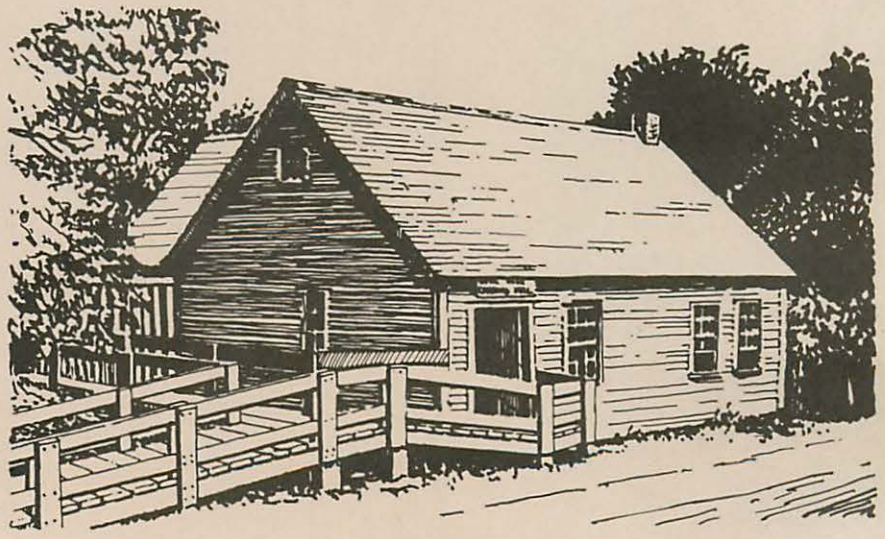
Curatorial Report Number 28

Nova Scotia Museum
1747 Summer St.
Halifax, Nova Scotia, Canada
B3H 3A6

The Restoration of the Wile Carding Mill

By
Judy Boss
Operations and Development Section
Nova Scotia Museum
May 1975



NOVA SCOTIA MUSEUM

Curatorial Reports

The Curatorial Reports of the Nova Scotia Museum contain information on the collections and the preliminary results of research projects carried out under the program of the museum. The reports may be cited in publications but their manuscript status should be clearly indicated.

ACKNOWLEDGEMENTS

Although many people contributed information and photographs for the historical report on the Carding Mill, the author is particularly indebted to Bradford, Verta and Fred Reeves of Bridgewater who assisted in many ways throughout the course of research in Bridgewater.

Walter Wile, grandson of Dean Wile, provided invaluable information on his family and the carding mill and donated several items now on display in the Carding Mill.

The author would also like to thank Mrs. Sevilla Weagle for taking time to tell us what it was like to work in the Wile Carding Mill before the turn of the century.

And finally, the author would like to express gratitude to all of the following people who gave generously of their time, and shared their knowledge and experiences openly and warmly: Herbert Bell, Bridgewater; Ernestine Wile Cochrane, Halifax; Glen Feindel, DesBrisay Museum, Bridgewater; Frank Freeman, Pleasantville, Lunenburg County; J. Lynton Martin, Nova Scotia Museum, Halifax; Laurie Oickle, Bridgewater; Pauline Oickle, Bridgewater; Clyde Waterman, North Quincy, Massachusetts; and Clyde Wile, Bridgewater.

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INTRODUCTION

This report illustrates a basic approach to historic site development as practised by the Nova Scotia Museum. In particular, it provides a record of the historical and physical development of the Wile Carding Mill to 1974.

The availability of the Wile Carding Mill was brought to the attention of the Nova Scotia Museum in November 1973. At that time an evaluation was made of its potential for development. Acquisition and development of the property was recommended by the Board of Governors of the Museum in December 1973 and purchase of the property was completed on May 1, 1974.

The first step toward restoration of the mill was to engage the author of this report to research its historical background. Information necessary for the restoration and interpretation was determined to be as follows: a history of the Carding Mill as a small industry, an historical description of the building, information on members of the Wile family involved in the Carding Mill operation, a description of the carding process and a summary of other industries which once used water power from the same stream.

Before construction began a thorough investigation of the building was carried out and a detailed list of required work was prepared. Restoration of the building was begun on May 15, 1974 by the Nova Scotia Department of Public Works under the general supervision of the Operations and Development Section of the Nova Scotia Museum.

The Carding Mill was opened to the public on August 7, 1974. It is operated during the summer months by the DesBrisay Museum in Bridgewater on behalf of the Nova Scotia Museum as part of the provincial historic building system.

R. W. Frame
Chief Curator
Operations and Development

May 15, 1975

EVALUATION OF HISTORIC BUILDINGS IN NOVA SCOTIA

Name of Property: Wile Carding Mill

Location: North Side of Victoria Road, Bridgewater

Present Owner: Clyde Wile

Government Action requested by: Honourable M. DeLory

Investigation requested by: Honourable W. J. Gillis

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1. HISTORICAL AND CULTURAL SIGNIFICANCE:

1.1 Identification with historic personages:

None.

1.2 Identification with historic or cultural events or features:

Carding mills were important local service industries for processing wool to a state where it was ready for spinning. This mill is located on a stream which is significant for having provided the power for several small industries similarly catering to local needs.

The mill is at least 100 years old and ceased operations about 1945.

1.3 Architectural or related values:

The mill is a good example of a small nineteenth century industrial building although the addition, in recent times, of a dormer has done much to destroy the lines of the front. A shed structure over the flume is also newer but less objectionable. The building requires considerable repair which, however, could be accomplished readily because of the barn-like construction of the structure. The dam and wooden flume are in repairable condition.

1.4 Extent of surviving original materials:

A complete set of equipment for the carding process remains, apparently in good condition. One carding machine has recently been removed but a twin machine survives.

A most remarkable feature of the plant is the intact overshot water wheel approximately 9 feet in diameter and 5½ feet wide. The wheel is in reasonable condition and is geared directly into the mechanism of the mill by metal teeth strapped to its circumference.

2. SUITABILITY

2.1 Adequacy of property boundaries:

The mill is located in the center of a long narrow property which has approximately 475 feet of frontage on Victoria Road. The property is completely adequate for a museum development.

2.2 Accessibility to public:

No obstacles to public access are evident. The mill is on a well travelled street with adequate land for a parking lot.

2.3 Freedom from encroachments:

Although the mill is located in a residential area the length of the property isolates the building from side encroachments and the stream and pond separate it from developments to the north.

2.4 Fire and police protection:

Town of Bridgewater.

2.5 Availability of utilities:

Town water and sewage.

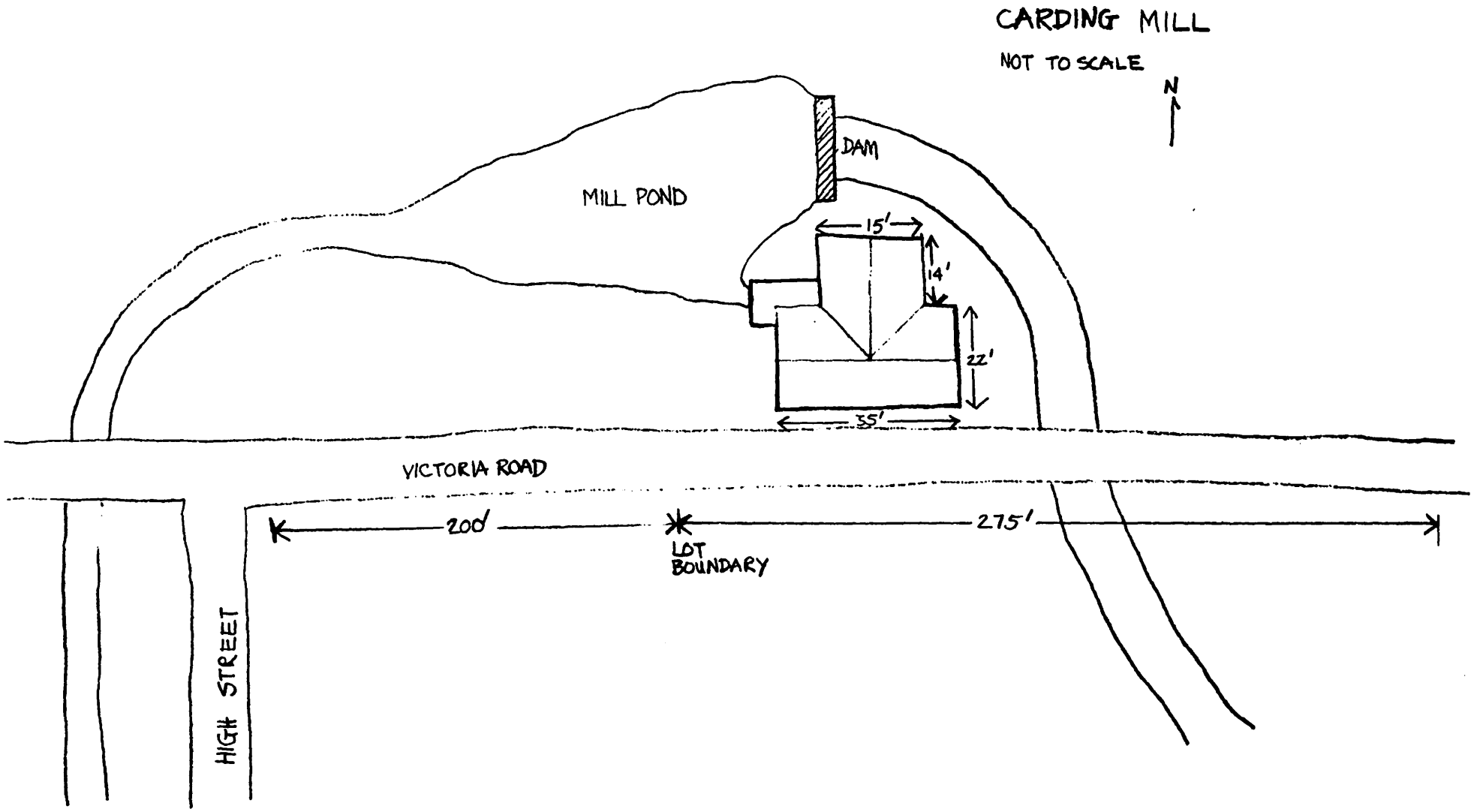
2.6 Adaptability to functional use:

There are no washrooms or heating facilities. Considerable restoration would be necessary such as removal of the dormer and repair of the roof and flume.

3. EDUCATIONAL VALUES

3.1 Capacity for public use and enjoyment:

The mill would undoubtedly be of interest to a great many people, particularly if it could be returned to an operating condition. If the mill pond and site was developed it would provide an attractive park-like setting.


CARDING MILL
NOT TO SCALE
N
DAM
MILL POND
15'
14'
22'
35'
VICTORIA ROAD
200'
275'
LOT BOUNDARY
HIGH STREET

3.2 Place in Provincial preservation programme:

This is one of the few surviving carding mills in the province. There are carding machines in the Barrington Woolen Mill and it is reported that a carding mill is being set up at the Highland Village in Iona.

The water wheel is undoubtedly one of the only original wheels surviving in the province.

4. COST

4.1 Initial Cost:

Mr. Wile offers the mill and property for $8,000 and places a price of $4,000 on the adjoining property. It would be highly desirable to obtain the second lot for parking and other site development if this project was taken on.

4.2 Cost of restoration:

It is difficult to accurately estimate cost of restoration but it would probably be at least $25,000.

4.3 Cost of maintenance and interpretation:

This would be approximately $5,000 a year.

5. ADMINISTRATION RESPONSIBILITY OF SPONSORING GROUP
(if other than the Province of Nova Scotia)

5.1 Legal Authority:

Not applicable.

5.2 Organizational soundness:

Not applicable.

5.3 Adequacy of financing:

Not applicable.

5.4 Trustee, committee, and staff competence:

Not applicable.

5.5 Co-operating agencies, societies or groups:

We have been advised that the local Women's Institute has shown some interest in operating the mill for the museum.

6. REPORT PREPARED BY: Stephen Archibald
Assistant Curator, Special Projects
Operations and Development Section

Dec 5, 1973
Date

Director, Nova Scotia Museum

7. RECOMMENDATIONS OF BOARD OF GOVERNORS:

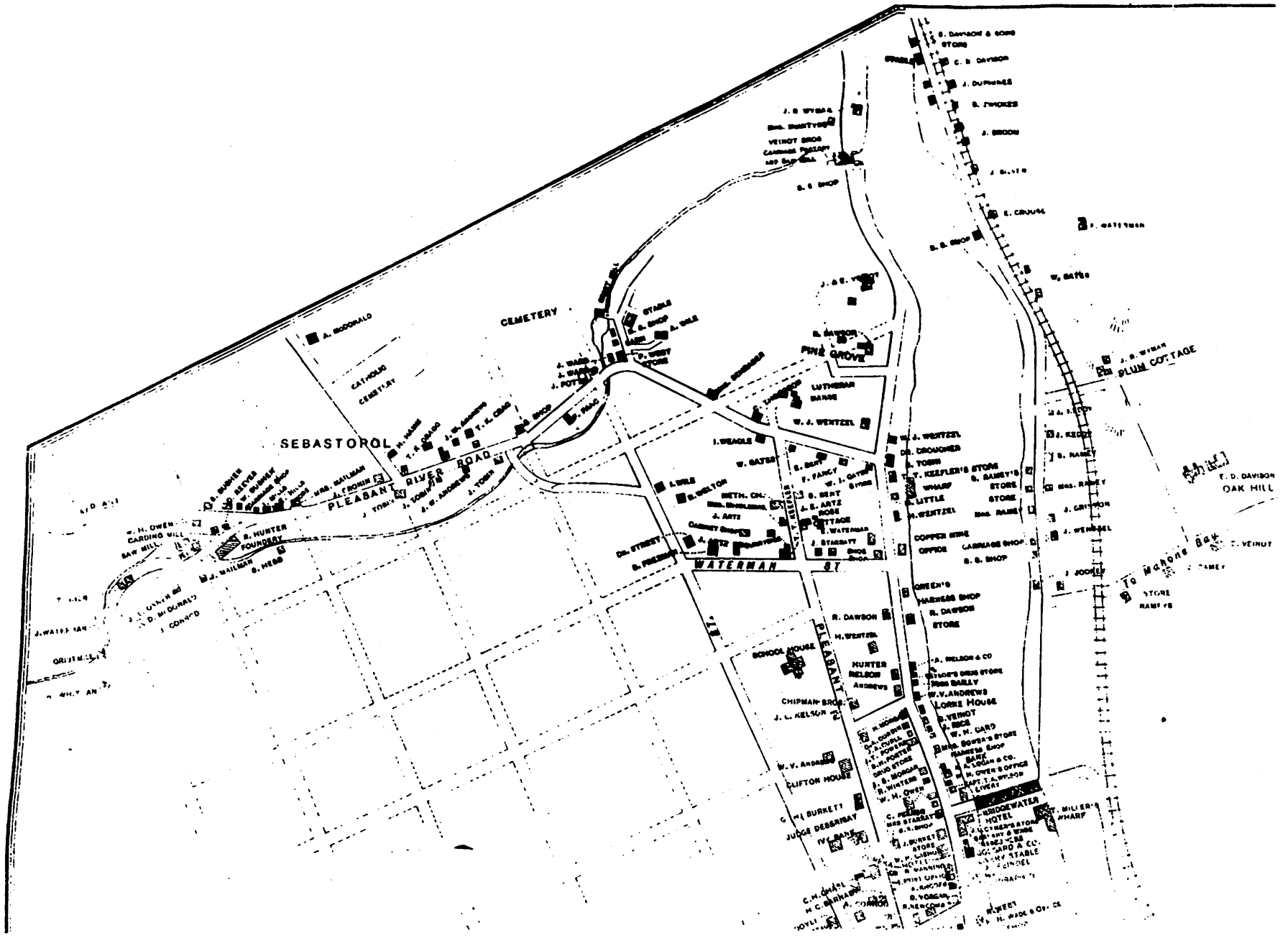
_____ _____

Date Chairman

8. APPROVED BY MINISTER OF EDUCATION:

_____ _____

Date Minister of Education



Sebastopol area from the Map of Lunenburg County, 1864, by A.F. Church
The date when the map was compiled was c. 1883. (N.S. Museum Photo N.4265)

HISTORY OF THE WILE CARDING MILL

The Wile Carding Mill is located near the junction of Pearl Street and Victoria Road in Bridgewater. The settlement along these two roads was known as Sebastopol from about 1860 until 1899 when Bridgewater was incorporated. Apparently the area was named after the seige of Sevastopol (1854-1856) because of the frequent bickering and lawsuits among the residents (6).

Before 1860 the whole Bridgewater area and the land south of it and west of the LaHave River was known as New Dublin. It was called New Dublin to distinguish it from a settlement made at Lower Dublin by a group of people from Ireland. The township of New Dublin was originally part of a 22,500 acre grant given to Joseph Pernette in 1765. This grant began at "Cook's Fall, about one and a half miles above the present bridge in Bridgewater, extending eleven miles down the western bank of the river and being five miles wide" (36).

The Wiles were one of the first families to settle in Bridgewater. They settled in the upper part of town, near and in the Sebastopol area.

According to the Hoyt-Wile genealogy (34), Dean Wile's great-grandfather, Frederick Weil (c. 1729 - c. 1812) came to Halifax from Weilbourg, Germany in 1750 along with 300 other German immigrants aboard the ship "Ann". They were housed in barracks in the area of Halifax known as Dutch Village. In 1753 Frederick Weil moved to LaHave in Lunenburg County where he later (1761) received a 360 acre grant east of the LaHave River in the Township of Lunenburg.

It wasn't long before the Wiles began settling west of the LaHave River.

> "The family as it grew in numbers, began to take an ever increasing interest in developing the Bridgewater area. They were at first compelled to go a few miles to the westward of the present townsite to choose locations wherein individual grants from the Crown might be obtained for the reason that the more desirable area in the vicinity had been granted to Joseph Pernette ...
>
> As the Wile family expanded, however, its members were able to purchase more and more lands from Pernette until much of the present township and its environs were owned by them, either outright or in conjunction with others" (34).

Dean Wile's grandfather, Andrew Wile (1758-1832), was one of the first Wiles to settle in New Dublin. He received a 200 acre grant in 1796 in the area now known as Wileville, just outside of Bridgewater. Andrew Wile had 21 children by two marriages. The eldest son, Frederick Wile (1781-1832), together with his brother Garrett (or Gerhardt), built one of the first houses in Bridgewater in 1812. Their house was located on the corner of Commercial Street and Pleasant River Road (now Victoria Road). Frederick and Garrett Wile operated a shingle and saw mill where the stream which ran through Sebastopol entered the LaHave River. They operated the mill until Frederick died in 1852. The development of Bridgewater was very slow before 1860. In 1853 there were only 20 to 30 houses in the town and maybe four shops. The Wiles' mill was one of the few industries in town (36).

John George Wile, Frederick and Garrett's younger brother, married Mary Anne Hirtle of Summerside (the old name for Dayspring, Lunenburg County) and they had eight children, the eldest of whom was Dean Wile born 1833. The Hoyt-Wile family papers do not mention just where John George Wile settled. It was probably Waterloo since the early deeds of his sons, Abner and Zerah state their place of residence at Waterloo. It appears that many of the Wiles settled in the Waterloo and Lapland Road area, as a glance at A.F. Church's map shows the majority of names in the area to have been Wile.

Dean Wile came to Bridgewater some time before 1860. He and his wife moved into a large house on the Old Pleasant River Road, up the hill from the present carding mill. This house was built about 1815 by George Himmelman (32) and it is still standing today. The road was later renamed Pearl Street after Dean Wile's youngest daughter Pearl.

In 1860 Dean Wile purchased two acres of land in Sebastopol from Christian Earnst (8). That same year he built a carding mill on this site. Walter Wile, Dean Wile's grandson, says that Dean Wile earned the money for the carding mill by going from village to village giving singing lessons for 5¢ a lesson (43).

Most of the families in the Bridgewater area owned at least a few sheep. The establishment of a carding mill in Sebastopol thus spared these families the tedious task of either carding their wool by hand or taking it to a carding mill in another town.

The Dean Wile family - 1893. Starting at the top and going clockwise; Mary Ann (Mrs. Dean) Wile, Arkanus Wile, Lydia Wile, Otto Wile, Ella Wile, Pearl Wile and Dean Wile. (N. S. Museum Photo N-3590).

At one time there was a saw mill on the other side of the carding mill dam as well as a small grist mill on the east side of the carding mill. Some of the old timbers from the saw mill can still be seen. The grist mill was built before 1870. DesBrisay in his 1870 edition of the History of the County of Lunenburg refers to the "grist and carding mills of Dean Wile" (21). In a deed dated 1888 Dean and Mary Ann Wile transfer to their son Arkanus "...one half undivided of a certain saw mill and a carding mill, mill site and the mill pond and land connected within situate, lying and being at Bridgewater between the New and Old Pleasant River Roads" (23).

The water rights privilege drawn up between James E. Waterman and Dean Wile in 1862 only allowed Dean Wile to use the water to run the carding mill machinery (1). However, true to the spirit of rivalry between the Watermans and the Wiles, Dean Wile operated all three mills off the water power from the stream. But it was only the carding mill that was ever operated on a big scale by the Wiles. The power for the mill was obtained directly from an overshot water wheel which was 9 feet in diameter and 5½ feet wide, by means of a cog gear mechanism to the main shaft. The power was transmitted from the main shaft to the various machines by means of a belt and pully system.

When Dean Wile's eldest son Arkanus, was old enough (probably the late 1870's) he came into business with his father. Arkanus also owned a very successful shoe store in Bridgewater, Wile and Murdock Foorwear, with his sister Ella Murdock. She later set up an ice cream parlor in town.

During the 1880's the carding mill did a thriving business. It would often operate 24 hours a day, six days a week. About five people, mostly women, worked there. Local residents recall lines of ox carts which had come from all over Lunenburg County as well as from neighbouring counties to have their wool carded at the Wile Carding Mill (39).

When the wool was brought to the mill the bag was first marked with the name of the owner. The wool then went to the back of the mill where it was spread on the floor and sprinkled with a mixture of lard oil and soap. The oil lubricated the fibres so that they would separate more easily. After this was thoroughly mixed in the wool was fed into the picking machine. This process helped unmat the wool and make it more workable for carding.

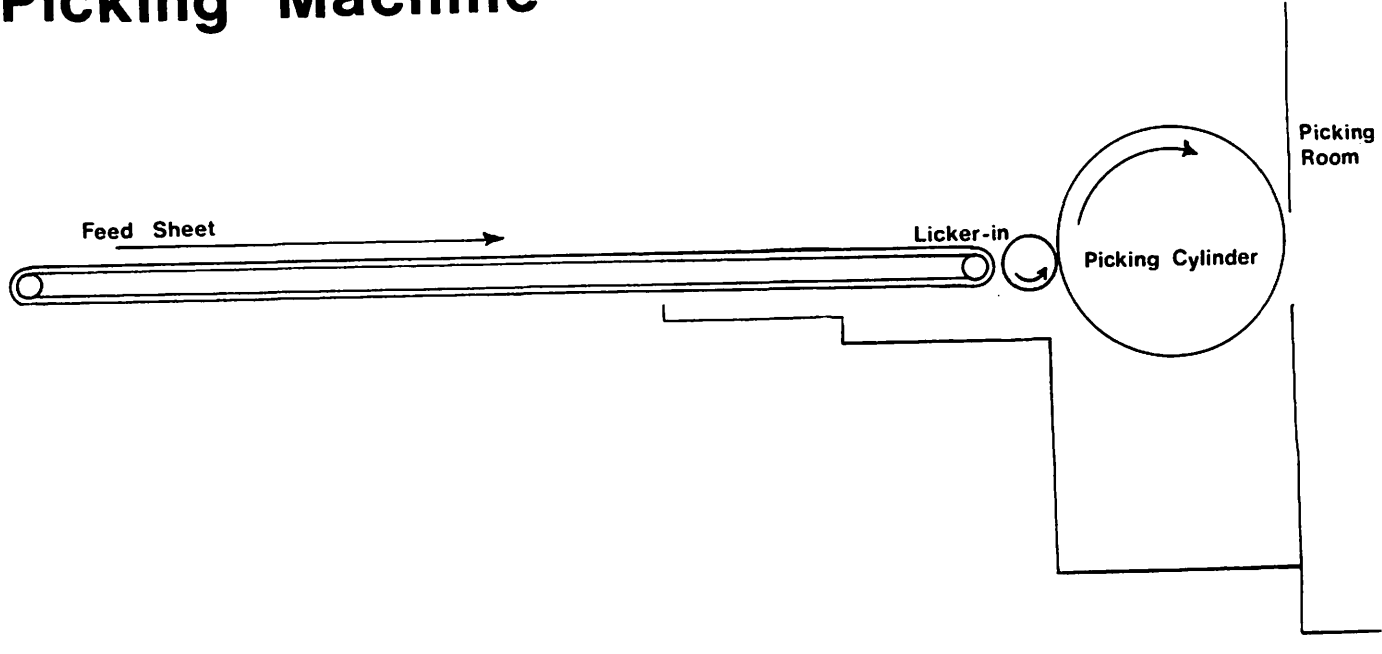
The rapidly moving picking cylinder threw the wool into the picking room with such force that over the years a thick deposit of oil was built up on the ceiling as well as the walls and floors. The window was put in the picking room because static electricity from the wool or a match lodged in the wool could cause a fire as the wool passed through the picking cylinder. At least one fire was stopped in the picking room.

If the wool was to be used for spinning it next went through one of the two carding machines in the mill.

Carding, the straightening and untangling of the wool fibres, was the final stage in the preparation of wool for spinning and it was essential that carding be done well.

Prior to the introduction of the carding machine hand cards were used for carding wool. When the early settlers came to Nova Scotia they brought with them a good supply of these cards. Using hand cards a skilled person could card only about one to one and a half pounds of wool per day. During the mid-1700's there were attempts made to mechanize the carding process. However, it was Sir Richard Arkwright who, in 1775, finally invented the first satisfactory carding machine using cylindrical rollers. The carding machine was originally intended for the cotton industry, but it was adapted for use in the woollen industry. The earliest machines were in two sections and the wool had to be put on to the cylinder by hand, a rather dangerous procedure since the carding cylinder moved at a relatively high speed.

Picking Machine



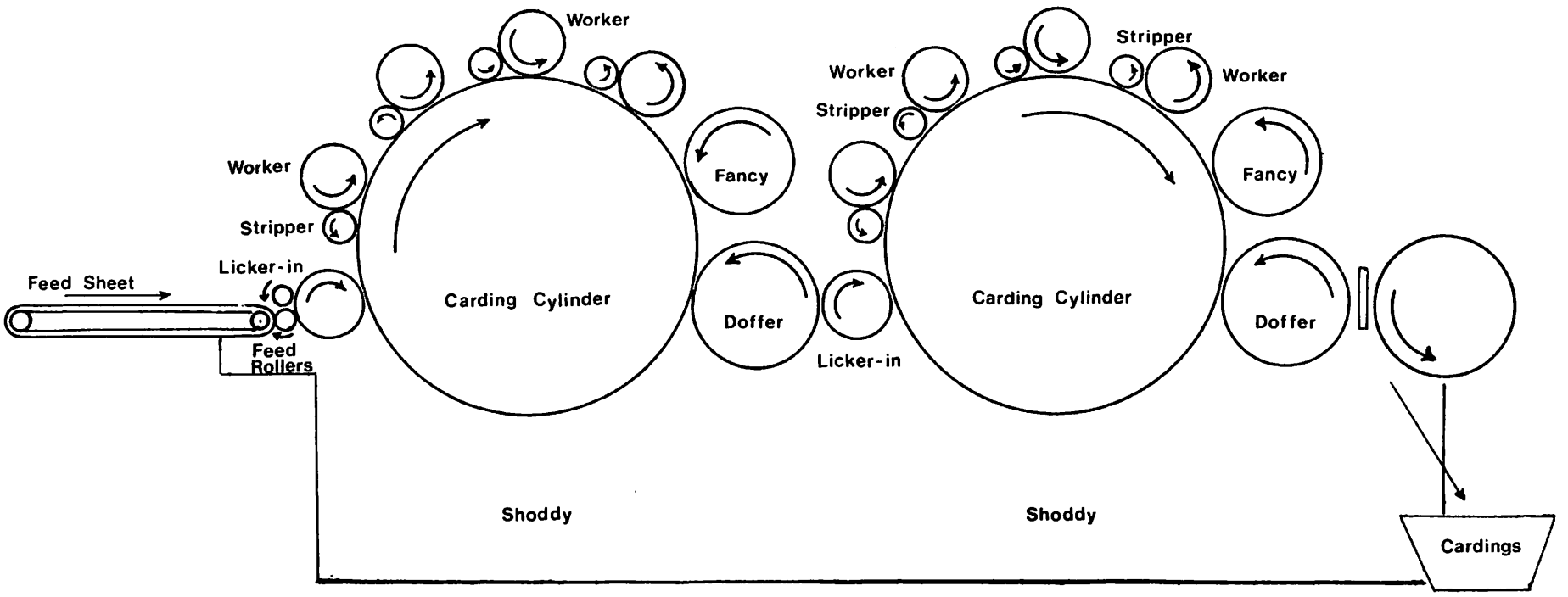
In 1793 John and Arthur Scholfield migrated to the United States from England with the plans for the carding machine memorized (since the plans themselves were not allowed to be taken from the county). They produced the first carding machine in North America in 1794. This machine had only a single carding cylinder and it was just 24 inches wide. By 1816 John Scholfield, Jr. was manufacturing double-cylinder carding machines.

The cylinders on these early machines were made of wooden lags (boards) laid parallel to the cylinder's axis. Since one warped board could do a great deal of damage, cylinders made of iron were substituted as early as 1820, although they were not in wide use until about 1860. The cylinders were also made wider to increase the output. Those on a modern carding machine are 70" to 72 " wide.

The carding machine in the Wile Carding Mill is very much like the first double-cylinder carding machines manufactured by the Scholfields. The cylinders are 24 inches wide and are constructed of wooden lags, 2" to 5" wide. The frame of the machine and the spokes of the cylinders are made of iron. At one time there were two carding machines in the mill. The one that is presently there was used for carding only white wool, while a similar machine at the front of the mill was used for carding black or gray wool.

All of the rollers and cylinders on the carding machine are covered with card cloth. The cloth consists of a leather (or felt in some machines) backing set with steel teeth protruding at an angle. In the early machines the cloth consisted of 5" strips tacked along the width of the cylinder. On some of the cylinders on the Wile's carding machine the leather card cloth is secured this way (except the strips used are larger) while on other cylinders the card cloth consists of an endless fillet of cloth wrapped helically around the cylinders. This second method is more efficient since it allows the whole surface of the cylinder to be covered. It was important that the cloth be tight since the slightest bit of stretching (one part in 500) could be disastrous, not only to the cloth itself, but to the cloth on any of the neighbouring rollers. Consequently it was essential that the card cloth be rewound and tightened periodically. Once or twice a year the cylinders were removed and the teeth on the card cloth reground on the grinding machine at the back of the mill.

Carding Machine



The wool to be carded was placed directly on the feed sheet. This sheet is about the width of the machine and rollers kept it moving toward the cylinder. The first feed sheets were fairly long, like the one in the Wile Carding Mill which is 32" long, since the wool was put onto the feed sheet by hand. Later (from about 1869 onwards) weighing hoppers and automatic feeders were added, assuring a more accurate and even control of the wool being fed onto the carding cylinder. These can be seen on the carding machines in the Barrington Woolen Mills in Shelburne County.

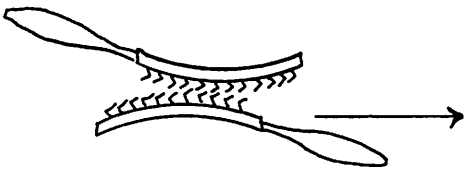
The licker-in rollers, which were usually somewhat larger than those on the Wiles' carding machine, fed the wool onto the carding cylinder from the feed sheet. This made the change in speed from the slow moving feed sheet (about 10" per minute) to the carding cylinder, with a surface speed of about 7 feet per second, more gradual, thus cutting down on fibre breakage. The licker-in also prevented pieces of skin or dirt from getting onto the carding cylinder, where such items could cause a great deal of damage.

The four sets of worker and stripper rollers work in conjunction with the carding cylinder to open and straighten the wool fibres. The process is essentially the same as carding with hand cards.

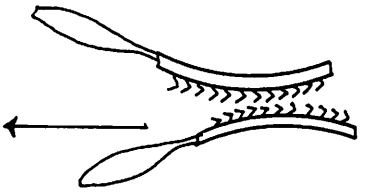
With the hand cards the wool is carded by stroking a stationary card with another card whose teeth point in the opposite direction. The moving card is pulled in the direction in which its teeth point. In machine carding the job of the stationary card is performed by the worker, a relatively slow moving roller with teeth set in the opposite direction of those on the carding cylinder. The fast moving carding cylinder performs the job of the moving hand card and as in hand carding, it moves in the same direction that its teeth point. In both cases the wool fibres are forcibly transferred from the slow or stationary surface to the moving surface. To remove those fibres which are held too securely to transfer, stripping is necessary.

To remove or strip the wool from a hand card the active card is turned around so that its teeth point in the same direction as those on the stationary card. This operation is performed by the stripper on the carding machine. The stripper is intermediate in speed between the carding cylinder and the worker. Because its teeth are set in the same direction as those on the worker, and because it rotates faster than the worker, it strips the worker. The even faster carding cylinder in turn strips the stripper thus permitting the wool to go through the carding process again until it is picked up from the main cylinder by the doffer which removes the finished product from the machine.

Hand Carding

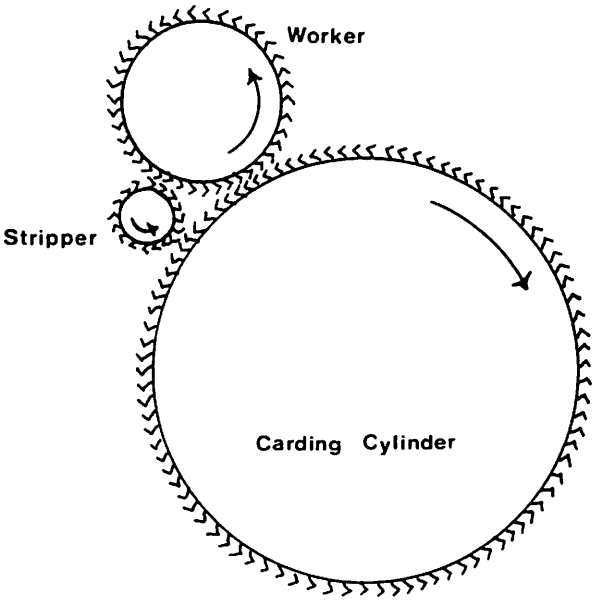


Carding



Stripping

Machine Carding



After passing through the workers and strippers the wool passed the fancy (or brushing) roller. This roller raised the fibres on the carding cylinder so that they could be more easily transferred to the last roller -- the doffer. The fancy moved fairly fast causing some of the fibres to fly into the air. This is why the Wiles had a wooden case over this particular roller. Most carding machines, however, have strippers to catch the "fly" (the name given to these fibres).

The last roller adjacent to the carding cylinder is called the doffer. It's teeth are set in the opposite direction of those on the carding cylinder and it rotates quite slowly (about 9"/second as compared to about 224"/second for the carding cylinder) in the opposite direction of the carding cylinder. The carded wool was taken off the doffer by the last roller on the machine and the finished cardings (also called rolags, curls or rovings) dropped into the box at the end of the machine. From here the carded wool was removed to a table near the machine where it was put into burlap bags and the bags pinned together with thorns bought from the local children. These fleecy web strips that came off the carding machine were each about as wide as the machine and they were ready for spinning. When spinning, the women would attach the ends of the cardings together by rubbing them together between their fingers.

The Wile's carding machine could card approximately twelve pounds per hour. This compares with fifteen to 120 pounds for modern carding machines. There are about 12 to 36 million fibres in every pound of wool. This means that in an hour this carding machine straightens up to 430 million fibres of wool. In each square yard of cardings there is less than one ounce of wool. One man estimates that "a machine around 1800 produced each hour a total of 2,700 cardings each just over two and a half feet long" (35).

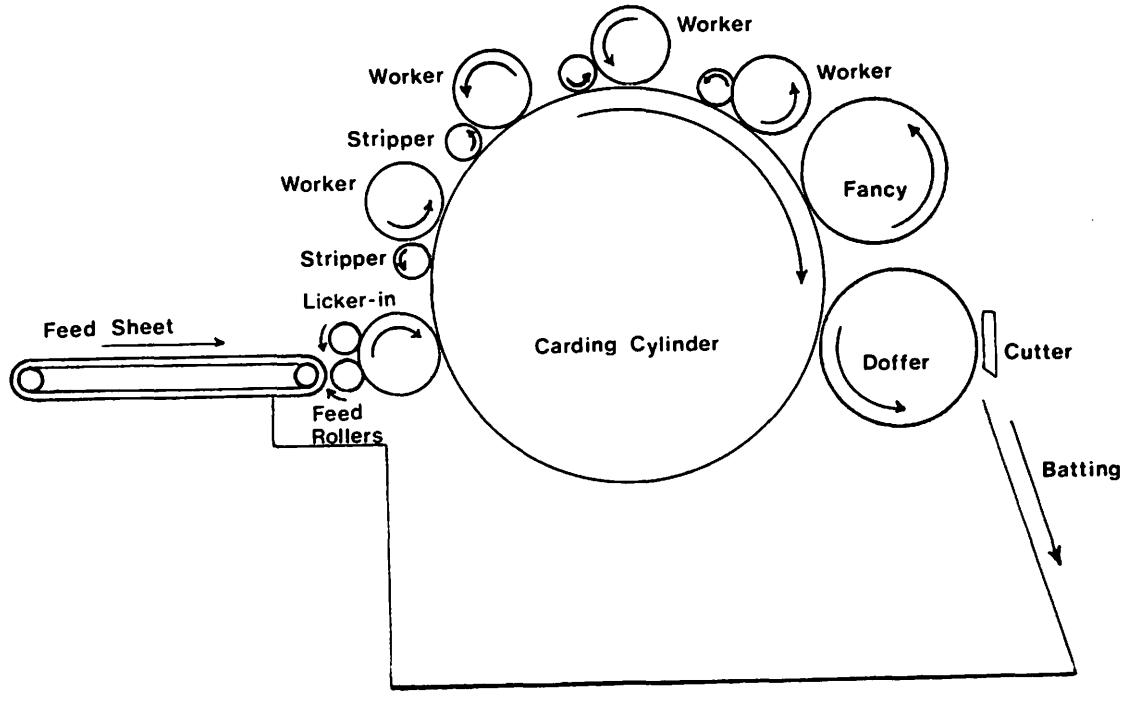
The charge for carding wool was 4¢ per pound in 1884. This compares favorably with 8¢ per pound which was the price charged by a mill in Liberty, Missouri in 1860 (7). Dean Wile raised the price to 4¼¢ per pound in 1887 and by 1918 the price was at 7¢ per pound. During the last years of the mill's operation the price was brought up to 20¢ per pound; still very reasonable compared to current prices at 75¢ per pound or more.

If the wool was to be used for batting in quilts it went through the batting machine rather than the carding machine. This machine is essentially like the carding machine except that it only has one carding cylinder and the carded wool came off in one continuous sheet rather than a series of cardings. The cutter at the end of the doffer cut the sheet when it reached the desired length.

Every few days, depending on the amount of wool that had been carded, the card cloth on both the batting and carding machines had to be cleaned with hand cards.

The wool that was left on the machines belonged to the Wiles. This was called "shoddy". The shoddy was initially stored underneath the carding machines. When it accumulated it was taken upstairs and stored in the attic. When business was slow they'd bring it down and clean it, recard it and sell it. The Wiles made a lot of extra money this way. In 1866, for example, Dean Wile sold 564 pounds of shoddy. Shoddy cost between 10¢ and 20¢ per pound, probably depending on the condition it was in. This would mean that the Wiles earned about $80.00 in one year selling shoddy, a lot of money in those days when a couple of acres of land on the stream in Sebastopol could be purchased for $100.

Batting Machine



During its peak operation in the late 1880's when most people raised their own sheep the transactions were generally under $1.00. The average order was about 15 pounds of wool for a customer. This would represent maybe four or five fleeces. Most of the customers paid in cash. However, a few customers paid with mutton (valued at 9½¢ per pound in 1886), butter (at 18¢ per pound in 1891), cranberries, loads of wood or labor. Dean Wile also took smoked kiacks (also known as gaspereau or alewives) in payment. Apparently he sold them from the mill as well. In June 1886 his brother Abner Wile bought 50 kiacks from the carding mill for 40¢.

Every year Dean Wile would buy some tea which he would sell to his customers. The tea was kept in barrels at the front of the mill.

The Wiles also sold cloth at the mill, or exchanged it for wool. This cloth was brought from Snow and Carr in Annapolis County and cost between 13¢ and 28¢ a yard.

During the height of its operation the mill carded up to 25,000 pounds of wool in a year with the peak being in May when the sheep were being shorn. Between the beginning of January and the end of March there was very little business at the mill. In 1885 Dean Wile and Arkanus Wile together cleared $828.12. In 1888 their profit was $913. This was probably more than Otto Wile (Dean's youngest son) was earning in the 1930's (45).

Pounds of Wool Carded per Month at the Wile Carding Mill

	1881	1884	1887
April	1315	1835	2257
May	4858	6525	7350
June	4038	6300	5350
July	1578	1820	865
August	579	1000	1171
September	883	1000	1790
October	1018	1628	1826
November	1545	1200	2023
December	1234	1680	1275
Til Spring	183	----	500
	17,231 lbs.	22,988 lbs.	24,407 lbs.

By 1888 there was so much demand for wool carding that Arkanus Wile agreed to build a carding mill for the Langilles in Blockhouse. This mill operated until 1933 when a fire, caused by a match in the picking machine,destroyed it. During the latter years of its operation, when business was slower, the Blockhouse mill provided some stiff competition for the Wile Carding Mill.

Around 1890 the Wiles expanded their very successful carding mill by swinging the gristmill around and adding it to the back of the carding mill. Probably the timbers from the saw mill were used as well in building the back part of the carding mill. Business was so good that Dean Wile was even contemplating turning the carding mill into a full scale woollen mill. This plan was never carried out because Arkanus was no longer interested in the mill and Dean Wile felt he was too old to start such a large project on his own.

For the next 20 years Dean Wile managed the mill by himself. Arkanus, except for coming in to do occasional repairs, worked fulltime at his shoe store and Otto, Dean's other son, had moved to Brookfield Mines where he and his wife Bernice ran a store. During the 1890's Dean Wile had three women working for him in the mill. He did not operate any of the machines himself but rather sat back in his rocking chair while he supervised the women and took care of the customers.

One of these women was Sevilla Fisher who came to work in the Wile Carding Mill in 1894 when she was a young girl of fourteen. Sevilla Fisher (now Mrs. Weagle) worked there from the end of July until the beginning of April. The women were expected to put in a twelve hour day (6 a.m. to 6 p.m.) with no breaks for meals. If there was a lot of wool to be carded they had to stay until 9 p.m. and Mr. Wile would bring in some sandwiches for their supper. For working six days a week from 12 to 15 hours a day Mrs. Weagle was paid $2.00.

The sisters Eva and Jane Frank also worked at the carding mill. Eva was in charge of carding the white wool while Jane took care of carding the black and grey wool. Mrs. Weagle had the "worst job of all" - that of oiling the wool.

While at work the women wore dark cotton dresses with long sleeves and plain aprons or burlap bags for wiping their hands. Mrs. Weagle recalls that not only was the work very dirty and tedious but often the mill was terribly cold. Dean Wile was rather frugal with the wood so Eva and Mrs. Weagle frequently had to scrounge around for little wood chips to keep the fire in the stove going. If the mill had to operate in the evening

kerosene lamps were lit and set around on shelves by the different machines. Even with all the lamps lit it was quite dark in the mill. According to Mrs. Weagle it was a miserable way to earn a living.

Business had started declining in the 1890's. Mrs. Weagle quit in 1897 but Jane Frank, who had started working at the mill long before Mrs. Weagle, continued working there. When Dean Wile died in 1911 she took over the operation of the mill (except for some repair work which Arkanus would come in to do) until 1920 when Otto Wile returned from Brookfield Mines to run the carding mill.

By 1920 there was only enough work in the mill for one person so he dismissed Miss Frank and continued on his own. Otto Wile was a great checkers player and the children from the neighborhood would come in to play with him. He could beat any of them even though he had to attend to the machinery at the same time.

By the time Otto Wile died in 1936 business had dropped off considerably and his son Vernon, who took over the mill, ran it on a part-time basis only until his death in 1968 when it ceased operation altogether. Vernon added a dormer onto the front of the mill in order to make room for an apartment for himself in the loft. He lived there until his marriage in 1959. During the day Vernon worked as a maintenance man in a lumber mill and in the evenings he and his wife Dorothy would come to the carding mill and run the orders through.

Several factors contributed to the decline in business at the carding mill. With the influx of people into the Bridgewater area, the available land had to be parcelled into smaller and smaller lots. Since sheep need a lot of land for grazing it soon was no longer practical to keep sheep and people turned to intensive cultivation of the land for crops and meat. This trend occured all over Nova Scotia. The Canada Census of 1870 recorded 398,377 sheep in Nova Scotia at the time of the census (14). By 1921 there were only 272,034 sheep in Nova Scotia (15).

The steady rise in the standard of living allowed more people to buy finished woollen goods rather than having to spin their own wool and weave their own cloth. The increase in available money also lead to the formation of other clothing industries which produced cotton goods, knits and new synthetic materials. For many purposes these materials were far superior to wool and consequently people no longer had to rely on wool for clothing and bedding.

In 1870 there were 99 fulling and carding mills in Nova Scotia. Seven of these were located in Lunenburg County. Now there is probably not one carding mill in operation in all of Nova Scotia.

OTHER INDUSTRIES UTILIZING THE WATER POWER OF THE STREAM

1. W.E. and J.E. Veinot Wagon Company

According to a photograph in the DesBrisay Museum, Bridgewater, this carriage factory was established sometime prior to 1863 by the brothers William Enos Veinot and James E. Veinot. Their factory was located on the same property (the "old Mill site") that was at one time owned by Frederick and Garrett Wile.

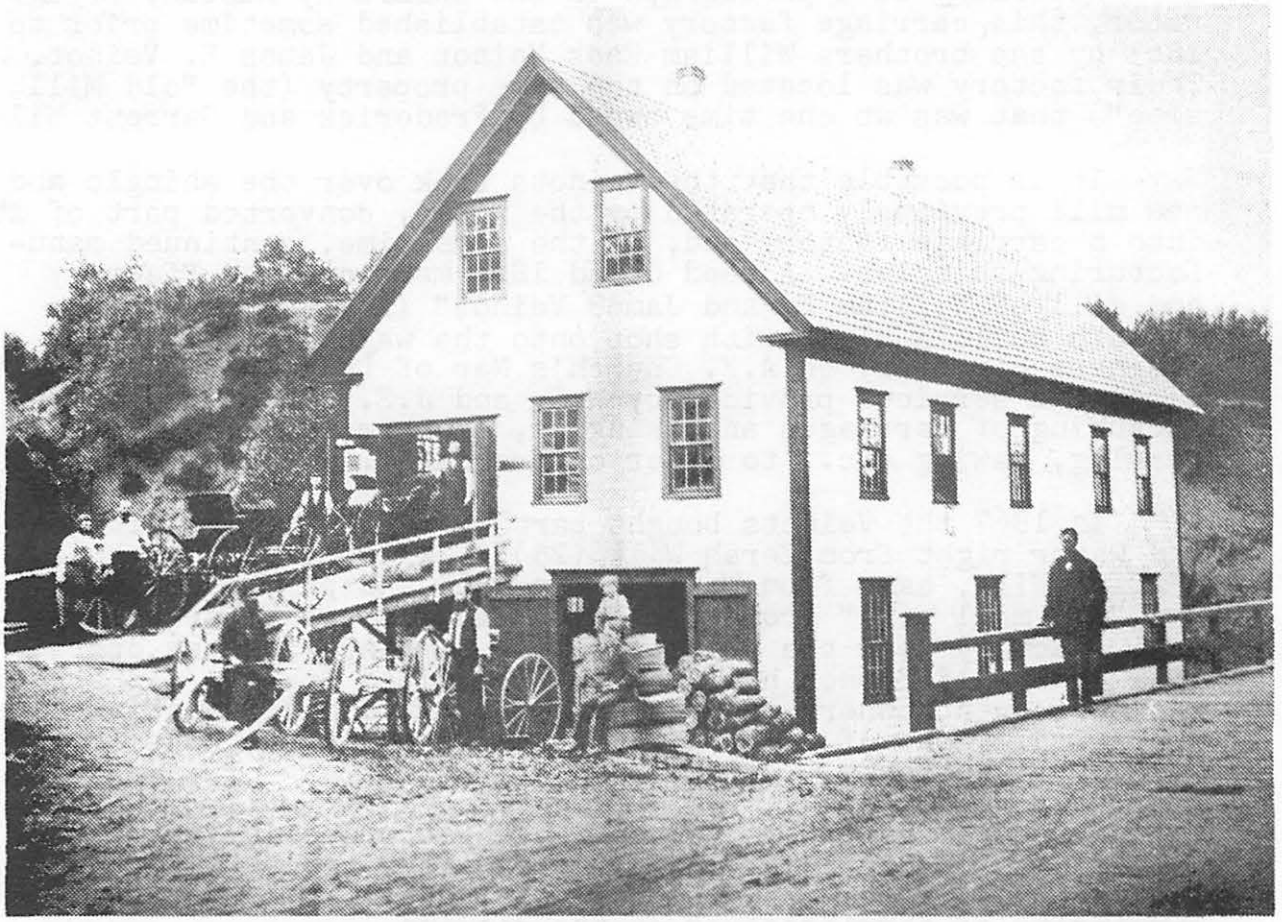
It is possible that the Veinots took over the shingle and saw mill previously operated by the Wiles, converted part of it into a carriage factory and, at the same time, continued manufacturing shingles. A deed dated 1868 mentions the "factory and mill of William E. and James Veinot" (13). Later on the Veinots built a blacksmith shop onto the wagon factory. The business directory on A.F. Church's Map of Lunenburg County (1883) lists the services provided by W.E. and J.E. Veinot as "manufacturing of carriages and shingles, blacksmithing, planing, turning, sawing etc., to order on premises".

In 1867 the Veinots bought part of the "old mill site" and water right from Zerah Wile (25). Zerah Wile, a brother of Dean Wile, came from Waterloo in 1865 and purchased part of the "old mill site" from John Hebb (11). There he erected a chair factory near the Veinot's Wagon Company which he operated until about 1868 when he moved to the United States. Apparently the subsequent owners of the chair factory did not continue its operation. Some of Zerah Wile's chairs are in the Nova Scotia Museum Collection.

Although there were two carriage factories in 1904 as compared to one in 1870, (4, 5) it was inevitable, with the introduction of the automobile in the late 1800's that the popularity of carriages was on the decline.

In 1913 the Board of Directors of the W.E. & J.E. Veinot Wagon Company announced its liquidation (2). The building and property were bought by William Freeman in 1914 (26) and he sold roofing and nails from the old carriage factory as a sideline to his hardware business in town.

Philip E. Rafuse and Wynn Crouse bought the property from Freeman in 1929 (9). They built a saw mill there on the eastern side of the old carriage factory. The saw mill operated until 1942 when J. Irving Hebb took over the property (14).



The Veinot wagon factory before the blacksmith shop was added.

(Nova Scotia Museum Photo No. N-3366)

Hebb diverted the stream from under the building to its present location and used the buildings for warehouses. In 1964 he passed on the property to his daughter Pauline Oickle (12) who uses the buildings as an antique shop. She tells me that the machinery from the old saw mill is still in the building and that there are many old wagon wheels in the basement of the Veinots' old wagon factory.

This and the Dean Wile Carding Mill are the only two industrial buildings from this time along the stream that are still standing in their entirety today.

2. Abner Wile's Gristmill

Abner Wile, also a brother of Dean Wile, operated a gristmill upstream from the Veinots. He bought the mill and the land from Col. John Harley's heirs in 1877 (10). Col. John Harley himself died in 1875. He was a very influential person in Bridgewater and for many years was a collector of customs.

According to an article in the Bridgewater Bulletin (3) there were two mills on the property sold to Abner Wile. Apparently Abner Wile moved the second mill so that it was attached to the back of the gristmill. He was a blacksmith by trade and also owned a blacksmith shop across the stream from his gristmill. Abner Wile ceased operation of the gristmill about 1902. He died in Mahone Bay on May 21, 1924.

In 1903 George Kelly bought the mill site and set up a monument works on the property (22). His son, George Kelly, took over the business about 1933 and ran it until 1965.

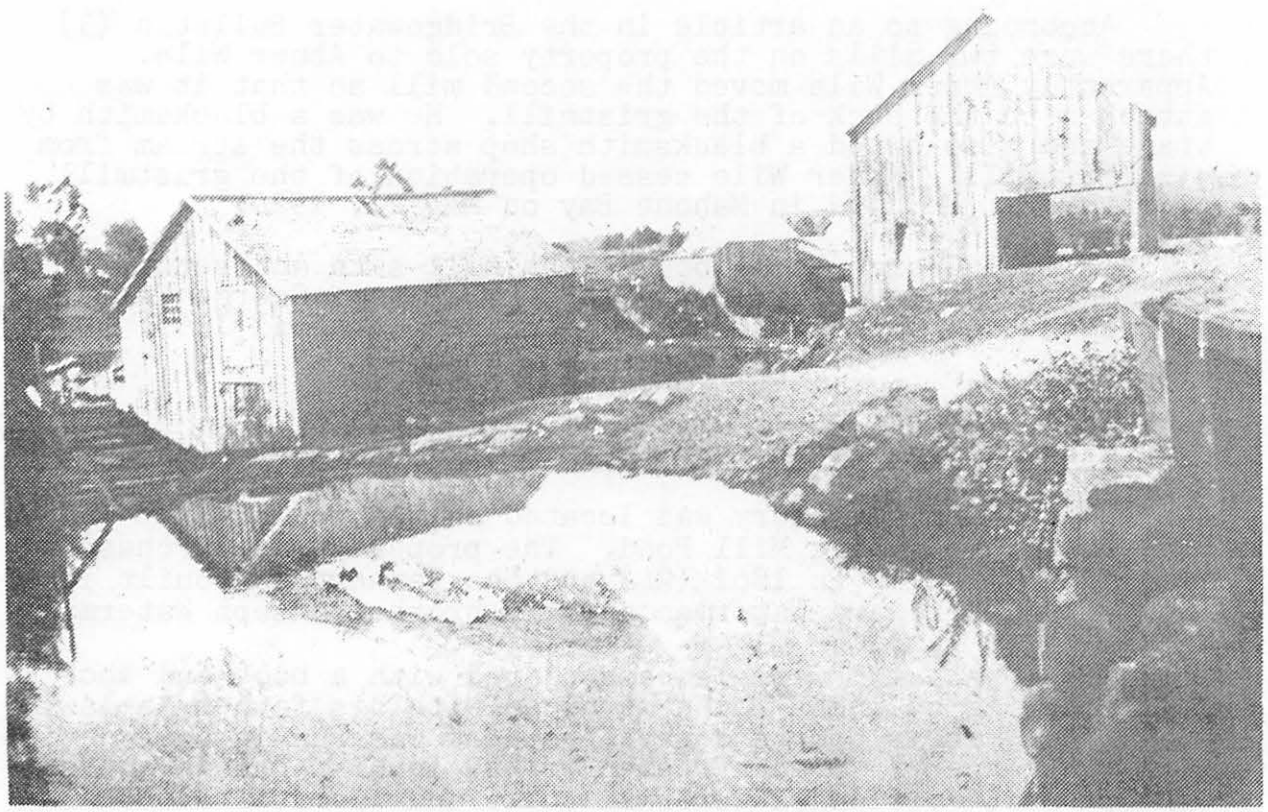
3. Waterman Tanning Company Limited

The Waterman tannery was located on the stream just above the Dean Wile Carding Mill Pond. The property was purchased from Frderick Wile in 1861 (24) and the tannery was built in 1862 by James Edward Waterman and his brother Joseph Waterman (40).

James Waterman was also associated with a boot and shoe manufacturing business which he owned with his father-in-law, John Hebb. Their boot and shoe business was run in conjunction with the tannery. Frank Freeman writes in his article on the tannery that "...Edward Waterman built and operated a shoe factory at the foot of what is now Empire Street and for many years employed as high as twenty-five men, including Tom Waterman, another brother, as secretary and bookkeeper" (33).

Apparently James E. Waterman was quite an important man in Bridgewater. His obituary (1894) describes him as "... one of the most enterprising and public-spirited men in our town. His voice was always raised and his purse perhaps too often opened, to further any enterprise that promised to develop the industries of the county or benefit the condition of the community (31)."

James Waterman and his brother Joseph Waterman ran the tannery together in its early days. Later on Joseph's sons John L. and Archibald Waterman came to work in the tannery and in 1903 the tannery passed on to them (19). They tore down the old tannery that spring and rebuilt a new and more modern one on the same location (3). It was incorporated under the name Waterman Tanning Company Ltd., in 1904 and purchased by the company for $26,950 (17).



The original Waterman tannery built in 1862. The small building to the left of the tannery is the bark house.

At this time the Waterman Tannery was the only tannery still in operation in Bridgewater (as compared to four in 1870) (4,5). Most of the small tanneries found themselves unable to compete with the large tanning companies which used tannic acid shipped in from the United States rather than hemlock bark for tanning hides.

Before tannic acid was used in the tanning process, the hides were tanned with a solution (called "liquor") made from hemlock bark. The Waterman's bought cattle hides by weight from the local people. Like the other industries in the area, much of the machinery used, and the processes, were innovations of the owners. For example, John L. Waterman made up a process where he pinned the hides to a wheel made out of slats. This wheel would turn in the vat of "liquor" cutting down considerably on the time required to tan the hides.

The Waterman Tanning Co. Ltd., built in 1904 on the site of the original tannery. Standing in front of the tannery are John L. Waterman (left) and Fred Reeves (right).

(Nova Scotia Museum Photo No. N-3371)

Some of the leather produced was used in the local boot and shoe industries, including James E. Waterman's own shoe factory. Much of the leather went into the making of harnesses. These were made at Stan Baker's in Bridgewater as well as many other places (39).

The tannery operated on a large scale until the 1920's when it went bankrupt (44). John L. Waterman then went away to learn about new methods of tanning with tannic acid. After getting on his feet again John L. Waterman and a helper tanned hides on a small scale until his death in 1955 (41). In 1966 the tannery was torn down by Clyde Waterman on orders from the town of Bridgewater (42).

4. Bridgewater Foundry

This foundry was located across the street from the Wile Carding Mill. It was probably built about 1864.

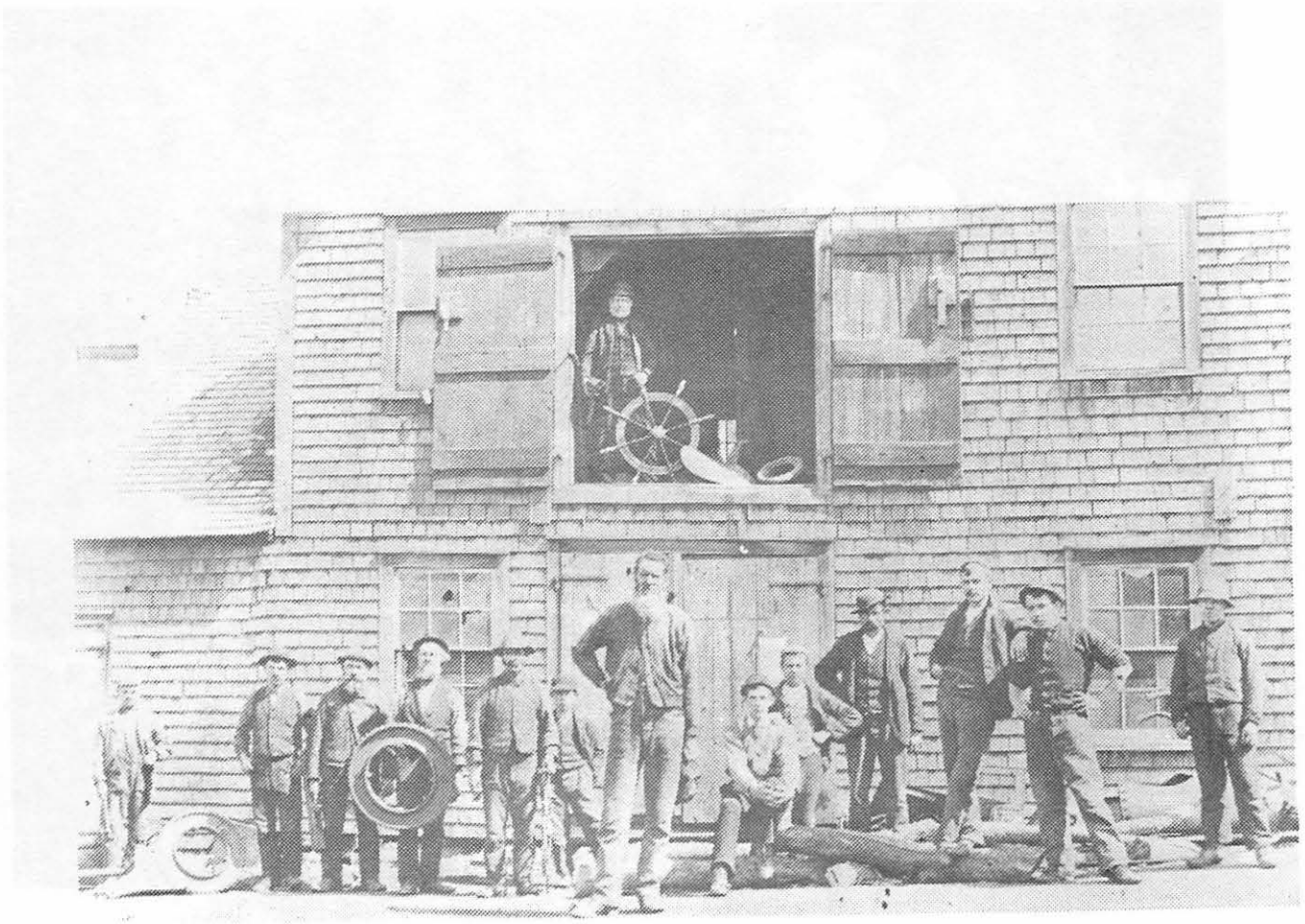
Land for the foundry or land adjacent to the foundry was purchased from Edward Waterman (James E.) in 1864 by Thomas Waterman and Duncan McMillan, the original owners of the foundry (16). It is difficult to determine just where this land was located since the stakes and piles of stones which marked its boundary are no longer present. According to the deed the land was bordered by the Pleasant River Road (which ran in front of the site of the foundry) and Solomon Hebb's land (which ran behind the site of the foundry). The deed goes on to read "... also the use of the water needed for casting purposes from any pond of water that may be formed or is now formed on the property of him the said Edward Waterman..." However, it is possible that the foundry was already in existence at this time on the adjacent lot.

It appears that the foundry was originally called the La-Have Foundry. In a deed dated 1871 John McMillan purchased from Joseph Waterman "...a certain site of land situated on Sebastopol, so called, near the LaHave Foundry, and described as follows: Beginning at the western margin of the foundry brook on the line of Solomon Hebb's land ... (thence) ... by the line of land sold to the owners of the LaHave Foundry..." (18). There is no other foundry in the Sebastopol area on A.F. Church's map.

DesBrisay in his History of the County of Lunenburg (1870) writes ... "The iron foundry of Duncan McMillan is 150 feet in length and 30 feet in width. The enterprising proprietor, who is a native of Inverness "Auld Scotia", manufactures ships castings of all kinds, stoves of different patterns, mill work, iron railings, and improved school furniture" (31).

The foundry passed into the hands of Robert Hunter sometime in the 1870's and he changed the name to the Bridgewater Foundry.

He had a carpentry shop upstairs where the patterns were made. At the upper end of the foundry there was a machine shop where the men put the stoves together and did machine work. One of his stoves is on display at the DesBrisay Museum. Robert Hunter also made iron parts for farm implements. The wooden parts were made by Robert Whitman in the carpentry shop in his gristmill. A winnowing machine, plow and haycutter manufactured at this foundry can be seen at the Ross Farm Museum in Lunenburg County.



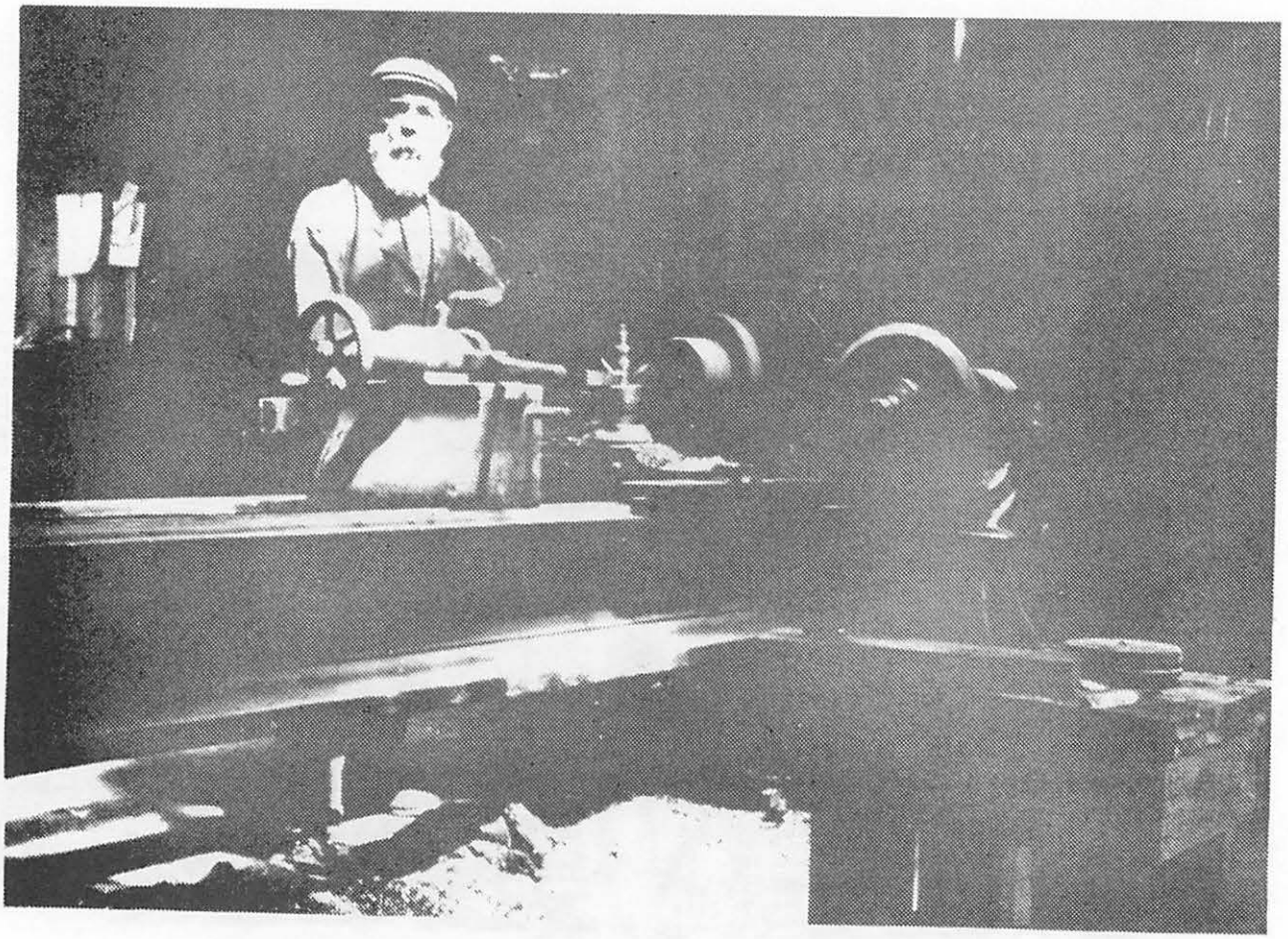
The Bridgewater Foundry. Robert Hunter is standing in the open doorway.

(Nova Scotia Museum Photo No. N-4396)

During the height of the gold rush in Lunenburg County (late 1800's to the turn of the century), the foundry made castings using the gold from the MicMac, Gold Eagle and Brookfield Mines.

In 1900 William Reeves, Robert Whitman, Joseph Waterman and Charles Reeves bought the foundry. William Reeves bought out the others in 1902 (21) and he ran the foundry until 1905 (39).

When ship building ceased to be such big business in the Lunenburg area, the foundry lost a major source of business. Also, stoves, manufactured abroad, were now being imported in greater numbers rather than being manufactured locally as they were prior to 1900. The gold mining industry which was so big in the 1890's gradually closed down, depriving the foundry of yet another source of income. All these factors eventually forced the foundry out of business.



William Reeves working at the Bridgewater Foundry - about 1900. (Nova Scotia Museum Photo No. n-3368)

In 1914, after William Reeves' death, the foundry was sold to Bernal Ernst (15) who operated the foundry only as a hobby. Bernal Ernst also lived in the upstairs of the foundry for a number of years.

Part of the foundry is still standing. It is the section where the Hunters made their residence when they owned the foundry.

5. Whitman's Gristmill

The Whitman's gristmill was located just below Whitman's Pond on the New Pleasant River Road (the upper end of Victoria Road). The land and water rights for the mill were purchased from Joseph Waterman in 1883 for $360 (2). At this time the extension of Victoria Road, or the Pleasant River Road, was called Crouse Road.

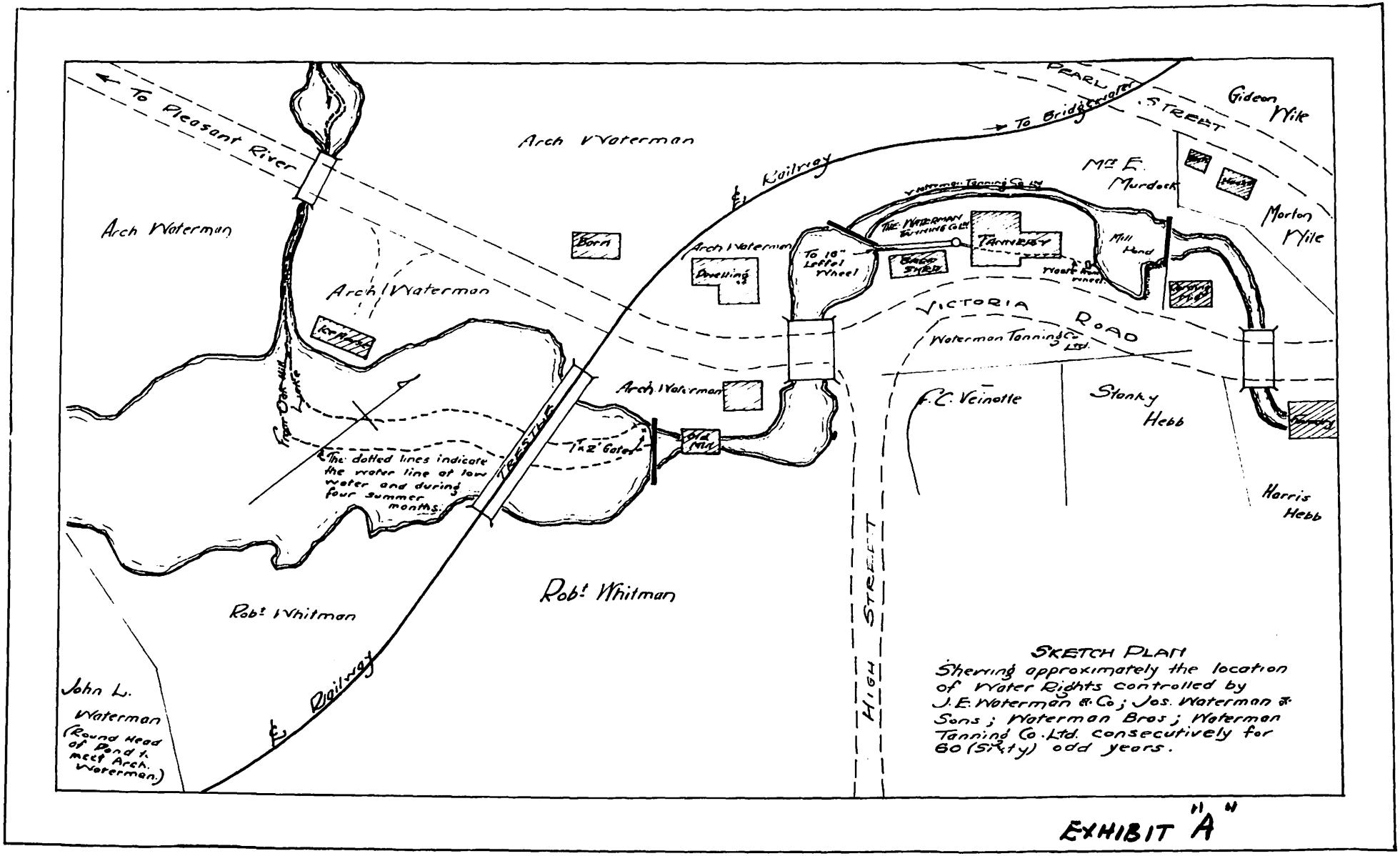
The upstairs of the mill was used as a carpentry shop where Robert Whitman, Sr. made farm implements. DesBrisay in his 1895 edition of the History of Lunenburg County referred to the "Whitman Brothers grain mill and plow factory" (32). One of these plows can be seen at the DesBrisay Museum. Some other farm implements made by Robert Whitman and Robert Hunter (Bridgewater Foundry) are on display at the Ross Farm Museum.

The gristmill was operated very efficiently by Robert Whitman, Jr., who had been blinded by an accident in his childhood. The gristmill mostly produced feed from oats. Robert Whitman, Jr. sold the feed directly from the mill, as well as to places as far away as Prince Edward Island.

Robert Whitman, Jr. retired from the business about 1907. Like the carding mill the gristmills in the area were adversely affected by the sharp decline in the sheep population. Those farmers who still owned livestock found it cheaper to buy their feed from the newly formed large feed companies such as Canada Packers. Whitman's Gristmill and Abner Wile's Gristmill both went out of business within five years of each other.

Around 1910 Lawrence G. Oickle, a carpenter, rented the upstairs of the old mill from Robert Whitman, Jr. (38). He and his family lived across the street in John L. Waterman's old house. Mr. Oickle and his brother-in-law Roland Whynot used the upstairs of the mill until shortly after 1914 when they built their own shop elsewhere. This was the last time the mill was used.

The gristmill was still standing as late as 1938 (37).



Sketch plan of the location of water rights controlled by J. E. Waterman & Co., 1920.

6. Water Rights

The water rights for the stream were held by the Waterman Tannery and the Wile Carding Mill. In 1861 James E. Waterman and Dean Wile dug a drain leading from Oak Hill Lake (Wile's Lake) to Whitman's Pond. The right to dig this drain or channel "... to any depth and to the width of 6 feet ... together with the privilege of building a resevoir dam for the purpose of stopping the water at the head of the drain at said Oak Hill Lake" was bought from Frederick Wile by Edward Waterman for one pound (29). In return for the assistance of digging the drain, James E. Waterman and Dean Wile drew up an agreement whereby Dean Wile was granted the privilege of having enough water from the pond above the tannery (i.e. Whitman's Pond) "to set in motion and keep in motion as may be required the carding machine but no other mills or machine whatsoever" (1).

In 1870 Dean Wile purchased from Daniel Hebb for $36 the privilege of "swelling or raising the water in Oak Hill Lake so called, on Pleasant River Road, as same has been for the past ten years, by the dam on Sandy Brook, so called, on Pleasant River Road" (27).

The foundry used the water from the Dean Wile Carding Mill Pond. In 1868 Dean Wile sold water privileges to Duncan McMillan for $40. This allowed the owners of the foundry" ... the privilege of taking water from Dean Wile's mill for 7½ hours each week for manufacturing purposes" (30).

Robert Whitman purchased water rights from Joseph Waterman in 1883. As well as land, Robert Whitman acquired "... one half of the resevoir and mill privileges adjoining the above described property on the west, reserving to the said Joseph and James E. Waterman, their heirs and assigns the right to use at all times sufficient water from said resevoir for the tannery now owned and occupied by said Joseph and James E. Waterman" (20).

When all the industries along the stream were in operation Whitman's Pond was much larger than it presently is. Apparently there was enough water for all the industries.

RESTORATION OF THE WILE CARDING MILL

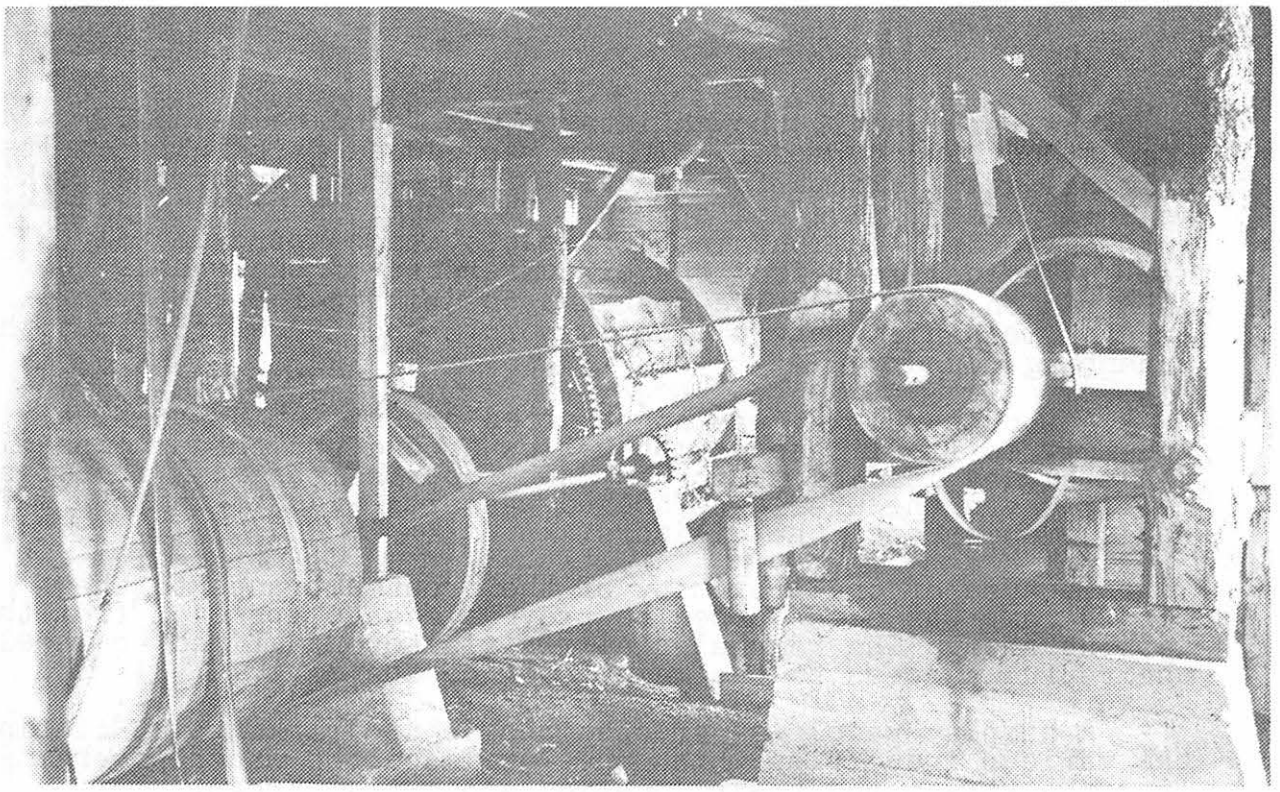
A number of factors contributed toward the decision to restore the Wile Carding Mill. It was the last of a number of industries that prospered along this stream during the late 1800's. The building itself was a good example of a small nineteenth century industrial building. Two outstanding features were the presence of the original carding machinery and an intact over-shot water wheel. The acquisition of the carding mill also complemented the historic building program of the Nova Scotia Museum which already included the Balmoral Gristmill, Barrington Woolen Mill and McDonald Brothers' Sawmill at Sherbrooke Village portraying small local industry in Nova Scotia.

The location of the carding mill was very suitable for visitation by local people as well as tourists. Although it was in a residential area, the mill was situated on a well travelled road and it was relatively isolated from neighbouring houses by the stream and mill pond. A lot beside the mill was purchased to provide parking facilities. Bridgewater was a particularly good area to open up a new museum as it had a population large enough to make good use of the facility as well as the DesBrisay Museum to operate the museum during the summer months. Bridgewater was also located on a major tourist route (between Yarmouth and Halifax).

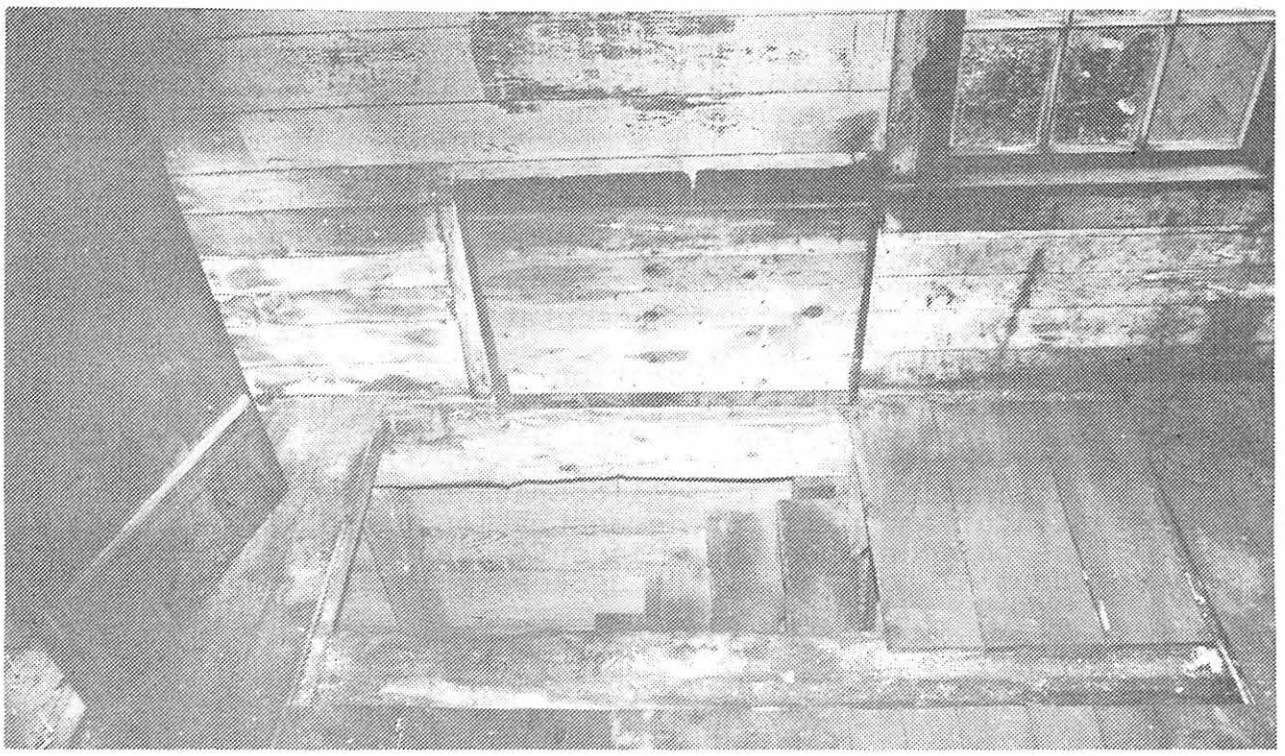
The mill building is composed of three main elements, the original gable roof structure, a back ell which had been added about 1890, and a more recent board and batten shed over the flume. Before the addition of the ell the waterwheel would have been exposed at the back of the building.

The first step in restoration was complete structural stabilization of the building. Serious failures had occured in the foundation and underpinnings. The rock foundation walls were rebuilt and sills, joists and supporting posts replaced where necessary. Much of the wall siding was renewed with wooden shingles except for the front and ends of the main building where the original clapboards were replaced.

One of the most visually significant alterations to the building was the removal of the front dormer. This restored the original gable roof structure of the building. When Vernon Wile built the dormer he constructed a stairway on the west side of the mill and cut a door into the side of the building to provide access to the loft. This staircase was removed during restoration and a ventilator matching one at the other end of the building was installed where the door opening had been. Later, an early photograph was discovered which indicated that a window had originally occupied this space.



Overshot waterwheel before restoration showing cog gear drive mechanism and belt and pulley system. (N.S. Museum Photo N-3857)



Stair opening to cellar showing size of original opening indicated by raised hatch and cuts in flooring for new enlarged opening. (N.S. Museum Photo N-3653)

The waterwheel, though intact, was found to be badly rotted and beyond repair. It was reproduced faithfully on its original shaft except for the use of the more durable hemlock wood instead of pine and spruce. The wheel is 9'3" in diameter and 5'6" wide. It contains 40 buckets, each approximately 9" deep. The cog gear from the circumference of the wheel, the main pinion for the drive gear and the pinion for the gate opening mechanism were all badly worn. They were recast at the Lunenburg Foundry.

A wooden walkway was constructed around the exterior of the mill to facilitate a smooth flow around and through the mill. The stairway leading up to the main floor of the mill from the cellar where the wheel was housed was also widened for the safety and convenience of the visitors.

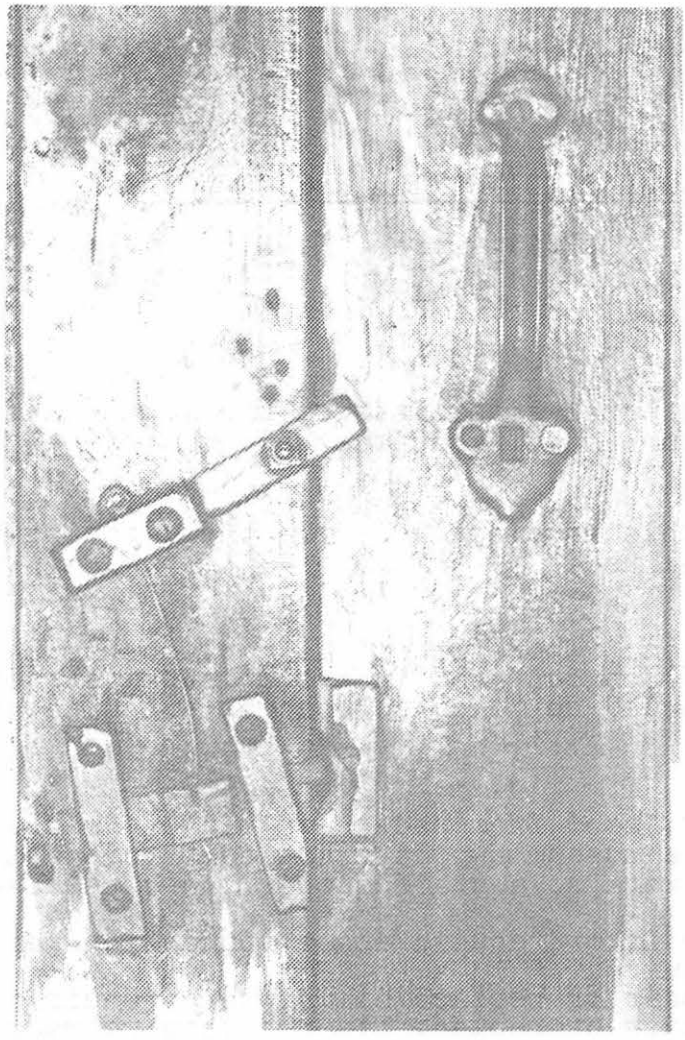
Because of the proximity of the front entrance to the road a ramp was constructed to provide a safe approach from the parking area. The ramp also allows visitors confined to wheelchairs full access to the main floor of the mill.

A display panel was erected beside the parking lot listing the various industries which once utilized the water power from the stream and their location along the stream.

The exterior walls of the mill were repainted with red ochre. The colour was established by paint analysis of the shingles.

Since the interior of the mill had changed little since its last year of operation (1968) relatively little restoration was needed for the interior. An attempt was made to interpret its history and function subtly without the use of modern displays. Advertising posters and old photographs were reproduced and placed around the mill to impart some history of the mill and the family that owned it. Information about the day to day activity in the mill uncovered during research, such as checker playing, Dean Wile's fondness for a rocking chair and the practise of fastening the tops of the bags with thorns were all employed to advantage in the visual presentation of the mill.

Plans for future restoration call for the restoration of the machinery to working order by replacing the present badly worn card clothing. The several dams which once stored the quantities of water in the stream above the mill necessary to keep the carding mill in full operation have disappeared. The operation of the mill for demonstration purposes is thus limited to those periods when there is sufficient flow in the stream to keep the mill pond up to the necessary level.



Hand-made spring latch on picking room door.

These photos indicate two of the interesting features of the interior of the building.

Inscription "Nov. 11/74-1874" carved in back of front door.

RESTORATION SPECIFICATIONS

WILE CARDING MILL RESTORATION

Bridgewater, N. S.
May 1974

Scope: Complete structural stabilization with removal of all obvious additions and alterations to the original structure.

Materials: To resemble as closely as practical the original type of material used.

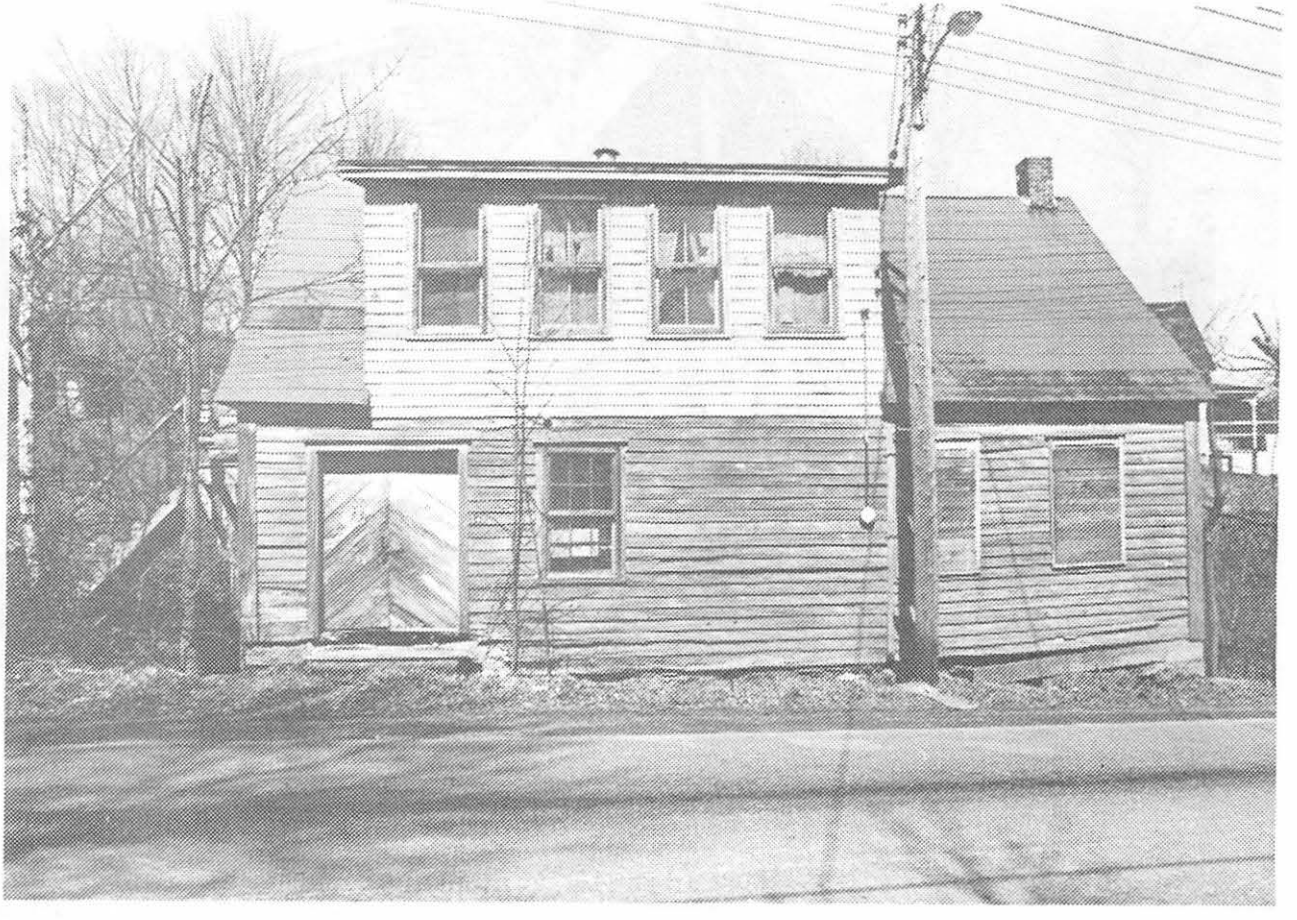
Methods of Application: Where practical, workmanship should duplicate the practices used in the original structure. Extreme care should be taken to conceal essential services such as electrical wiring.

1. Cleanup - Sort good from bad. Get rid of junk. (Please give museum two days notice before commencement of work so a staff member can supervise cleanup).

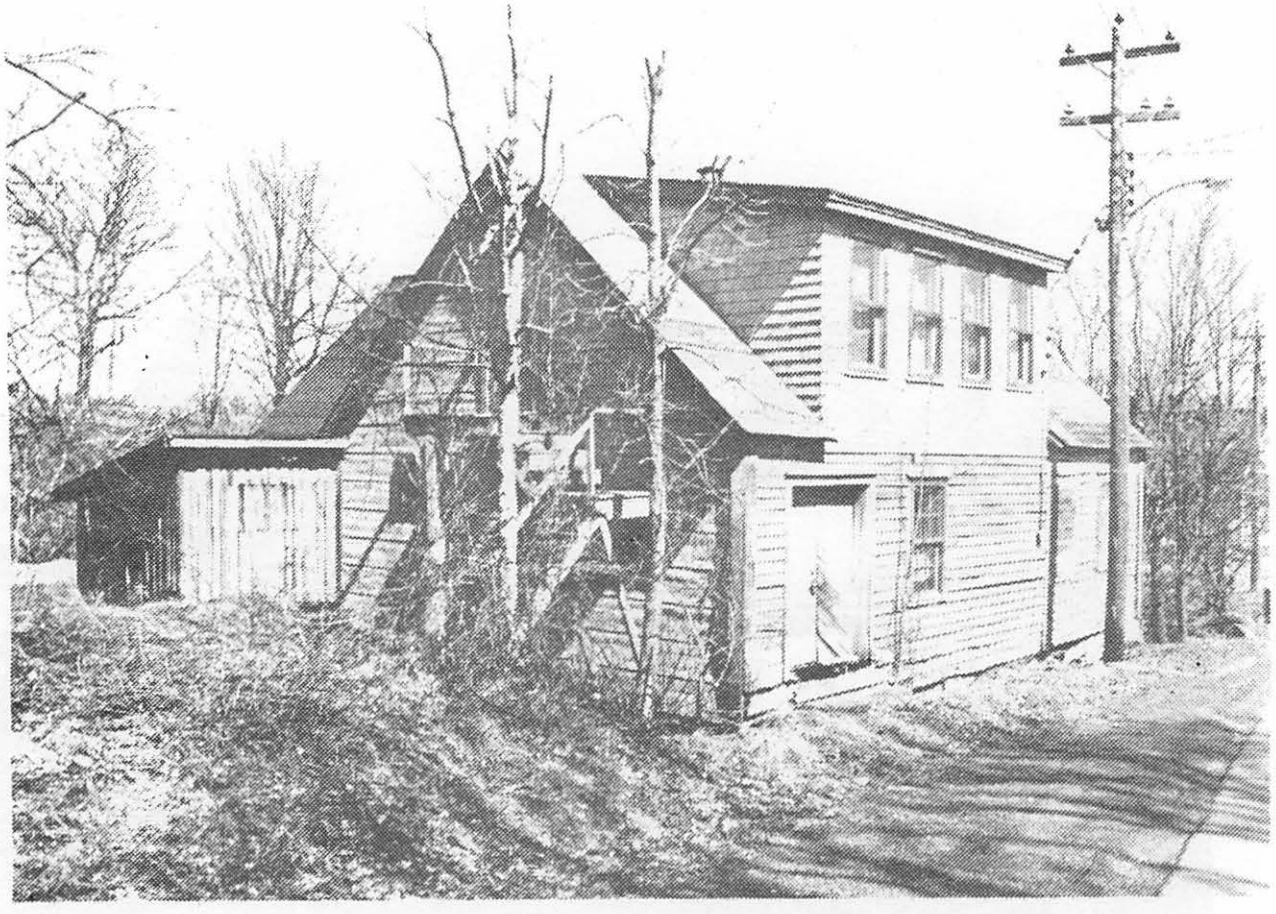
2. Foundations- Repair or rebuild stone foundation walls where required.
Repair or replace sills where required.
Repair or replace floor joists where required.
Repair or replace support posts where required.

3. Cellar - Rebuild stairway to main floor, increase opening, lengthen reach of stairs and provide hand rails 19' with railing barrier.
Restore access from rear door with rock fill and 4' wood platform with railing around corner to rear of building.

4. Roof - Remove all old shingles and roofing.
Remove dormer from front and replace rafters where necessary.
Replace roof boards and trim where necessary.
Remove metal chimney.
Reshingle with wood shingles (if local regulations permit, otherwise black asphalt).



5. South Elevation - Repair double doors
Remove old electrical entrance
Install rain gutter over doorway
Move power pole from front of building



6. West Elevation - Remove exterior stairway and close in doorway.
Install ventilator same as East Elevation.
Replace shed over penstock in board and batten style, 7'10" wide.
Close in door at basement level.
Close in small window.
Build wooden walk from door to stone wall. against penstock shelter.
Build trellis for grape vines.

7. East Elevation - Re-clapboard main building above main floor level.
Reshingle remainder of east elevation.
Replace or repair and reglaze window sashes.

8. North Elevation - Reshingle walls where necessary.
Replace or repair and reglaze window sashes.

9. Walls-Exterior General

- Reshingle and replace trim where necessary.
  Paint red ochre (mix 3 lb. to 1 gal. boiled linseed oil).
  Repair window sashes or replace.

10. Mechanical Gear and Dams

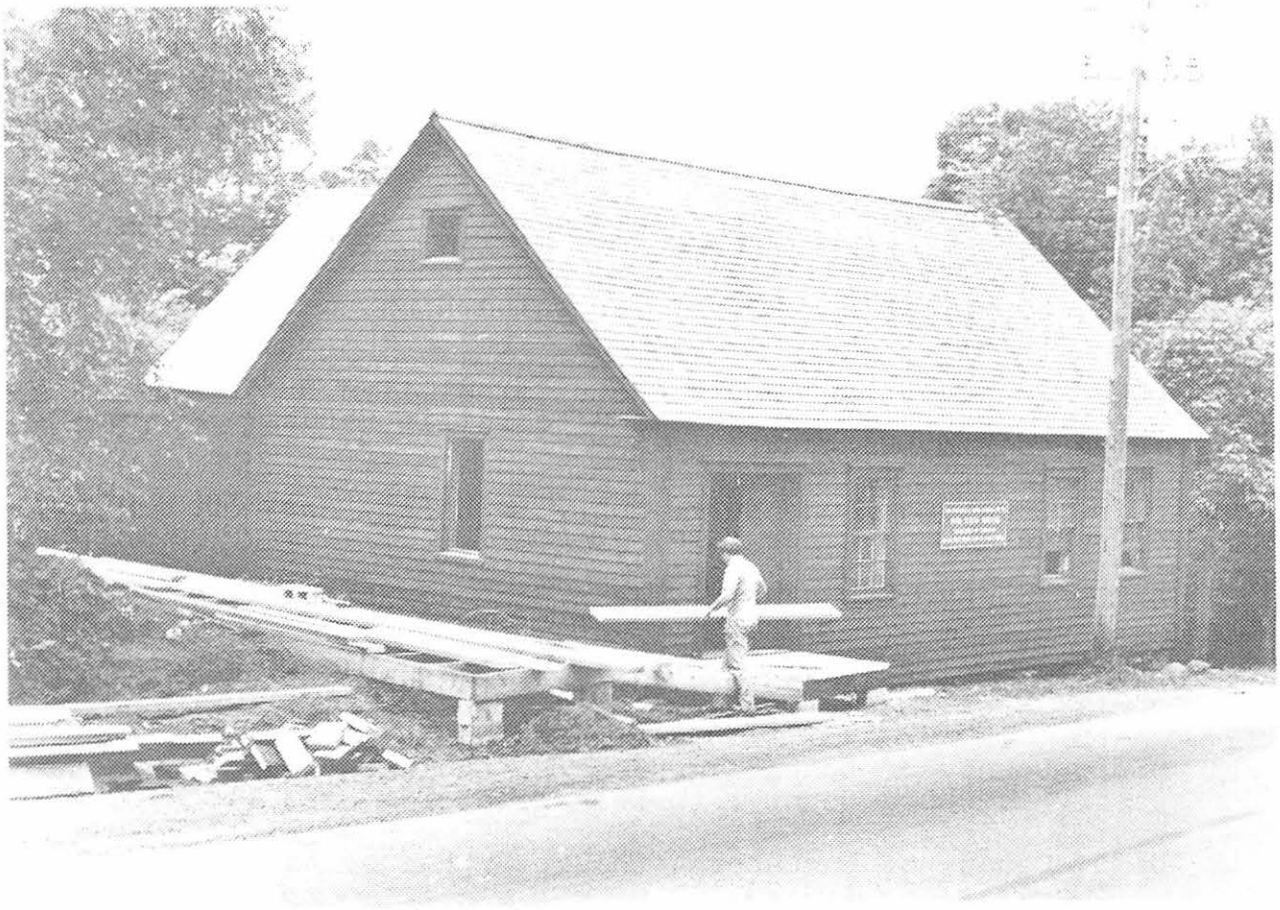
- Align shafts, repair or replace pulleys, replace belts where necessary.
  Replace penstock and replace buckets in waterwheel where necessary.
  Replace cog on gate opening mechanism.
  Replace concrete top on dam.
  Replace concrete with rock wall in race to penstock.

11. Interior - General

- Provide underground electrical and telephone service to south east corner of building.
  Locate electrical panel in south east corner of cellar area, conceal panel with wooden cabinet.
  Locate electrical meter on south corner of east wall.
  Maintain stairway to attic (non-public use).
  Secure chimney supports and replace brickwork where necessary.
  Remove modern partitions in attic area (storage use).
  Patch plaster and re-batten ceiling - white Latex paint on walls and ceiling (Bounty).
  Provide flooring in attic area.
  Insulate ceiling.
  Electrical outlets to be determined on site by museum staff.
  Remove large barrels from attic area when dormer is removed.

12. Grounds

- Level area of old highway and provide parking.
  Remove scrub and bushes on site.
  Clean up shore line of mill pond.
  Safeguard grapevines at west side of mill building.
  Rebuild rock wall at west side of mill building.
  Provide walkway and guard rail to front door of mill.
  Build steps from brook level at back of mill to mill pond level in vicinity of dam.
  Build wooden bridge over race with hand rails.
  Remove unused pole east of mill building.
  Remove trees immediately adjacent to building.



Wile Carding Mill with restoration basically complete. Construction of the wooden walkway and guardrail is just beginning.

(Nova Scotia Museum Photo No. N-3653)

1 AGREEMENT, County of Lunenburg, between James E. Waterman and Dean Wile, 18-177-197 (1862).

2 ANNOUNCEMENT OF LIQUIDATION, County of Lunenburg, Veinot Wagon Company Ltd., 76-644-477 (1913).

3 Bridgewater Bulletin, May 6, 1903.

4 Canada Census (1870-71), Vol. 3, (Ottawa, I.B. Taylor, 1875).

5 Canada Census (1921), Vol. 5, (Ottawa, F.A. Acland, 1923).

6 Cragg, C.J., "History of Bridgewater", Bridgewater Bulletin, (June 29, 1938), p. 1.

7 Crockett, Norman L., The Woollen Industry of the Mid-West, Lexington, Kent (University of Kentucky Press, 1970).

8 DEED, County of Lunenburg, Christian Ernst to Dean Wile, 17-22-23 (1860).

9 DEED, County of Lunenburg, Heirs of William B. Freeman (Margaret and Mary Freeman) to Philip Rafuse, 98-655-1045 (1929).

10 DEED, County of Lunenburg, Henry A. Harley for John Harley, Deceased, to Abner Wile, 30-40427 (1877).

11 DEED, County of Lunenburg, John Hebb to Zerah Wile, 21-185-201 (1865).

12 DEED, County of Lunenburg, J. Irving Hebb to Pauline Oickle, 131-529 (1964).

13 DEED, County of Lunenburg, John H. Kaulbach, high sheriff of Lunenburg County, to Dean Wile, 23-76-72 (1868).

14 DEED, County of Lunenburg, Philip E. Rafuse to J. Irving Hebb, 106-425-708 (1942).

15 DEED, County of Lunenburg, heirs of William Reeves to Bernal Ernst, 80-495-341 (1916).

16 DEED, County of Lunenburg, Edward Waterman to Thomas Waterman and Duncan McMillan, 19-248-277 (1864).

17 DEED, County of Lunenburg, John L. Waterman to Waterman Tanning Company Ltd., 64-372-229 (1904).

18 DEED, County of Lunenburg, Joseph Waterman to John McMillan, 23-598 (1871).

19 DEED, County of Lunenburg, Joseph Waterman to John L. Waterman and Archibald Waterman, 56-13-8 (1903).

20 DEED, County of Lunenburg, Joseph Waterman to Robert Whitman, 40-480-373 (1883).

21 DEED, County of Lunenburg, Robert Whitman to William Reeves, 66-124-341 (1916).

22 DEED, County of Lunenburg, Abner Wile to George Kelly, 61-760-46 (1903).

23 DEED, County of Lunenburg, Dean and Mary Ann Wile to Arkanus Wile, 44-476-314 (1888).

24 DEED, County of Lunenburg, Frederick Wile to Edward Waterman, 52-550 (1896).

25 DEED, County of Lunenburg, Zerah Wile to W.E. and J.E. Veinot, 21-186-202 (1867).

26 DEED, County of Lunenburg, Liquidator of the Veinot Wagon Company Ltd. to William B. Freeman, 78-204-132 (1914).

27 DEED OF PRIVILEGE, County of Lunenburg, Daniel Hebb to Dean Wile, 23-318-297 (1870).

28 DEED OF PRIVILEGE, County of Lunenburg, between James E. Waterman and Dean Wile, 18-177-197 (1862).

29 DEED OF PRIVILEGE, County of Lunenburg, Frederick Wile to Edward Waterman, 52-288 (1896).

30 DEED OF PRIVILEGE, County of Lunenburg, Dean Wile to Duncan McMillan, 21-599 (1868).

31 DesBrisay, M.B., History of the County of Lunenburg, 1st edition, (Halifax, N. S., James Bowes & Sons), 1870.

32 DesBrisay, M.B., History of the County of Lunenburg, 2nd edition, (Bridgewater, N. S., Bridgewater Bulletin Ltd.), 1895.

33 Freeman, Frank - "Well known Landmark Demolished", Bridgewater Bulletin, (June 29, 1966).

34 Hoyt-Wile genealogy, Public Archives of Nova Scotia.

35 Jenkins, J. Geraint (ed) - The Wool Textile Industry in Great Britain, (London, Routledge & Kegan Paul Ltd., 1972).

36 Marshall, W.E. - "Historical Bridgewater", Bridgewater Bulletin (Dec. 7, 1901).

37 Martin, J.L., N. S. Museum, Halifax, Personal Conversation, (January 22, 1975).

38 Oickle, Laurie, 40 Dominion Street, Bridgewater, Personal Conversation, (June 26, 1974).

39 Reeves, Bradford, 14 Pearl Street, Bridgewater, Personal Conversation, (May 28, 1974).

40 Waterman, Clyde, 283 Billings Street, North Quincy, Mass., Information given to Mr. Feindel at the DesBrisay Museum in Bridgewater.

41 Waterman, Clyde, Personal Conversation, (June 28, 1974).

42 Waterman, Clyde, Personal Correspondence, (July 20, 1974).

43 Wile, Walter, 2255 Closse Street, Apt. 18, Montreal 108, Quebec. Personal Correspondence, (June 7, 1974).

44 Wile, Walter, Broad Cove, Lunenburg County, Personal Conversation, (July 10, 1974).

45 Wile, Walter, (July 10, 1974), estimated Otto Wile's income to be about $800 a year.

The Wile Carding Mill, 1888. Otto Wile is leaning against the door of the mill and Arkanus is standing on Otto's right. (N. S. Museum Photo No. 3583)