

UNITED STATES PATENT OFFICE.

STEPHEN M. ALLEN, OF WOBURN, MASSACHUSETTS.

IMPROVED METHOD OF TREATING HEMP, FLAX, JUTE, GRASS, &c.

Specification forming part of Letters Patent No. **48,782**, dated July 18, 1865.

To all whom it may concern:

Be it known that I, STEPHEN M. ALLEN, of Woburn, in the county of Middlesex and State of Massachusetts, have invented a new and improved article of manufacture, consisting of a material made from flax, hemp, jute, China grass, or other long-line fiber of a similar character, by a process which I term the "flossing process," by which the same is fibrilized, or reduced to the consistency of cotton and wool, and whereby it may be spun and woven on the ordinary cotton and woolen machinery with or without admixture of cotton or wool, of which the following is a specification.

The long-line fibers being composed of small fibrils overlying each other and closely cemented together, it is necessary first to dissolve the gummy matter holding the fibrils together, and then to strand the same before it can be spun on short-stapled cotton or wool machinery. For the manufacture of fine goods from fibrilized flax or hemp this gummy matter must be entirely removed, and the fibers are properly disintegrated into fibrils by stranding; but for common goods the gum from the interior of the fibrils need not be removed, but it is indispensable that the same should be removed from the exterior of the fibers, in order to draw them down fine between the drawing-heads of the spinning-frame. After the fiber has first been rotted or steeped or fermented the gummy matter crystallizes in drying, and by proper methods of scraping or flossing, in connection with stranding the same and drawing it down to a short staple—like cotton and

wool—it may be fitted for spinning or felting, so as not to impair its strength for all coarse goods or for paper-stock; but in all cases I have found the stranding process indispensable. The nature of the fiber and its condition on the stalk on which it grew renders disintegration necessary by pulling the fiber apart instead of cutting.

Having thus described my said invention, I claim—

1. A fiber composed of flax, hemp, jute, China grass, and other long-line substance, dew or water rotted, steeped, or fermented, and submitted to a stranding and flossing process by drawing-rollers, scutchers, scrapers, bar-beaters, pickers, cards, or any suitable machinery for the purposes of reduction in the manner and for the purpose set forth.

2. A yarn, cloth, felt, or paper-stock made from long-line fiber—such as flax, hemp, and other like substance—which has been submitted to dew or water rot, steeping, or fermentation, in combination with stranding and flossing by mechanical means, substantially as herein set forth.

3. A yarn, cloth, felt, or paper made from long-line fiber treated as above and when mixed with any other fiber, substantially as set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

STEPHEN M. ALLEN.

Witnesses:

WM. D. SEAVER,
LEVI WILKINS.