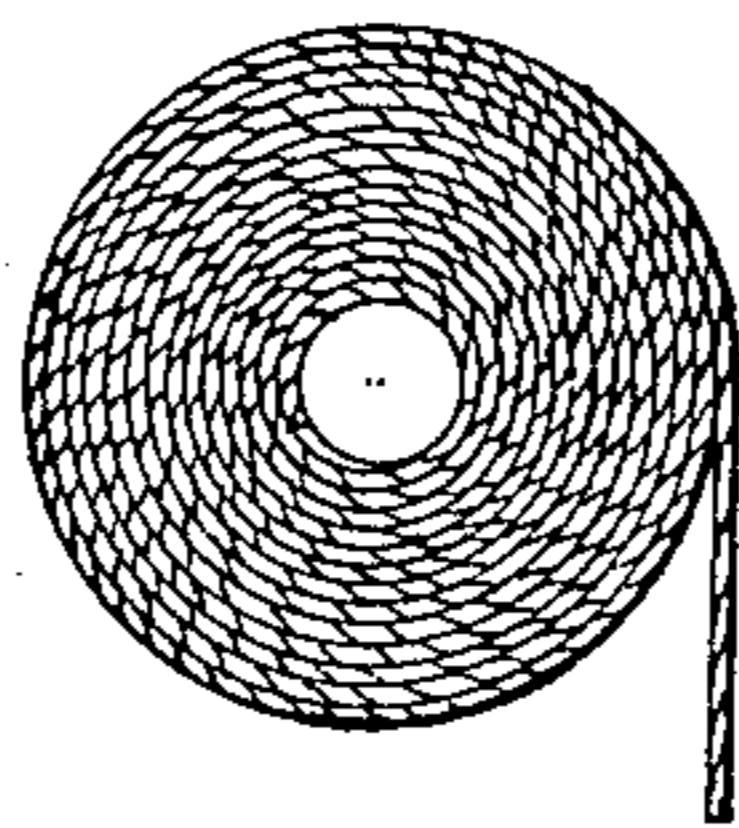
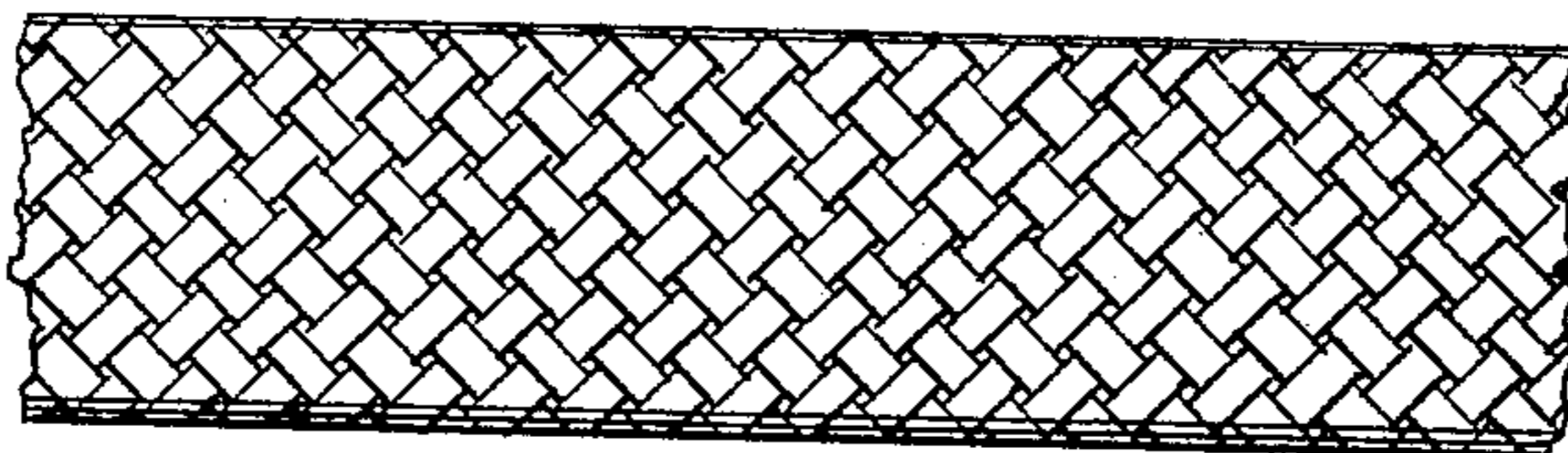


Fig. 2.



Witnesses:

Wm Main.
Harold M. Smith.

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Att'y

UNITED STATES PATENT OFFICE.

JAMES PATON, OF JOHNSTON, COUNTY OF RENFREW, SCOTLAND.

BELTING AND LACING.

SPECIFICATION forming part of Letters Patent No. 247,102, dated September 13, 1881.

Application filed July 6, 1881. (Model.) Patented in England May 29, 1880.

To all whom it may concern:

Be it known that I, JAMES PATON, a subject of the Queen of Great Britain, and of the town of Johnston, in the county of Renfrew, in that
5 part of the United Kingdom of Great Britain and Ireland called Scotland, mill-owner, have invented certain new and useful Improvements in Machine-Belts and in Laces for the same, for which I have obtained a patent in Great
10 Britain, No. 2,198, bearing date May 29, 1880; and I do hereby declare that the following is full, clear, and exact description of the invention, sufficient to enable others skilled in the art to which it appertains to make and use the
15 same.

My invention consists of certain improvements in machine-belts and belt-laces of plaited fabrics or braids, and has for its object to render such belts and laces stronger and more
20 durable than those hitherto employed.

The method or process of making the belt consists, first, of plaiting the yarns of cotton, wool, hemp, flax, jute, manila, or like fiber, or combination of these or similar fibers, either
25 in a machine or by hand, to the breadth and thickness required to form the belt or lace; second, of washing the plaited fibrous fabric, or the yarns before they are made into the fabric, in hot water, with or without the addition
30 of ashes or alkaline lyes; third, of imbuing the belt or lace with an astringent substance, such as tannin, by immersion, or boiling in a solution of cutch, tannin, or other astringent; fourth, of saturating or impregnating the belt
35 or lace with oil, wax, tallow, grease, tar, rosin, rubber, or any compound thereof; fifth, of pressing the belt or lace during its manufacture by running it through a series of calender-rolls until its surface is flat and even and the
40 several yarns forming the plaiting and braid are forced hard upon each other; sixth, of stretching the belt or lace in the operation of pressing it until its tensile elasticity is practically exhausted and the liability of the belt
45 or lace to stretch in use is removed.

The finished plaited fabrics are cut in suitable lengths for machine-belts and laces, and the smaller sizes are used for laces for connecting or joining together the ends of machine-belts. The ends of the laces may be provided
50 with tags or threading-wires, fixed onto one or both ends of each length by means of a tagging-machine, to render them suitable for use instead of or as a substitute for leather thongs hitherto used for lacing machine belts or bands. 55 These improved belt-laces are suitable for lacing ordinary cotton, rubber, or leather belts, as well as for the improved belts.

The belts or laces may be painted, if desired.

My improved belts and laces are so made
60 and manufactured as to render them much stronger and more durable than ordinary cotton or other fabric belts or laces of the same weight. The yarns, strands, or cords which
65 compose the plaited belt or lace all take up the longitudinal tensile strain on the belt or lace, whereas in ordinary woven belts or laces the warp-threads only receive the strain, and, there being no transverse strain, the weft is unaffected.
70

Having now described my invention and shown how the same may be manufactured, I claim—

The method substantially herein described of making a belt or lace, which method consists of first plaiting together the twisted fibrous
75 yarn to the desired breadth and thickness, then washing it in alkali or hot water, then treating it with tannin or other astringent, then filling its interstices full of linseed-oil or
80 other suitable plastic and elastic substances, then stretching and pressing it hard and even, substantially as described.

JAMES PATON.

Witnesses:

FREDERICK JOHN CHEESBROUGH,
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Both of 15 Water Street, Liverpool, England.