

Rise of Linen Industry Opens New Epoch in Willamette Valley

Projected Mill Here Paves Way for Creation of New American Industry

For two generations thoughtful people of the Willamette Valley have sought the things that would bring this great district of western Oregon into its own industrial era. Climatic conditions, they knew, were ideal. Water resources, in quality and quantity, were a recognized asset; the soil extremely fertile.

Wheat raising flourished for some years, but some way the soil for wheat production wore out. The fruit industry arose and flourished, and still flourishes, but the fruit growers here as elsewhere have certain discouraging obstacles to meet. The valley is a world hop center, but prohibition has cut down that activity. Manufacturing seemed to be the thing, and just now there is no doubt that it is the thing, with a linen industry that already is just about to be launched. Paper making has been here for some years, lumber manufacturing for a much longer time, and each in its turn has thrilled the community progressives. They are now thrilled again with the establishment of an industry that will convert Willamette Valley flax into fabrics that are assured a world market, for linen factories in America are so few that the market privilege will be well-nigh exclusive.

Great credit is due the late Mrs. W. P. Lord and other pioneers who preached flax 40 years ago, and to several governors who encouraged the industry through the state penitentiary. Only recently, however, has it been possible to assemble the money and brains necessary to give the industry an adequate start, and this has been brought about by a cooperation between Canadian capitalists and linen making experts with business men of the Willamette valley and Portland.

Organization of the Oregon Linen Mills, Inc., marks the beginning of the new epoch. This concern is capitalized at \$440,000 in preferred and common stock, the preferred being 7 per cent accumulative stock with a par value of \$100 a share. In round figures about \$500,000 has been subscribed.

The company proposes to establish a spinning and weaving plant for the immediate manufacture of linen products, such as crasses, huck toweling, flax yarns and glass checks. These are the "bread and butter" lines on which the factory will start operations. Gradually it will work up to the higher counts in yarns and the finer qualities of materials.

An now projected the plant will consist of 4480 spindles, 200 looms and the necessary bleaching and finishing equipment. Salem will be the seat of the first factory, and the buildings will probably be erected on a seven-acre tract which will provide for the extension of the business that is expected in the near future. In the erection of the plant, provision of plans, and the selection and purchase of machinery the organization will have the advantage of consultation and advice of Dominion, Ltd., of Guelph, Canada. This Canadian firm has been successfully spinning flax and weaving linen fabrics, even up to the highest qualities of double damask linen, during the last 14 years, and proposes to do in Oregon exactly what has been done successfully in Canada. It is proposed that the new concern will increase its facilities from time to time to take care of the flax and fibre now produced in the state.

The cost of the plant is estimated as follows:
Land and buildings, \$92,000; four sets spinning systems for warp, including hackling machines, spread boards, roving and spinning, \$80,000; two wet systems for spinning weft, \$45,000; two dry systems for spinning weft, \$50,000; heating, sprinkling and power, \$15,000; spoolers, winders, warpers, reelers, etc., \$15,000; 100 plain looms, \$21,000; 100 drop box looms, \$25,000; bleaching and finishing machinery, \$27,000; duty and freight, \$80,000; installation of machinery, \$26,000. This is a total of \$471,000. The remainder of the \$640,000 will be working capital.

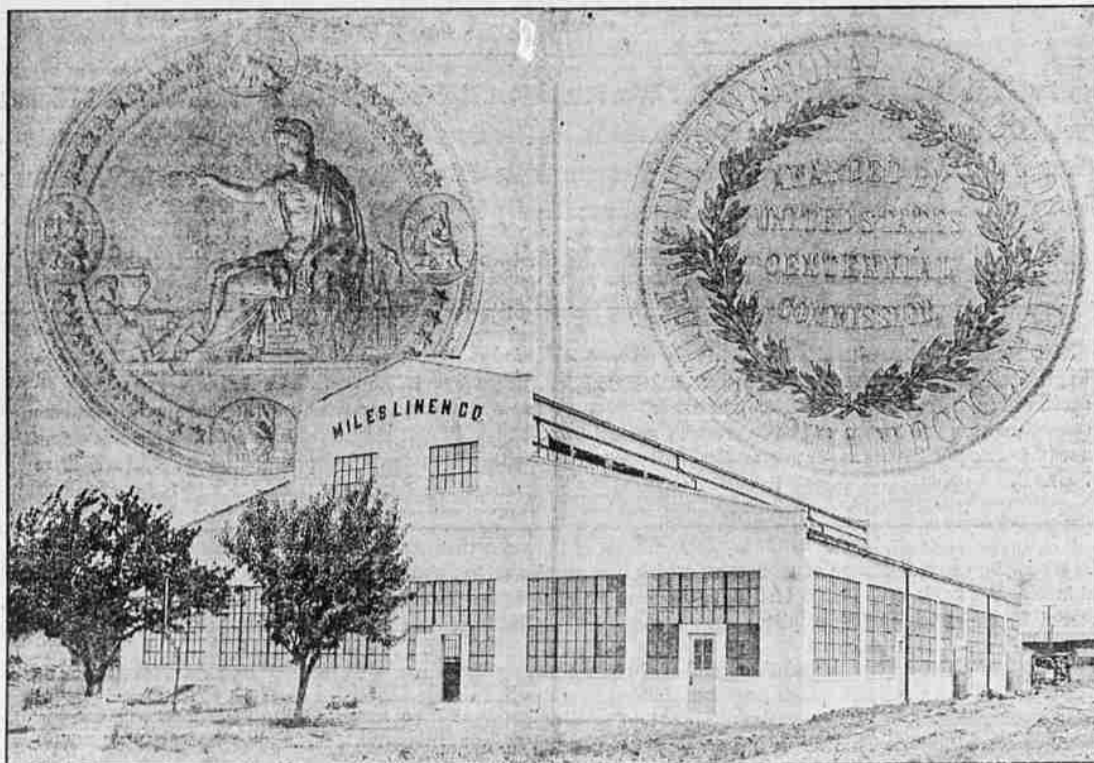
Operations at the start will be based on one eight-hour shift daily. On this basis the plant will produce each week of 48 hours 13,000 pounds of yarns and require 15,000 pounds of flax. This should produce about 26,000 square yards of cloth a week.

It is calculated that the plant will employ at the start 240 persons, of whom 60 per cent will be women. The payroll is estimated at \$4600 a week.

The industry in Oregon starts with numerous advantages, natural and otherwise. Experts pronounce the climate ideal with the harvest season of July and August all that could be desired. A low altitude, such as that of western Oregon, is necessary. Tariff protection on the manufactured product is ample. But the most important advantage is that the industry starts with an assured market, due to the constant world demand and the scarcity of factory centers. On these points Col. W. B. Bartram, one of the moving spirits in the local enterprise and a representative of the Canadian company, recently said:

"In 1923 this state was growing only about 800 acres of flax. Due to the introduction of mechanical pulling machines the average jumped in 1924 to about 3000 acres. This year about 4,000 acres have been planted. With the successful development of the spinning and weaving mills now under consideration the acreage for 1926 should not be less than 12,000 acres. It will take 40,000 acres of flax to furnish sufficient line fibre and spinning tow to take care of present importation. This has no reference to linen yarns or woven cloth. It is reported that there are over 200,000 acres of land available and suitable for growing flax in the Willamette valley. This acreage would produce enough flax to keep

Salem's First Linen Mill, Nearing Completion, and Facsimile of First Award Medals Won at the Philadelphia International Exhibition in 1876 by Flax Grown by Parrish & Miller Near Jefferson



at least 25 spinning and weaving mills running continuously throughout the year.

"A crop of flax, which lends itself to almost any type of soil, is extremely profitable to farmers, being hardy, easily grown, requiring little attention and not subject to the ravages of insects.

"Up to the present only a small acreage of fibre flax has been grown in the United States and practically all of the linen or flax used here has been imported from foreign countries, such importations of flax productions being said to exceed \$90,000,000 annually, much of which could be easily manufactured in the United States from the fibre flax produced in western Oregon.

"Not only, however, are the conditions existing in western Oregon particularly favorable for the growth of the fibre flax, but also for the spinning of the fibre into linen yarns and the weaving of the finished linen commodities. One of the prime essentials for the production of high grade fibre flax and its manufacture into yarns and linens is an ample supply of fresh water free from minerals. The rivers of Oregon that are fed from the ice and snow of the mountains are suitable for the retting of the flax straw and the spinning of yarns and bleaching and finishing of the linen goods. In fact, the natural conditions of western Oregon, particularly in the Willamette valley, are considered as favorable as those that have made Belfast the great spinning and weaving center of the linen industry, and western Oregon is the natural district to supply the linen requirements of the United States.

"The tariff prevailing on flax straw, fibre and tow and particularly on yarns and finished linen commodities is amply sufficient to protect any spinning and weaving industry established in the state. The duty on linen yarns is from 25 per cent to 35 per cent on competitive linen products.

"With an ample supply of raw material of excellent quality now assured and at figures that compare favorably with prices paid by foreign competitors, a modern spinning and weaving plant established in western Oregon, with ample tariff protection and a great wealthy purchasing market should pay handsome dividends to the investors, provided it is managed and operated by experienced men who are known to the people of Oregon as having been commercially successful in that line on this continent.

"North America is the greatest market for linen in the world, this market consuming annually about half the output of Europe and the United Kingdom."

Colonel Bartram declares that the success of the industry in the United States is dependent on mechanical pulling, but mechanical pulling is a success in the Willamette valley. He has a plan whereby pulling machines will be available to all growers. In a recent address at Rickreall Colonel Bartram said:

"At the present time in the Willamette Valley there are, approximately 4,000 acres of flax planted by about 300 different growers. Not five per cent of these growers are willing to purchase

flax pulling machines. None of the smaller growers will consider purchasing a flax pulling machine under any circumstances. In this situation I see serious trouble ahead for the future that, if not remedied, will likely wreck your plan in the development you are now working on.

"To guard your interests, and to further the interests of this state, the farmers and the future of the linen industry, the time is opportune to initiate a policy here that will satisfactorily and permanently solve the problem of harvesting the flax and in doing so perhaps place the industry agriculturally in the front ranks of the world.

"To start with, my plan is to establish a number of scutching plants in say: Dallas, Independence, Monmouth, Rickreall, Albany, Stayton and Silverton. Each of these plants will be separate and independent companies who the first year will contract with the farmers in their immediate district for about 500 acres of flax. The Oregon Linen Mills, Inc., will control each one of these plants. "To handle about 500 acres of flax requires four or five pulling machines. The scutching mills will purchase and own the flax pulling machines. In their contract with the flax growers the scutching mill will agree to pull the flax, subject to reasonable conditions and terms that will be set out in the contract. The advantages of this plan are too numerous to go into detail, except to cite a few of them:

- "1. It assures the raw product for the spinning mills now under consideration.
- "2. It will eliminate the hazard, as far as possible, of the flax grower falling down in harvesting his flax and allow the flax to be harvested when the fibre content is at its best.
- "3. It will control the acreage of flax planted, thereby eliminating dissatisfaction among growers against over production being indulged in.
- "4. The growers' costs will be very much reduced and a heavy expense in machinery saved the individual farmer.
- "5. It provides for the flax pulling machines to be serviced and reconditioned at a low cost. It will bring the whole problem of flax culture and harvesting under competent and experienced management which will standardize operations and production.

Colonel Bartram has prepared some interesting cost and return estimates from the production of good quality No. 1 straw, 30 inches in length or over. The costs include labor, power and overhead expense, and are based on Ontario costs and Oregon returns. For tank retting, on a per acre basis, with yield placed at two tons an acre, the costs are estimated as follows:

Cost of straw at \$38 a ton	\$ 76
Threshing and retting	30
Scutching 600 pounds of line fibre	66
Four hundred pounds tow, and pulling	20
Total	\$192

First Linen Mill to Start Operations Here About First of September

With the arrival August 3 of 25,000 pounds of machinery for the new linen mill being built in north Salem by B. C. Miles and his associates, and the arrival of 26,000 pounds more on August 20, all equipment for the mill will be on hand. One hundred and seventy thousand pounds has already arrived, and most of it has been erected in the plant by a crew working under the direction of three Irishmen imported for the purpose. Pete Clarke, who directed the installation of Henry Ford's new linen machinery in the middle west, came on to Salem to direct work on the plant here, rather than returning to his home in Ireland.

Plans for opening the mill for active manufacture of linen products are still in a tentative state, but Mr. Miles estimates that the date of opening will be on or near September 1 of this year. There is even now a large quantity of flax fibre on hand in the warehouse which adjoins the mill.

Promoters of the mill are adhering to their original plan, which was to manufacture linen-twine and not delve into the intricacies of manufacturing linen cloth, at least at the start. The twine manufactured by them will be used chiefly in making fish nets and sewing shoes. No other fibre is capable of withstanding the necessary wear and tear to which these products are subjected, and the output of the Miles Linen company, as the local organization is officially designated, will be without competition from anywhere nearer than the Atlantic coast, the output from there not being sufficiently great to be a serious threat to the local industry. The great majority of linen twine now used in the United States is produced in Ireland, and must be shipped a third of the way around the world and pay a heavy duty to compete with the local product.

B. C. Miles, founder of the Miles Linen company, and Robert H. Dann, his son in law, both spent approximately a year in England and in Ireland previous to the beginning of the plant at Salem last spring. Mr. Dann attended Belfast Textile school, the only one of its kind in the world.

Mr. Miles took with him 100 pounds of flax fibre which had been produced near Turner. Having it thoroughly examined by the best flax experts in the British Isles, he was told that the samples ranked among the highest quality flax in the world, although there were a few minor things connected with its treatment needed correction.

Studying conditions in Ireland, considered the present linen center of the world, Mr. Miles became convinced that every factor in the Willamette valley pointed to the fact that a new and possibly greater linen center could be established here.

He returned to the United States, organized his company, and started to build. The building, which is a modern, concrete structure, lighted by many windows in the sides and roof, was begun on March 4 of this year. The structure measures 100 by 142 feet. It faces the North Commercial street car line.

The machinery being installed at the plant is of the most improved type, all absolutely new. It is shipped directly from England through the Panama Canal to Portland, being allowed entrance into the United States duty free through special arrangement with federal authorities.

"I consider that one of the greatest tasks yet ahead of us is to teach the American people how to operate this machinery," says Mr. Miles. "It is going to take us a long time to do that."

When in operation the plant will employ some 20 men throughout the year, the payroll being estimated at a total of nearly \$46,000 annually. Officials of the company have already contracted for a sufficient quantity of flax fibre at the state penitentiary to keep the mill running for two years.

Returns are estimated as follows:

Eight bushels seed at \$2.75 a bushel	\$ 22
600 pounds line fibre at 23c	138
400 pounds tow and pulling at 15c	60
Total	\$220

The difference between the \$280 and the \$128 above, or \$152, represents the profit per acre—from No. 1 straw.

The following table of costs is submitted by Colonel Bartram as an estimate for retting in running water, and storing and handling the flax in connection with the operation. The basis of the estimate is per ton of deseeded straw:

Bundling	\$ 1.00
Drawing to crates	.40
Filling crates	.60
Lifting from crates	.85
Drawing to field	.60
Setting up in field (wigwaming)	1.80
Turning	.70
Drawing in and storing	.90
Total	\$6.85

There may be some variation, says Colonel Bartram, due to weather and other conditions, but, speaking generally, these costs are considered accurate for river retting in crates in Ontario, and it is believed the expense in Oregon will work out at about the same figure.

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