

UNITED STATES PATENT OFFICE.

ROBERT D. DWYER, OF NEW YORK, N. Y., ASSIGNOR TO ABRAHAM B. SANDS
AND DAVID SANDS.

IMPROVEMENT IN MANUFACTURE OF LINT.

Specification forming part of Letters Patent No. **24,970**, dated August 2, 1859.

To all whom it may concern:

Be it known that I, ROBERT D. DWYER, of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Making Lint for Surgical Uses; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention or discovery is of a new mode of preparing surgical lint, constituting an improved art or manufacture.

The only method by which the article "lint" has been heretofore produced was by scraping, entirely by hand, old linen cloth with a knife into said lint, after which it was spun and woven, so as to produce an absorbent cloth suitable for application to sores and wounds, as well known. This mode of production is not only very costly, but the quantity which may be produced is so limited as to be below the amount which is desired for use. By my process the lint may be obtained directly from the flax to any extent and possessed of all the characteristics required. Neither cotton, silk, nor indeed any fibrous material other than flax has been found to possess the properties necessary for the manufacture of this article—that is to say, a material capable of being reduced to a fine fiber, having softness and pliability, and which, under such conditions, will still be capable of absorbing fluids to the degree and in the manner required in its application to wounds and sores, whereby the enlargement of the suppurating-surface is prevented and the consequent increase of the inflammation obviated. Old linen attains this condition by reason of the wear and usage arising from the repeated washings, rubbings, &c., the fiber becoming thereby broken and readily separable into lint by scraping, as above mentioned.

By my method of treating flax I am enabled to bring it into the same condition as lint formed in the usual way from old linen. My process is as follows: The flax is first to be cut into suitable lengths, which may be pieces of an inch, more or less, by any suitable knife

or chopper. Such as are used for cutting hay will answer. This is then to be soaked in water of a temperature not to exceed 70° Fahrenheit for some eight or ten hours, and in a wooden tub or other vessel of a non-corrosive character. From this vessel it is taken and submitted to a breaker, which may be of corrugated or toothed rollers, the corrugations meshing into one another. The passing of the flax between these breaks all the joints and crushes the tubes. After this it is to be steamed in a condenser or closed vessel, for the purpose of softening it and setting free the oil, then again subjected to the action of the rollers and these processes are to be continued alternately until all the oil is discharged. When thoroughly broken and purified in this respect, the product is to be submitted to the action of a solution of lye of wood-ashes at a temperature of 120° Fahrenheit for ten hours or thereabout. Afterward it is washed, with constant agitation, in a stream of clear water and then immersed in a bath of dilute pyroligneous acid, which brings the material into a condition for bleaching. This will be effected by means of a saturated solution in equal quantities of chloride of sodium and chloride of lime applied in the usual way of bleaching fibrous materials. It is then to be washed for six hours in a clear stream under horizontal agitation and at a temperature of 110° Fahrenheit, gradually diminishing to 60° Fahrenheit at the close. After this the material is to be dried between steam-heated rollers, and then carded, spun, and woven, as is usual with hand-scraped lint.

I claim—

The new article of manufacture herein described, being surgeons' lint produced directly from new flax, in the manner substantially as set forth.

In testimony whereof I have hereunto set my hand.

ROBERT D. DWYER.

Witnesses:

J. P. PIRSSON,

S. M. MAYNARD.