coarse, long-line yarn and cloth. It is well known that the only mill of this class in our country fully equipped for spinning and weaving fine long-line yarns, (located at Fall River, Massachusetts), was, after a great outlay of capital and immense exertions to operate at a profit, converted into a cotton mill at a heavy loss, in consequence of an insufficient home supply, the mill being precluded from using foreign stock by a practically interdictive duty.

"After the most careful consideration of various modes of growing and treating flax to obtain the best results to the farmer, and an abundant supply to the manufacturer, we are of the opinion that the crop should be planted mainly for the seed, and incidentally for the fibre; that to insure the greatest profit to the grower from both these sources, there should be sown from four to six pecks of seed to the acre; that if the crop is designed for ultimate fibre, *i. e.*, flax-cotton, it should be harvested by machine cutting in the morning after the dew is off, when the seeds are sufficiently in the glaze to be of brown color; thereby securing the greatest supply of oil and the least rigid condition of fibre; that it should be exposed to the sun through the day, cocked towards night, and treated in other respects like grass cut for hay, avoiding as much as possible exposure to rain or dew; that the seed should be threshed in the cheapest and most convenient manner regardless of the tangled condition of the straw; that the latter should, for the effectual removal of the shives, be subjected to the action of approved power brakes, (we give the preference to Mallory & Sanford's twelveroller kind), located either on the farms or at convenient points for the neighborhood patronage; that in this form it should be rough-baled and sold to chemical disintegrating works, to be there further divested of dirt and shives by mechanical means, and exposed to high steam in combination with mild or strong alkaline solutions for disintegration, and in this finished form sold as stock for manufacturing into fine linen fabrics on cotton machinery. Flax cotton from such stock will be reliable for uniformity of strength, and be sufficiently white without meaching prior to its manufacture into eloth.

"But if the crop is designed for short stock to be manufactured on modified cotton machinery into coarse linen goods without chemical disintegration, we recommend retting the straw, and that on taking the flax from the brakes it be subjected to the further action of power disintegrating, shortening and cleaning machinery, to be located at convenient centres in flax-growing districts, and there be balled for the market.

"We are aware there is an impression that unretted straw cannot be successfully divested of its shives by mechanical means. This impression is probably based upon the imperfect mode hitherto practiced in harvesting the crop. The straw, even if intended to be left in an unretted state, is generally permitted to lie more or less exposed to dew or showers a few days after cutting. This partial wetting and drying appears to have a tendency to crystallize the gluten or cellulose between the filaments and woody portions, which makes it more adhesive and harder to separate; but if the straw is harvested and dried without exposure to moisture, the crystallizing process not being developed, we think the shives will, under the action of properly constructed brakes, readily separate from the fibres. We have seen unretted, tangled, as well as straight straw, quite thoroughly divested of shives after passing twice through a single head of Mallory & Sanford's brake, with the horizontal, rotating and vibrating rolls, placed in sets one above another.

"It is estimated that retted straw shrinks in weight about fifteen per cent., while the fibre loses very little of its weight. This is caused by the partial decomposition of the shives and a portion of the gluten or intercellulose; so that if the straw crop is sold in an unretted state a proportional allowance should be made for its extra weight, less the value of the unretted shives for cattle-feeding, which is said to be considerable, as their oleaginous properties make them quite nutritious. A ton of retted straw in good condition produces about 450 pounds of flax, while a ton of unretted produces only about 380 pounds. Good retted straw in ordinary times is worth, in flax districts, say eleven dollars per ton of 2,000 pounds, equal to  $2\frac{1}{4}$  cents per pound for the flax. This gives a proportional value of nine dollars per ton for unretted atraw, equal to  $2\frac{1}{4}$  cents per pound for each kind of flax. The cost of labor, supplies, power, supervision and use of machinery and buildings for converting the straw into flax, is also about  $2\frac{1}{4}$  cents per pound; making the entire cost of the flax at the brake machines five cents per pound. This, if sold at seven cents, in ordinary times would give a liberal profit to the proprieters of such machines; but flax in this form will, of course, be subjected to a diminution in weight when further divested of its glutinous substance, straggling shives and seed-ends, by the action of preliminary machinery for converting it into flaments