

## EARLY MILLING IN THE CANNON RIVER VALLEY<sup>1</sup>

Between the city of Northfield and the southern limits of Faribault, a distance of not more than fifteen miles by land and by river scarcely twenty, lie the sites of no less than fifteen flour mills, mute evidence of an industrial activity that at one time was the pride of the Cannon River Valley and the state of which it is a part. Once the envy of every miller in the western world, today those mills are moldering away, some of them, like the La Croix mill at Faribault and the Scott mill west of Cannon City, barely memories in the minds of the fast thinning ranks of the oldest settlers. Now the dams are washed out, the mill machinery has been scrapped, and the flour brands that once measured perfection in the minds of the flour-milling and flour-using world are entirely forgotten by the trade.

What raised those mills in a territory just being put to the plow and why were they so famous? These questions intrigue one to trace their history as a part of the history of American milling, in which they play so important a rôle. For in that small area and upon a narrow and relatively shallow river, now often called a creek, were situated mills with a run of stone prior to 1875 totaling more than forty and a daily capacity about 1880 of no less than three thousand barrels of flour of such quality that it commanded the highest prices on the New York and London exchanges.<sup>2</sup>

<sup>1</sup> A paper read on June 14, 1930, at the Albert Lea session of the ninth state historical convention. *Ed.*

<sup>2</sup> Accounts of milling in the Cannon River Valley appear in a *History of Rice County*, 332-334, 404, 446 (Minneapolis, 1882), and in George D. Rogers, "History of Flour Manufacture in Minnesota," in *Minnesota Historical Collections*, 10: 40, 45-49 (part 1).

To bring oneself to a real appreciation of the valuable contributions to the art of milling wheat that were made in this small southern Minnesota area in the sixties and seventies one must, however, turn to still earlier American milling history. One finds that during the late eighteenth century, the wheat fields of Maryland and Pennsylvania, where skilled labor was both scarce and expensive, were the scene of an important contribution to the advancement of milling — the development of the automatic mill.<sup>3</sup> Before this time the wheat was carried from the bins to the stones and the meal — or mash as it is called — from the stones to the bolter. Now, however, the ingenious Pennsylvanian, in true Yankee fashion, devised a bucket belt which was driven by the power that drove the millstones and which carried the ground grain to the bolting machine. The miller, who had always been pictured as stoop-shouldered and thin, had the good fortune to be depicted after this discovery as one whose corpulence testified to his meager exertions. Now he was always jolly and ready for a game of cards. For the mill did all the work while the miller only watched the set of the stones — the distance between them — so that they would mash out the flour in the shortest possible time without overheating.

This was the first great contribution of Americans to the milling process. So impressed were Europeans with this method of milling that some Frenchmen had an exact duplicate of the American automatic mill set up in Paris, and from that time until late in the nineteenth century the French were the recognized leaders among millwrights. In France the stone, which under the method of low grinding at high speed had had a tendency to heat itself and also the mash, was developed to the point of greatest perfection. Thus it was to France

<sup>3</sup> Oliver Evans is said to have developed the first bucket belt and built it into the first automatic mill. William C. Edgar, *The Story of a Grain of Wheat*, 151 (New York, 1903); Rogers, in *Minnesota Historical Collections*, 10: 45.

that the millers of the world naturally turned when they sought the solution of some difficult problem. The French — although they ground their flour out of a soft winter wheat indigenous to their country and best adapted to low grinding, since it possessed little gluten and therefore neither heated easily nor stuck to the stones and it produced a bran that was thick and flexible and peeled off easily — were often called upon to solve the milling problems of those districts where were grown harder wheats with thin and brittle bran and high gluten content. So it was because of their ability as expert millers and millwrights that there were brought to the French the problems of separating the thin, brittle bran and the large proportion of middlings from the harder wheats of the northern countries. By 1860 the French had found that, as a bolting cloth, silk was far superior to wool and had made the important discovery that the much despised and troublesome middlings were the most valuable part of the wheat, provided they could be separated from the bran and reground. For the middlings flour, though it appeared dark, made both the whitest and cheapest breads. Therefore it was highly favored by bakers, who preferred it to ordinary flour because it absorbed from ten to fifteen per cent more water and in consequence produced a larger number of loaves per barrel.<sup>4</sup> With these discoveries the problems of separating the middlings from the flour and the bran from the middlings became more and more important. The French began to attack them, but they were finally and successfully solved in southern Minnesota. It is, of course, common knowledge that soft winter wheat is not indigenous to the Northwest. The wheat that is grown there most successfully is a hard spring wheat with flinty qualities and high middlings content. Under the low grinding process in vogue

<sup>4</sup> *Northwestern Miller* (Minneapolis), 6:449 (December 27, 1878); Rogers, in *Minnesota Historical Collections*, 10:46; E. F. Ladd, *Chemical and Physical Contents for Wheat and Mill Products*, 288 (North Dakota Agricultural Experiment Station, *Bulletins*, no. 114).

before 1870, this wheat was difficult to handle, since its hardness caused the mash to heat and its thin, brittle bran filled the flour with specks. The millers therefore only bought it at a heavy discount and the flour brokers hesitated to handle the flour made from it.

But what have eastern American and French milling methods to do with the history of a part of the Cannon River Valley? It may seem a far cry from the automatic mill of Oliver Evans to the mills of Faribault, Dundas, and Northfield. Nevertheless, the subjects are related, and that relationship exists because of the presence in this valley of Alexander Faribault, whose ceaseless energy and almost unparalleled generosity and public spirit led him, when he was certain that a prosperous and growing community would develop in the region, to inquire into the manner and methods of milling hard spring wheat. He was the son of the French trader, Jean Baptiste Faribault; he had himself been engaged in the fur trade since the early twenties; and he maintained, through the many traders in his own and his father's employ, connections with the French-Canadians of Montreal. It is therefore perhaps natural that he learned of a French process that could be used to mill the hard, flinty, and cheaper wheats of the Northwest into excellent flour. For years this man had been impressed with the power in the Straight and Cannon rivers at the present site of the city of Faribault. At an early date he began farming on the small prairie near the junction of the two rivers.<sup>5</sup> After the Sioux lands west of the Mississippi were opened for settlement Faribault, John W. North, Luke Hulette, General James Shields, and others set about securing this area not only for a town site but for dam sites as well. In 1856 a sawmill was erected on the site of the present Crown Point Roller Mill at Fifth and Willow streets in Faribault. A year later this mill was

<sup>5</sup> Interview with Mrs. Agnes Faribault Haskell of Faribault, April 23, 1928. For a sketch of Alexander Faribault, by Grace L. Nute, see *ante*, 8: 177-180.

converted into a gristmill by Henry Riedell. The year 1857 also saw the erection by John S. and George N. Archibald of a stone mill on the west side of the island at Dundas. During the summer of 1856 John W. North and Felix Collett built at Northfield on the east side of the river the first mill to run in that area.<sup>6</sup>

Thus, as was usual in all areas settled before the Civil War, milling, in the form of the small gristmill, pioneered hand in hand with the pioneers themselves. In the region here under consideration streams were dammed, logs hewn, machinery improvised or brought in by freight, and the buhrs for grinding the wheat imported from France.<sup>7</sup> For the Cannon River Valley mills, the buhrs were hauled by oxen from Hastings to the mill site. As the number of settlers in the valley increased, the demand for mills and flour increased, and Alexander Faribault's interest in milling grew also. It is said that he aided Riedell in his efforts to establish the first flour mill in Faribault, and his foresight and business acumen, together with that of Shields, aided immensely in providing North with the funds used to build the Northfield mill. In 1862 he willingly furnished a large part of the funds for two more mills, the Polar Star and the Faribault Mill.<sup>8</sup> Thus he was interested in no less than three flour mills at Faribault, to say nothing of his numerous other ventures.

<sup>6</sup> *History of Rice County*, 332, 404, 446; interview with George W. Murphy of Faribault, who worked in the Polar Star Mills at Faribault in 1872, April 23, 1928. A gristmill is a mill that grinds for a share of the grain brought to it. The Archibalds, whose flour attracted particular attention because it sold at from two to three dollars a barrel above any other flour on the New York market, founded the village of Dundas and named it for Dundas, Ontario, where they had lived earlier. *Farm and Factory*, 1: 1 (February 16, 1877); *Northwestern Miller*, 26: 339 (September 14, 1888); interview with William D. Taylor of Dundas, the Archibalds' head miller, April 16, 1928.

<sup>7</sup> As French buhrs were cut in three-inch squares, they were easy to transport. When they were set up they were cemented together in a bed of plaster of Paris.

<sup>8</sup> Interviews with Mr. Murphy and Mrs. Haskell, April 23, 1928; *History of Rice County*, 333.

It is not difficult to understand that Faribault was interested in the rumor that a Frenchman, Perrigault, had developed at Paris a method of making the finest flour out of hard spring wheat. To secure for his own community the benefits of this new process, Faribault brought from Montreal two brothers, Nicholas and Edmund N. La Croix, highly educated millwrights of the greatest ability who were familiar with Perrigault's process, to build for him a mill or two<sup>1</sup> at Faribault. The fall of 1865 saw their arrival. A son of Nicholas, Joseph La Croix, joined the brothers in 1866, after he had completed his college course at Montreal. The La Croix families settled with the Faribaults for the winter, Mrs. Nicholas La Croix to bewail the fate that had taken her into so barbarous a country and so far from Paris and her native land.<sup>9</sup> Nicholas and Edmund, however, set to work at once to erect on the Straight River, at the foot of what is now Fourteenth Street, a mill that was destined to become the most important if not the most famous mill in the valley. Here they built their machinery according to the best French practice, setting their stones as high as they dared so as only to crack the wheat and installing a middlings purifier composed of a series of sieves to sift out the starchy flour. A light blast of air was directed up under these sieves to carry off the light particles of bran and to cause less middlings to tail off. It was this air current that made the purifier successful and therefore valuable. The middlings were then slowly reground into the finest flour that any miller could produce. Thus the La Croixs began to develop, in connection with high grinding — the setting of the stones as far apart as possible — a mechanism that would remove from hard wheat

<sup>9</sup> Rogers, in *Minnesota Historical Collections*, 10: 48; Joseph La Croix, "The Purifier," in *Northwestern Miller*, 29: 45 (January 10, 1890); interview with Mrs. Haskell, April 23, 1928. Mrs. Haskell is a relative of the La Croixs. According to her statement the brothers, who were educated in France at the Ecole d'Arts et Métiers, probably came from Paris. They were of the upper middle class and were accustomed to considerable refinement.

flour the bran specks that had lowered its price. At first they sought to accomplish the purification of the middlings by means of silk sieves alone and to that end they increased the number to such an extent that other millers visiting the mill laughed and said that the new machines would shake the mill to pieces.<sup>10</sup> Gradually, however, a purifier was perfected and the La Croixs began to put their machines into the other mills in which Faribault had an interest. The product of the Faribault mills interested the Archibalds at Dundas, who had always boasted that they were the best millers in the valley, and it seems that they, too, had the La Croixs build a purifier for their mill.<sup>11</sup>

Thus the new process of middlings purification, introduced by the La Croixs at Faribault, spread, and with the increased use of the new system there came an increased demand for middlings flour. The flour made by the Archibalds, because of the great care that was taken in its manufacture, came to be known as the best. But what became of the La Croixs? They did not patent their machines, but built them for anyone who cared to order one. For a time they were kept busy in Faribault. They built their own mill there in 1866, but when a freshet carried away the dam and the bridge leading to it, they were forced to give it up. In addition Nicholas was said to be a spendthrift. All this so discouraged Edmund that in 1870 he removed to Minneapolis and there attempted to persuade the millers at the Falls of St. Anthony to use his machine.<sup>12</sup>

<sup>10</sup> *Northwestern Miller*, 9: 115 (February 20, 1880); 29: 45. Nicholas La Croix, according to his son, was called the "shaker miller" because "he had so many shaking sieves in his mill."

<sup>11</sup> Both Mrs. Haskell and Mr. Murphy, in interviews on April 23, 1928, said that the La Croixs made purifiers for the Archibalds and for any others who would buy them and that the process was not a secret. From all the evidence that can be secured it seems clear that the Archibalds had a purifier at a very early date. Rogers, in *Minnesota Historical Collections*, 10: 41; *Northwestern Miller*, 8: 1, 6 (July 4, 1879); 9: 115; 29: 45; *Farm and Factory*, 1: 1.

<sup>12</sup> Rogers, in *Minnesota Historical Collections*, 10: 48; *Northwestern Miller*, 29: 45.

The millers of Minneapolis seemed convinced that the method which employed low grinding and bolting was far better than that used by the La Croixs. Nevertheless there was one man, George H. Christian, a flour broker from La Crosse, who was determined to discover the secret of the superiority of the Cannon Valley flour, particularly of the flour made at Dundas. He therefore first bought wheat from Bridgewater Township, where Dundas is located, and, finding that it was no better than any other, he decided gradually to gain the confidence of John S. Archibald. Christian was a man, it is said, who knew how to keep his mouth shut and his eyes open. Every time he went to the Dundas mill Archibald would tell him in a boastful way a point or two about his method of grinding wheat, little thinking that the flour broker was keeping a record of what he said. Gradually, as the story of Archibald's process was pieced together, it became evident that the key to his success was the La Croix purifier combined with the method of setting the stones high, so as only to crack the berry, and of running the middlings through a series of stones each set a little closer than the last and all run at less than half the ordinary speed. This produced an even white flour of the smoothest and finest kind with a minimum of offal.<sup>13</sup>

With this knowledge in hand, Christian obtained the interest of Cadwallader C. Washburn, who hired him to run the thirty-stone Washburn B mill, which had come to its owner as a result of poor loans. Here, in the early seventies, Christian set about duplicating, as far as possible, the Archibald process.

<sup>13</sup> It should be noted that the practice of ferreting out secret processes was extremely common during the period when the purifier was first used, and lax patent laws even seemed to encourage this practice. That Christian learned the secret of Archibald's milling process does not detract from the former's reputation, since it only indicates that a thorough study would reveal the workings of a supposedly secret method. Millers around Fribault and in France had a common knowledge of high grinding and the purifier, but most of those elsewhere were too busy to conduct the kind of examination made by Christian. "History of the Purifier War," in *Northwestern Miller*, 9: 115.

He set his stones high and introduced the gradual reduction process. Then he hunted up Edmund La Croix, who had been in the city for a time building water wheels, and employed him to build purifiers and to experiment further in the perfection of his machine.<sup>14</sup> Thus the French processes were introduced in Minneapolis, forming the nucleus around which were built the first great fortunes of this region. For this new process, when applied to hard spring wheat, made a flour that was unsurpassed in the markets of the world. The great demand for the improved flour generated an increased demand for hard spring wheat and thereby augmented the price of the farmers' wheat crop to the point where it was double that of former years. The increased price led to greater plantings, and the story of wheat began to become the story of the great Northwest, where wheat-cropping farmers were soon to have a large place in the economic and political history of their section.<sup>15</sup>

The success of Christian's experiment at Minneapolis did not seem to harm the millers along the Cannon River. The Archibalds, from whom the successful process was obtained, had been operating a four-run mill at Dundas since 1857. As a result of their success with the purifier they doubled their capacity in 1871, and in 1879, when later developments in the art of milling brought the substitution of chilled iron rollers for stones, they again enlarged their mill and remodeled it to bring their capacity up to five hundred barrels a day. There, in spite of the development at the Falls of St. Anthony, the

<sup>14</sup> *Farm and Factory*, 1:1; *Northwestern Miller*, 29:45; Rogers, in *Minnesota Historical Collections*, 10:48. La Croix built his purifier for Christian at the Minnesota Iron Works. The work took him about a year and the materials cost about three hundred dollars.

<sup>15</sup> Edgar, *Story of a Grain of Wheat*, 155-157; Paul R. Fossum, *The Agrarian Movement in North Dakota*, 28 (Baltimore, 1925). As a result of his work on the latter study, the writer has been led to a study of the change in the manner and method of milling as one of the causes of agrarian unrest. Agriculture in the Northwest changed completely with the development of the Minneapolis mills, and the region became a one-crop country. The purifier, the roller mill, and the railroad seem to have made it so.

Archibald firm maintained for years its reputation as a leader in the milling industry, and it is said to have been the first in America to adopt in its entirety the Hungarian process of roller milling, whereby milling became almost completely automatic and much speedier.<sup>16</sup>

Between 1870 and 1880 all the mills in the Cannon River Valley were either renovated or rebuilt, reflecting the soundness and profitableness of the new process. Captain Jesse Ames, who purchased the North mill at Northfield in 1865, enlarged it as a result of the increased demand for his improved flour, for he, too, benefited from the experiments of the La Croixs. In 1869 Ames and his sons built the New Mill on the west side of the Cannon River, and in 1879 they converted it into a roller mill on the Hungarian plan with a capacity of four hundred barrels a day.<sup>17</sup> In 1873, on a dam site west of Cannon City developed to supply power for a sawmill by Henry Andyke in 1856, R. H. Scott set up a first-class four-run mill to take advantage of the high profits in producing hard wheat flour. At Faribault the great demand for strong flours led to the enlarging of all the mills already mentioned and in addition to the building of three others — the Faribault Grange Flouring Mill, erected in 1874 at a cost of \$30,000; the French Roller Mill, owned by the La Plant Company and built about 1875; and the Faribault City Flour-

<sup>16</sup> Franklyn Curtiss-Wedge, compiler, *History of Rice and Steele Counties*, 1: 608, 611 (Chicago, 1910); *History of Rice County*, 446; *Northwestern Miller*, 12: 98 (August 5, 1881); interview with Mr. Taylor, April 16, 1928. "The Archibald mill . . . was one of the first to adopt the new process of milling, being the first to manufacture and market patent flour, the first 100 bbls of which was started in the attic of the old mill at Dundas towards the close of 1871," according to the *Northwestern Miller*, 26: 339 (September 14, 1888).

<sup>17</sup> *History of Rice County*, 404. Ames was a sea captain who went to Minnesota from Maine. One of his sons attained the rank of general in the Civil War and a grandson, Joseph S. Ames, is now president of Johns Hopkins University.

ing Mill, which was set in motion in 1877.<sup>18</sup> Thus these mills, fifteen in number, which had a capacity in 1880 of well over three thousand barrels every twenty-four hours and which have now almost entirely disappeared, reflected during the heyday of their operation the genius of the three French millwrights who went to the Northwest to build mills for Alexander Faribault.

But what was the fortune of the La Croixs and of Alexander Faribault, whose combined efforts not only brought about a great revolution in the milling of wheat but also contributed to the rapid development of the whole Northwest? Faribault, at one time reputed to be the wealthiest man in Rice County,—who is said to have kept a chest of gold coins in his living room where those who were in need might come and help themselves, whose debtors were numbered by the score, whose ample resources were always at the command of his friends, and whose chief desire was to build a mill for each of his sons,—died a pauper, dependent upon the citizens of a county whose industry was in part a reflection of his energy. The La Croixs did not fare better. Nicholas, though he was reputed to be wealthy, was a spendthrift who left his widow and children destitute. Edmund, who by some strange fate died in the same week as his brother, left very little more than the plans and drawings of his middlings purifier. The marriage of Carry, Edmund's daughter, to Joseph, the son of Nicholas, retained for the family those rights and ideas concerning the middlings purifier that might still be valuable. Some years prior to their marriage, however, the La Croix process was patented by George T. Smith, a miller employed by Christian in the Washburn mill to brush the flour from the screens of the purifier.<sup>19</sup>

<sup>18</sup> *History of Rice County*, 333; interviews with Mr. F. M. Andyke of Northfield, March 26, 1928, and Mr. Murphy, April 23, 1928.

<sup>19</sup> Interviews with Mrs. Haskell and Mr. Murphy, April 23, 1928; *Northwestern Miller*, 8: 1, 6; 9: 115; 29: 45.

Thus the process of hard wheat milling, which was perfected in Rice County, Minnesota, and which enriched many, brought nothing to the men who were responsible for its introduction. Now even the builders of the mills have been forgotten, while the dams decay and the stone walls of the plants that once made milling history are being carted away to do service in other ways than housing gristmills which farmers often drove a hundred miles to use.<sup>20</sup>

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<sup>20</sup> Interview with Mr. Taylor, April 16, 1928. The writer desires to express his appreciation of the courtesy of Mr. Carol Michener, managing editor of the *Northwestern Miller*, in giving him access to his file of that periodical.



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