

UNITED STATES PATENT OFFICE.

DUNCAN M. FULLER, OF AKRON, OHIO.

PAPER-MAKER'S FELT.

SPECIFICATION forming part of Letters Patent No. 431,112, dated July 1, 1890.

Application filed July 3, 1889. Serial No. 316,461. (No specimens.)

To all whom it may concern:

Be it known that I, DUNCAN M. FULLER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Paper-Makers' Felts, of which the following is a specification.

This invention relates to felts for paper-makers' use; and it consists of a woolen fabric woven in tubular or endless form, having the loosely-twisted threads woven in as warp and the hard-twisted threads as the filling, the object being the production of a paper-maker's felt having the fabric shrunk or fulled transversely from that of former makes.

The particular advantage of this felt is a seamless endless fabric not liable to shrink crosswise of the felt and become narrowed up in a paper-making machine.

The method of carrying out my invention is as follows: I take for the warp the threads having the less turns of twist to the inch and the harder-twisted threads for the weft or filling in my arrangement of the material for the loom—that is, I place the threads having the less turns in twist in the loom for the warp and feed the harder-twisted threads with the

shuttle in the process of weaving my fabric. I thus make a fabric which in fulling will shrink more in the direction of the warp than in the direction of the filling. I next cut from this tubular or double fabric a portion sufficiently long for one felt. The length thus cut constitutes the width of my felt, having a raw edge without a selvage. This edge I finish by binding, hemming, blanket-stitching, or crocheting, which, when the felt is finished by fulling, makes an edge equal to a selvage. This makes an endless felt without a uniting seam, and may be made of any length or dimensions required.

Having described my invention, I claim—

As a new article of manufacture, a paper-maker's felt consisting of a fabric woven in tubular or endless form, having the loosely-twisted threads woven in as warp and the hard-twisted threads as the filling, having edges finished and the fabric shrunk or fulled, substantially in the manner described.

DUNCAN M. FULLER.

Witnesses:

C. B. RAYMOND,
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