

ARTILLERY PARK

The Workers of the Québec Arsenal

1879 - 1964

Photos and Recollections



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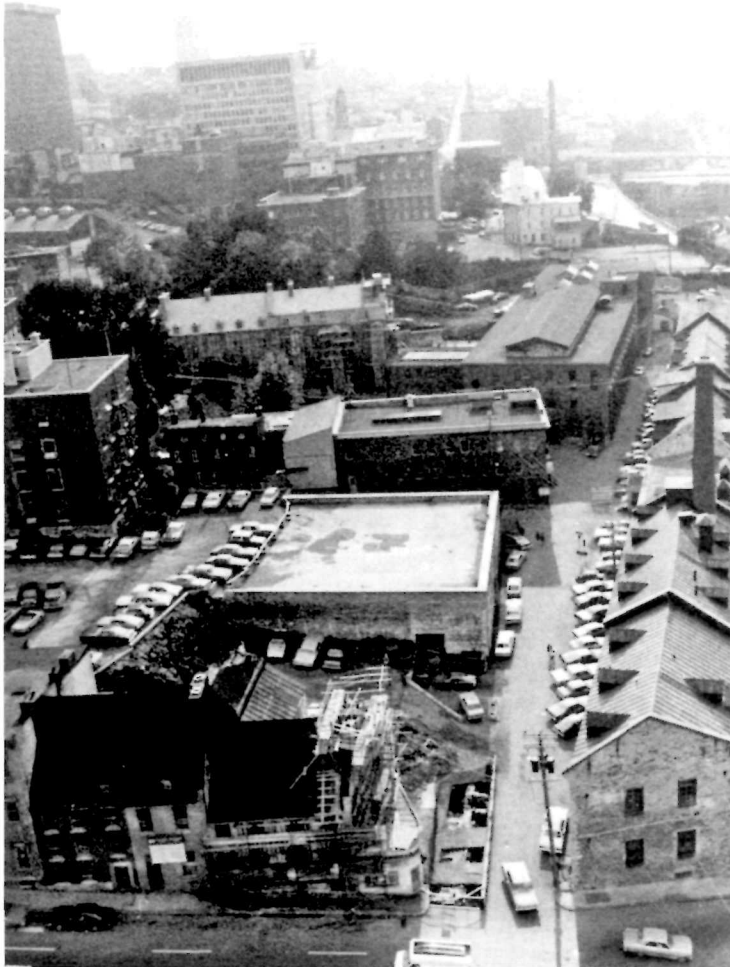
The Workers of the Québec Arsenal

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This brochure is the result of interviews with former Arsenal employees and research done in the Department of Militia and Defense files of the Public Archives of Canada. This brochure was prepared by the Historical Research Branch of Parks Canada, Québec Region.

Foreword

Visitors passing through the gate of Artillery Park could quite easily be deceived by the outward appearance of the building. Long redbrick walls and gray stone fronts, windows blackened by smoke, pipes running everywhere — nothing on this site seems to evoke people or events worthy of our history books.



Artillery
Park
1975
Photo: Parks
Canada collection

However, Artillery Park is an architectural ensemble which has seen two centuries of civil, military and industrial use. Although certain buildings were erected during the days of Intendant Bigot (1748-1760), most of them have been considerably altered and carry the scars of their last role which was essentially industrial.

Initially used for residential purposes, the sector occupied by present-day Artillery Park underwent its first major changes in 1749 when the “Nouvelles Casernes” were built. This impressive 525-foot building together with the Dauphine Redoubt were to serve as barracks for the soldiers of “les Compagnies franches de la Marine”. After the Conquest, the French troops were replaced by the British Royal Artillery soldiers who occupied Artillery Park until 1871. Eight years later, the Canadian Government chose the Artillery Park buildings in Quebec City as the site for the country’s first ammunition factory, thus transforming the “Côte du Palais” area into an industrial zone.

Group of workers
from the shell section
1917
Photo: private
collection



For over 80 years, the old walls echoed with the din of the presses and punching machines as they struck the metal. Over that period, long windows covered with soot would suddenly shatter as cast iron or copper casting was poured out of a furnace. But above all, for over 80 years, hundreds of workers, both men and women, headed towards Artillery Park every morning to earn their living.

While it is true that great technological and industrial advances were made of stone, concrete and steel, it cannot be denied that much of the workers' pain and sweat, effort and sometimes blood, also contributed to these achievements.

“We dedicate this brochure to all the former employees of the Arsenal.”

A Brief Chronology

- 1879 On December 22, 1879, by order of the Council of Ministers, the Québec Cartridge Factory was created as a result of the difficulties encountered by the Canadian army in getting Snider cartridges from the Royal Arsenal of Woolwich in England. As the British army had gradually been replacing the Snider-Enfield rifle with the Martini-Henry since 1865, it became more and more precarious to rely on a source of supply which would eventually dry up. Therefore, it was decided to establish a national cartridge factory in Artillery Park, which had been lying vacant since the British troops left in 1871. The Minister of Militia and Defence was authorized to spend \$35,000.00 to purchase machinery in England and to transform the “Nouvelles Casernes” into a cartridge factory.
- 1880 In the spring of 1880, Captain Oscar Prévost, first Superintendent of the Arsenal, was sent to England to study Snider cartridge manufacturing at the Woolwich Arsenal. At the same time, he went to Leeds to purchase all the machinery and equipment needed to manufacture this bullet.
- 1882 After innumerable starts and adjustments, the assembly line was finally put into gear in September 1882. The official inauguration of the Québec Cartridge Factory took place on October 5 with Sir Adolphe Caron, then Minister of Militia and Defence. At that time, there were 37 employees working at the factory: one shop-foreman, one foreman, two assistants, five craftsmen, one machinist, one examiner, two journeymen, twenty-three workers and a guard. Twelve of the employees were on salary while the other twenty-five did piecework. The twelve earned the best wages, from \$1.00 to \$2.50 a day according to their competence. Those doing piecework had to settle for a daily wage between \$0.25 and \$1.00. The women in the latter group quite evidently earned the lowest wages.
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Lunchtime
on the Plains
of Abraham
circa 1920
Photo: Parks Canada
collection



1884

As loading and assembling the cartridges involved a high risk of explosion, in 1884, workshops specially designed for these operations were constructed. Situated at the foot of the Citadel on the Plains of Abraham, these workshops (Cove Fields) employed a great number of female workers from 1884 to 1938 when the buildings were demolished because they were too small and outdated. The personnel was transferred to the new plant in Valcartier.

1885

When the Métis revolt broke out in the West in 1885, it was decided to step up ammunition production at the Québec Cartridge Factory and to increase the personnel to more than 150. In two months, the factory produced over 1.5 million cartridges.

1886

Between 1886 and 1891, the cartridge factory produced an average of 1.5 million Snider cartridges a year. The manufacturing process required over fifty different operations. A bullet with a cavity containing a lead plug at its base had to be inserted into a laminated brass case. Under the bullet, the cartridge chamber contained powder. At the base of this chamber, a shoe separated the fulminate primer from the charge. When the firing pin of the rifle hit the cap, the mercury fulminate set off the explosion of the powder thus sending off the bullet. The Snider cartridge production was abandoned in 1894.

- 1887 In 1887, with the opening of a cannon shell-manufacturing foundry came the first major changes in the physical facilities of the Québec Cartridge Factory. Four different projectiles were cast in this foundry : 9 calibre solid projectiles, 9 calibre pellet projectiles, 64 calibre solid projectiles and 64 calibre pellet projectiles. At first, iron was imported from Wales, but from 1890 on, cast iron from Trois-Rivières was used.
- 1891 Martini-Henry cartridge manufacturing began in 1891 after the Canadian Army bought rifles requiring this projectile. This bottle-shaped cartridge contained a higher powder charge than the Snider. Its cartridge case made of thinner brass was not laminated the same way and the bullet was made of lead and tin, and not only lead. Between 1891 and 1895, the Québec Cartridge Factory manufactured 2,449,560 Martini-Henry cartridges.
- 1892 From 1892 on, the equipment was gradually modified to produce only cartridges of a 0.303 inch diameter, a process which was long and complicated. A copper and nickel alloy from the foundry was used. The ingots were flattened and drawn at the rolling mill, cut into circles and shaped into cups. The cups were drawn five times in order to achieve the desired length. The percussion cap was machined through the foundry, rolling mill and cartridge factory. The pointed bullet followed the same steps : smelting, rolling, drawing, annealing and cutting. Then it was filled with lead and nickel. Finally, the cartridge case, cap and bullet, were transported to the loading workshops for final loading and assembly.
- 1895 The Québec Cartridge Factory came to specialize in the .303 cartridge. From 1895 to 1904, the Arsenal produced 22,647,000 shot cartridges, cordite ; 1,332,300 blank cartridges, cordite ; and 2,317,000 blank cartridges, black powder.
- 1896 In 1896, the foundry was enlarged considerably. Manpower was increased, however, production was limited to 9 calibre shells. Two years later, production of hollow steel shells and projectiles for breech-loading cannons was begun.

- 1899 During the Boer War the number of employees rose to 400. Then at the beginning of the 20th century, this number became stabilized around 350.
- 1900 Construction of the rolling mill marked the beginning of a new era when the quality of the product was improved appreciably. It became possible to have almost perfect control over the thickness of the copper strips, thus the number of rejects at inspection was reduced to a minimum.
- 1901 In view of the expansion the Québec Cartridge Factory was undergoing, it was decided to change its name to the Federal Arsenal on January 1, 1901.
- 1902 As the “Nouvelles Casernes” became too cramped, construction of new workshops, including the mechanical workshop in 1902, was begun in Artillery Park. When it was finished six years later, the building comprised only one floor. Two floors were added later, and this is where the large calibre shells were manufactured during World War II.
- 1903 A former powder magazine built in the Saint-Jean bastion in 1806 was demolished to make space for an

Moving equipment
from the workshops
on Côte du Palais
circa 1964
Photo: Parks
Canada collection



iron foundry. During World War II it was transformed into a primer plant, and today it is the site of the Artillery Park Interpretation Centre.

- 1914–1918 Production increased during the First World War and the Federal Arsenal employed about 900 people.
- 1915 A call went out to Canadian industry to step up production. In March 1915, representatives of 259 companies were sent to the Arsenal to study up on British ammunition. During the first four months of the war, representatives of 356 Canadian and American companies visited the Arsenal.
- 1918–1933 The end of the hostilities and the great economic depression resulted in a considerable reduction in personnel. During this period, there were barely 250 names on the payroll. Four or five times the Arsenal even had to be shut down for a few weeks for lack of orders.
- 1933 Feeling the need to better equip the Canadian army and wanting to relieve the hardship caused by the depression, the Canadian Government began a rearmament programme in 1933.
- 1934 The period of rearmament marked a new beginning for the Arsenal. Construction of a factory in Valcartier had to be considered. In 1934, close to 2,000 men were busy at work clearing trees and digging the site of the new arsenal. For this they were paid \$0.20 a day.
- 1939 The plant in Valcartier, completed in 1939, employed more than 7,000 people. Each month, 80 million cartridges, about a hundred times more than the number produced during the First World War, were sent out.
- 1939–1945 When World War II broke out, the Federal Arsenal became the main employer in the Québec City region. At the height of the hostilities, no less than 14,000 people, including 2,000 at the “Côte du Palais” factory, earned their living there.

- 1940 As the Valcartier installations turned out to be insufficient, a third factory, designed to manufacture cartridges for portable weapons in particular, was quickly built in the outskirts of Québec. The St.Malo factory, converted from former Canadian National workshops, was inaugurated in November 1940 and created work for more than 4,000 people.
- 1945 When peace was restored, the St.Malo factory was closed and production was concentrated at Valcartier. As elsewhere, the Canadian Government created a Crown Corporation responsible for all the country's arsenals and the Federal Arsenal became part of the Canadian Arsenals Ltd in 1945. This administrative reorganization led to a marked decrease in activity at the "Côte du Palais" workshops although they didn't close down completely.
- 1950 The "Côte du Palais" workshops were to experience a final burst of activity during the Korean War when they produced a large quantity of shells for the American troops.
- 1964 As production was concentrated at the Valcartier factories, the utility of the "Côte du Palais" installations became more and more difficult to justify. Over the years, the buildings were abandoned one by one, and it wasn't until November 1964 that the bell calling the workers finally fell silent, to the immense satisfaction of the residents of the area.

Photos and Recollections

The “Nouvelles Casernes” and the Dauphine Redoubt which had served as barracks for soldiers until 1871, became after 1880 the home of the Québec Cartridge Factory and the Superintendents of the new arsenal.



View of the
gardens of the
Dauphine Redoubt
1914
Photo: private
collection

From 1880 to 1890, almost all the workshops of the cartridge factory were located in the “Nouvelles Casernes”. In order to transform the building from a soldiers’ bunkhouse to a factory, many partitions had to be pulled down, windows filled in and most of the walls had to be reinforced. On the first floor were located the boiler room and the machines which generated power, the lead sprinkler, the furnace, the machine for cutting the metal strips, the annealing furnace, the furnace for the darkening of initial circles, the oil reservoir, the shooting gallery, the main warehouse and the dwelling of the foreman, Davis. The second floor housed the cartridge machines and the inspection room. The small machines, dryer and a second warehouse were located in the attic. The arched basement probably served as storage on various occasions.

The Dauphine Redoubt became the residence of the Superintendent of the “Côte du Palais” shops, successively housing Colonel Oscar Prévost (1880-1895), Colonel Frédéric-Mondelet Gaudet (1895-1913), Brigadier General Francis-D. Lafferty (1913-1919), Colonel Henry Robert Visart, the Count of Bury and Bocarmé (1920-1936) and Brigadier Antonin Thériault (1936-1957). From 1884 to 1922, the Superintendent also shared this impressive residence with the family of François Hallé, the first foreman of the loading workshops on the Plains of Abraham.



Workers going home
1941
Photo: A. Paquette,
Québec City

The Loading and Assembly Workshops

The loading and assembly workshops on the Plains of Abraham (Cove Fields) were of particular interest because they employed a large proportion of female workers. From 1884 to 1938, one hundred to two hundred women took turns working to insure the final operations of assembling the cartridges and shells. These workshops located at the foot of the Citadel resembled an indian fort. A stockade protected against intruders a series of little cabins, which increased in number over the years. These wooden buildings were protected from each other by piles of earth which were to reduce the risk of everything going up in flames should one of them explode. Despite technological progress, the machines used in the workshops on the Plains were never updated. Power was always transmitted by driving belt, which never gave way to electric motors although electric lighting had been used since the end of the last century.



Overall view of one of the loading and assembly workshops on the Plains of Abraham (Cove Fields)

January 1899
Photo: Public Archives of Canada

It was huge... all made of wood. If you went in there with matches or cigarettes in your pocket, you put them in a drawer. Couldn't take them in. After that, you had to take off your shoes and put rubbers over them. They were special rubbers to prevent sparks. It was serious business, an ammunition plant. The army stood guard all around.

Louis-Philippe
Lamontagne
1930-1944

Géraldine Parent
1916-1938

Sometimes it was so cold we had to put on our coats and go into the little powder rooms to get warm.



One of the loading
workshops
1902
Photo: Public
Archives of Canada

Marguerite
Berthiaume
1936-1938

To transport the ammunition from one department to another, we had wheelbarrows and all kinds of things... Like in our department at Cove Fields, there was a little railway, a track with a little machine. And that's how we transported the ammunition from one place to another.

Jacqueline
Catellier-Gagnon
1945, 1950-1954

They came along with some shot in a huge box, then we had to put them on trays. Those boxes were really big. We had to do all that before noon. Then in the afternoon, they would arrive with more. It was the same thing day after day. And we had to do it. If we didn't, there would be arguments.

Marguerite
Berthiaume
1936-1938

All the ammunition we made had to be tested to make sure it was good, so they would shoot from the top of the big stairway into the hill on the other side, and the people who lived on Grande-Allée would get scared out of their wits.

Man and the Machines

Cartridge manufacturing, whether it was Snider, Martini-Henry or .303 calibre, required many different operations, much precision and nonstop work on the machines.

The copper was burned in strips, than it was punched and drawn. We made strips, then when the strips were done, we punched out the cups. They weren't very big. These were washed and annealed then returned for the first draw. Next, they had to be sent back to the furnace room to be softened. They were washed and sent back to the first draw, second draw. A draw is to stretch out the metal. They were sent back to the washing room, then back for a third draw. The same thing was repeated again, annealing, washing and the fourth drawing and so on. When they were long enough, they were trimmed. Then they were sent to Cove Fields where the caps were made. Two small holes were pierced in the head with needles. They were punched. Making caps was one hell of a job. That's where the girls worked, and there were often explosions. Boy, did that scare them. We tested the parts, shooting blanks. There was no bullet in the cartridge, only a cap. We put them in the machines, rifles and shot them to see if they worked all right. First the cap was inserted, then the cartridge was loaded, then the bullet. Once the bullet was in place, that was it. We tested them every so often to make sure everything was okay. Humidity was no good. They were finicky things.

Rosario Grenon
1904-1946

They gave me a machine and said, "Fill these grooves with bullets." So we lined up the bullets all in the same direction and the machine punched them and there you have your bullets. The operation before that was to cut the bullets. You put it into this die, then you punched it, and that made a bullet, but not the right length. There was still another operation after that.

Alexandre Ratté
1913-1917

When I started working there, there were little trays with holes. I took the cartridges and stook them up in the tray. Then I had to put small shot into the cartridges. I worked at that for seven or eight months and then had them put me on a machine. The machine was a little groove that came down. We put the bullets inside and a punch sealed them shut so the shot would stay inside. After that, they put me on another machine that made stars on the cartridges, and that's where I lost my thumb. The machine had stopped and I wanted to take out the bullet because it was crooked then the punch came down and took off my thumb.

Eugène Côté
1918-1922



The Cartridge
Factory
1941
Photo Moderne Enr.

All the power needed to run the machines came from a coal-heated boiler. The furnace room or boiler room was somewhat the heart of the Cartridge Factory. At the end of the regular work day, a minimal pressure had to be maintained.



The room housing the boiler for the loading workshops on the Plains of Abraham
1902
Photo : Public Archives of Canada

There was a boiler room because everything in those days ran on steam and coal. There was a machine that ran on steam that provided the power for the three floors.

Lucien Brousseau
1939–1942

I was a stoker there (at the workshops on the Plains of Abraham), and I didn't know anything about stoking a boiler. You just throw the coal in the hole where the fire comes out. That was a helluva job, and at night, I worked all alone there. It could've blown up or anything.

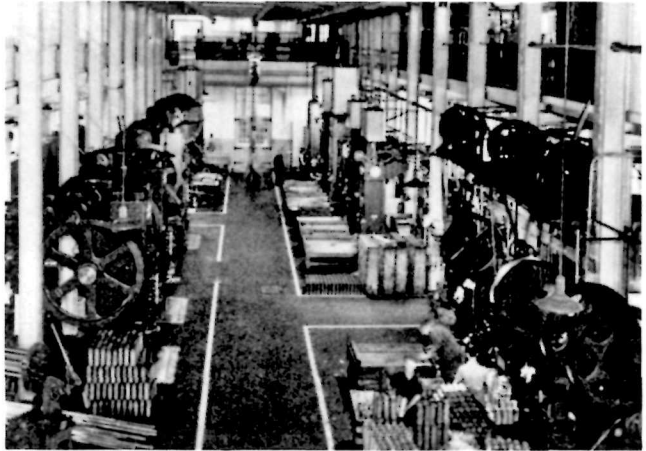
Napoléon Rousseau
1909–1942

We lived at home when I got married. I was there for one year, then we stayed in the same house without seeing each other, like the sun and the moon. Oftentimes I would arrive home late at night, after watching over those furnaces. They had to be tended. And my wife, she worked office hours. When I got home around eleven or twelve, she was already in bed. The next day I would get up... Sunday, Christmas Day, every day was the same. We had no choice, we had to work. There was no end to this vicious circle.

Joseph Mecteau
1939–1964

During the rearmament period and at the beginning of the hostilities in 1939, many technological changes rapidly took place at the Arsenal. Before this time, all the machines ran on drive shafts, pulleys and straps. This system was replaced by electric motors which considerably improved the capacity and the autonomy of the machines. Defective machines were no longer repaired, but replaced by new machines imported usually from the United States. Many of these later technological inventions were able to do several operations and thus save time and handling.

The large calibre
shell factory
1942
Photo Moderne Enr.



Even if there was only one machine being used, all the machines would run anyway. The machines themselves didn't run but the gears did. So, if only two or three machines were in use, the whole line was still running and making a lot of noise. On top of that, you had the noise of the machines themselves as they came down on the cartridges to close them. You can just imagine the clamor thirty or forty machines would make.

Léo Bélanger
1936- 1938

There were countershafts on the ceiling. All our machines functioned by means of straps. When a machine got stuck, the strap fell down and we had to put it back up on the pulley with a stick that had a slit at the end.

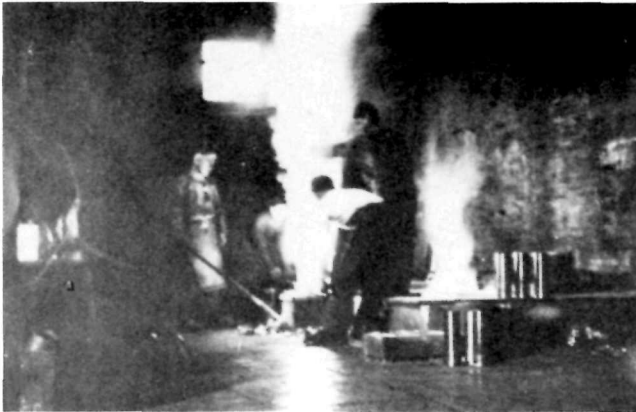
Napoléon Rousseau
1909- 1942

The Foundry

Despite the fact that it was an essential part of the Cartridge Factory, the foundry didn't offer its employees very favorable working conditions. The intense heat, the smoke and the outdated equipment made these employees' jobs almost unbearable.

One place I never liked going was where they smelted the iron. The heat that came out of there, my dear sir, I think if I had stayed, I would have roasted alive. The men who worked there looked like robots. They had huge legs, wrapped up in blankets then in canvas, and mittens up to here...

Georges Mecteau
1914-1917



Workers preparing
to do a casting
Circa 1910
Photo: Parks
Canada collection

In those days they used to take hats and cut off the brim, like prisoners' caps. When I started working there, we had to buy soldiers' pants made out of canvas. They cost \$0.50, and the woolen body suit was \$0.75. At the end of the week, they were wrecked by sweat. Oh, it was horrible! We had wooden boots, our legs wrapped up in blankets, and I tell you, when we were smelting down the nickel, right down to the liquid, the guy who was at the end of the line melted too.

Edmond Mecteau
1914-1964

Louis-Philippe
Lamontagne
1930-1944

There was so much smoke it was hard to see. At that time, they used pots. Just imagine ! They used pincers to take them out, they wore mittens on their hands, wooden clogs on their feet... In the heat of the summer, their sweat blinded them, and in the winter, it wasn't a heck of a lot better. They had to go outside, then they would risk getting sick. Some of the workers picked up bronchial pneumonia or pleurisy. It was slavery. They worked for almost nothing, they didn't make much money, those guys...



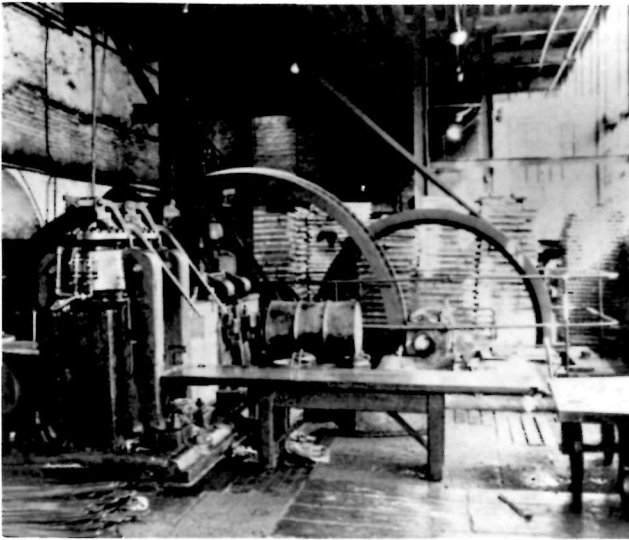
Workers taking a
pot out of the fire
April 1909
Photo: Parks
Canada collection

When he got home from work, Mama would say, "You must be quiet because Papa was casting copper today." And he would go to bed at eight o'clock. He would arrive home exhausted... tell us what he had done that day: casting metal, copper, to make bullets. And the pots were real heavy. It took two men to take them out. And their boots weighed twenty pounds, those huge wooden

clogs, as they called them. The workers had to wrap themselves up in woolens so the heat wouldn't get them. But sometimes their pants would catch on fire. Many times they would catch on fire. Many times I saw Papa leave home sick. He would be coughing smoke, it was practically toxic. He coughed when he arrived home, it was horrible... He was coughing and his face was all red, and I would say to Mama, "Papa is sick," and she would reply, "Oh no! It's just because they were casting today." He had a medical exam at the hospital, and the doctor told Mama he had something on his lung, a perforated lung. Mama asked the doctor if it could have been caused by his work, and he said yes.

Marguerite Manney
(daughter of
Omer Marceau)
1909-1938

The Rolling Mill



The rolling mill
1941
Photo Moderne Enr.

The introduction of the rolling mill in 1900 improved the quality of the product. Thanks to this new machine, it was possible to control the thickness of the copper strips.

The rolling machine worked the copper strips so that the whole roll would be the same thickness. It was down to the thousandth, it had to be very precise.

Lucien Brousseau
1939-1942

At the end of each lot we had to measure the strips. Sometimes the copper was harder, sometimes softer. On the softer part, the roller would make the copper thinner, so we had to be careful of that. We could regulate the pressure of the roller on top, but there was nothing underneath to control. It was a delicate operation.

Lucien Brousseau
1939-1942

When you're working on the rolling mill, the machine that makes the copper strips thinner, at the end of the roll, you had to have gloves. They wouldn't last very long on that machine, it was really sharp. I had asked for gloves but there weren't any, and I still had to work, so I used my bare hands. I lost three fingers that way.

Lucien Brousseau
1939-1942

The Washing Room



The washing
room
1941
Photo Moderne Enr.

Those who worked in the Arsenal's washing room will still remember the ghastly odor that permeated that

department. After each step in the production of the .303 cartridge, the parts had to be washed in order to eliminate the copper oxide. This was done with acid and soda.

It was rough working there. The conditions were unhealthy, we were always breathing acid. They used nitric acid for washing, and there was no ventilation system. I think the worst place I've ever seen is those washing rooms.

Rosaire Bussières
1941, 1945-1964

That's where they had water. It was a hell of a department. They washed the cases in the vats. It was filthy.

Napoléon Rousseau
1909-1942

In the washing department downstairs, there was a guy who fell asleep on his chair while waiting for the next load. And another fellow, for a joke in order to wake him up took hold of a pot thinking it was water and threw it in the guy's face. But it was acid, and the guy died of it. The other one was fired.

Lucien Brousseau
1939-1942

The Machine Shops

During World War II the Arsenal included two machine shops. One of them, located in the "Nouvelles Casernes", provided work for about 20 machinists. The other, which was much larger and housed more than 100 skilled workers, was situated in the same building as the shell factory, in the heart of Artillery Park. The machine shops were busy day and night as over 300 toolmakers and machinists, working in shifts, manufactured parts for broken or defective machinery. Dies, moulds and the numerous gauges needed to make cartridge and shell components were also produced by the machine shops.

Most of the machinery for manufacturing cartridges was made in the Arsenal. Replace any part? Yes, any; starting with the cast-iron base, from planing to

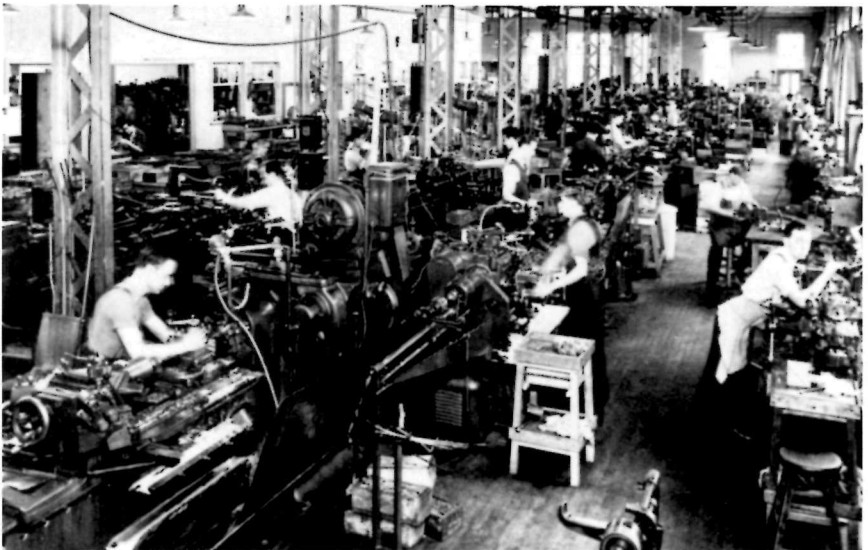
polishing, we made almost anything. We worked according to designs... Precision, that's what was needed to make tools like dies.

The workshop was where all the machinery that had broken down was sent. We had to remake the parts, to replace the ones in the machines. We had to make designs in order to remake the parts and put them back to work in the machines and presses. You could say that this workshop saw to the maintenance of all the machines.

Machine shop in the
"Nouvelles Casernes"
1942
Photo Moderne Enr.



"Big"
Machine shop
1941
Photo Moderne Enr.



There would be a design that had been made by the draftsmen and it had to be accurate to one ten thousandth. There couldn't be any errors in the way it had been drawn... First we put our plan on a machine, a comparator. Then, we took our gauge which had special clamps to hold it in place. Underneath there was a light which shone on the plan from beneath it. It was a pane of glass, and on it we saw any fault that there might be. If there was a fault, it had to be done over again. The fault didn't have to be big, the gauge would be thrown out anyway. We would have to make another one.

Lucien Brousseau
1939-1942

Weighing out Powder

One of the most delicate operations was weighing out the powder to be inserted in the cartridge caps and cases. Too much powder, and the cartridge would explode in the face of whoever was handling the rifle. Not enough, and the bullet wouldn't be effective.

It (the cordite) was strong. It gave off a smell. The finer it was, the stronger it was. Because we felt sick to our

Weighing out
the powder
by hand
1902
Photo: Public
Archives of Canada



Marguerite Berthiaume
1936-1938

stomachs and had headaches. No amount of aspirin in the world could get rid of that headache. Later you would begin to feel as if you had been drugged, you might say. You couldn't see anymore. At that point, you had to leave. You were ill.

Yolande
Catellier-Beaupré
1939-1940

We each had a sort of board. There were holes in it. We had to fill them with different kinds of cartridge cases and shot. They called them "caps" and shot.

Alice Thibault
1949-1951

If they had put a man in our job, they would have had to pay him more. But we women couldn't have a man's salary, because a man worked harder than us. He had more responsibilities.

Women Workers

The female workforce offered certain advantages which made it essential to the smooth running of the Arsenal. Women proved themselves to be unfalteringly patient when it came to inspecting the bullets and cartridge cases. They were able to spend long hours seated at worktables. But, above all, they represented a cheap source of labour.

We took the cartridge cases. There were cartridge cases and bullets. We would check to see that they weren't scratched or anything. If they were, they were thrown in the scrap heap. With the bullets, we checked to see if they were even all over and had nothing wrong with them.

Géraldine Parent
1916-1938

To do the inspection work we wore a light right on our foreheads. We inspected the cartridge cases and bullets, the little copper caps. It was examining copper that made your eyes go bad. We always had that light on our fore-

Annie Bertrand
1927-1938



Group of women
workers inspecting
cartridge cases
and bullets
1902
Photo: Public
Archives of Canada

Jacqueline
Catellier-Gagnon
1945, 1950-1954

heads. We took bullets like that, and turned them over in our hands to examine them. Then we sorted them out and put them in different boxes.

Yvonne Chrétien
1914-1916

I worked with small shot. We had a big board with holes in it and we slipped them in, one by one, into the holes. It had to be put in on the right side. Sometimes something went wrong... If the shot was cracked, then we had to take it out. Or if it was crushed, because lead crushes easily, we had to take it out. It was easy to see.

During World War I, it became necessary to increase the number of women workers at the Arsenal in order to speed up production. Since the loading department on the Plains of Abraham could no longer keep up with the demand, the Arsenal administration decided to use the attic of the "Nouvelles Casernes" as a workshop for about 100 women, whose sole task was to inspect cartridge cases and bullets. During World War II, as well, 30 to 40 women workers were housed in the attic of the "Nouvelles Casernes". At the time married women were still not allowed to work at the Arsenal. As a result, during the first half of the twentieth century, women workers in the loading department were recruited from among very young girls or older, widowed or unmarried women.

My sister said to me, "Make your lunch and come along with me tomorrow, you'll get in." And they took me on right away. We worked from eight in the morning till nine at night. I got seven and a half cents an hour. I used to get up at a quarter to five in the morning and catch the six o'clock train from Ste. Anne. That was in winter. But in the summer we could get a ride nearby, right here (in Beauport). They were what we used to call the Kent House cars. I would catch one at seven-twenty and be there by eight o'clock. I would arrive at work at about twenty to eight. The hard part was winter. I can remember it on the Cove Fields: you didn't walk, you rolled to work.

Géraldine Parent
1916-1938

We women went in on McMahan Street, so as not to meet the men, and we went straight up to the top floor.



Woman worker
with cartridge
assembly machines
January 31, 1928
Photo : Parks
Canada collection

It was because they needed more workers that they hired women to do the less tiring work, not to work on the machines.

Yvonne Chrétien
1914-1916

We weren't allowed to go and see the women. The man who used to bring bullets to them was someone special, I don't know. He used to take the elevator and go along

Yvonne Chrétien
1914-1916



Women workers
inspecting and
finishing bullets
Circa 1940
Photo : Parks
Canada collection

Alexandre Ratté
1913-1917

the corridors setting down the work we had done. The girls went out between noon and one o'clock, but the yard was fenced. So we used to go to the fence to talk to them.

Edmond Mecteau
1914-1964

For the women who worked there, it was just as if they were in prison. They were on the third floor and there were only two men who were allowed to go there. There was a little square that opened so that we could ask what they wanted. Then we would pass the cartridges through.

Géraldine Parent
1916-1938

I had only been there two or three days when the girls began to say, "We're going to ask for a raise." They had made a petition in an oval form so that there was no beginning nor end. And I signed my name like the others. There were some who didn't sign. And it was those women who got a 2 or 3 cents increase, while the others got none.

Marguerite
Berthiaume
1936-1938

We had to get a certain number done each day, but when we were just starting, they told us that they gave us a chance for a few days. They told us what to do to reach our goal faster and how to improve the way we worked in order to produce more. That was always the thing... When they saw that somebody wasn't interested in doing the work and didn't care about producing, they let her go.

Géraldine Parent
1916-1938

Sometimes we would go up on the hills and walk in the direction of the Citadel, or sit in the shade. But the break from noon to half-past didn't give us very much time.

Hiring

At the beginning of the century, employees were hired at the Arsenal with few formalities. There was no interview or medical examination required of prospective employees. It was not until the onset of World War II that the situation changed. From then on there was little chance that a worker who presented himself without references would be hired. The Arsenal administration stiffened job requirements again in the mid-forties and during the fifties.

Mr. Houde, the caretaker, said, "Today we don't need anybody. Even if you stay, we don't need anyone." But if you didn't give up easily, you were better off staying, because then they could say, "You there, you stayed, you want to work. You can go in." We were all waiting to be chosen. Then they went along and said, "We don't need you, we don't need you. You there, the big fat one, come here ; you can go in."

Alexandre Ratté
1913-1917

The foreman said, "You know, if you have some friends your age, bring them along to work here, tomorrow if they want." And there was a door there. We had a pass; we would go in and say. "My friend is at the door." "What's he wearing?" He even brought a lunch along before knowing if he was hired. "Yes, yes" we said, "Bring your lunch. It's a sure thing." "Should I tell him to bring his lunch?" "Yes, yes, you're sure to get in." We had to pass an exam. There was only one exam: reading, and arithmetic: multiplication, addition and division. To make sure that we weren't ignorant. We had to be able to read, because school began in September. You know, they used to say, "We have to make sacrifices for the war."

Edmond Mecteau
1914-1964

At the time there was no medical examination. They would look at our hands to see if they had something wrong with them, or if we had perfect hands, in good shape, and not all cracked. Then they would hire us.

Marguerite
Berthiaume
1936-1938



Cartridge
factory personnel
November 9, 1917
Photo: Parks
Canada collection

Roland Renaud
1937-1946

We felt secure. We used to say, "We work at the Arsenal, we won't go to war." At first, it was the lucky ones who got into the Arsenal. Those who did had some political pull. There weren't that many who got in. The higher your position at work was, the further down you were on the list of those who could be called up for service.

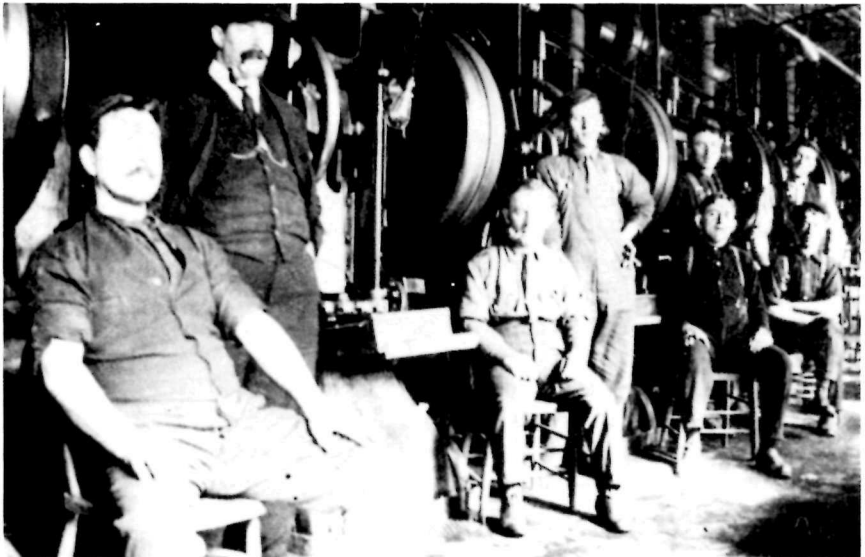
Jacqueline
Catellier-Gagnon
1945, 1950-1954

We had to pass a medical examination at Dr. Fortier's. It was a complete examination, and quite severe. Especially for our legs, in case the women would have to stand to work, so that they wouldn't get varicose veins. I didn't have any problems, I was young. That's when unmarried mothers would be told off. It's true, especially when they were at the doctor's, he would notice that they had had children. He would ask them, "What did you do with it?" A bunch of questions. It was considered wrong... In 1951, I had to hide the fact that I was married, because you weren't allowed to be married. You had to be single, so I couldn't tell them. I covered it up. It was Ottawa, and they wouldn't notice. I was able to hide the truth until 1954.

Wages and Working Hours

Up until World War II, the Federal Arsenal enjoyed the reputation of being one of the best employers in the Québec City area. People were aware that its status as a government corporation freed it of the risks to be found in private enterprise. Some measure of job security, salaries comparable to those in the private sector, and the near impossibility of closing down for bankruptcy were factors which contributed to its popularity as an employer. These advantages no doubt accounted for the remarkably low turnover of skilled labour at the Arsenal. Otherwise, the working conditions offered by the government were no better than those in private industry. No vacations, long working hours and a lack of safety measures on the job : such was the lot of the Arsenal worker at the beginning of the century. Nonetheless, working conditions elsewhere for all workers at that time were not much different.

Group of
mechanics
Circa 1915
Photo : Parks
Canada collection



We began at seven o'clock in the morning and finished at six at night. They gave us ten cents an hour. That was some salary.

Edmond Mecteau
1914-1964

I got \$3.35 a week when I started to work on salary. Before that, I did piecework on the machines. We produced the goods and got so much a box. It was forty cents a box, I think. When it was full, the box weighed 120 pounds.

Rosario Grenon
1904-1946

Friday night — we were paid Friday night — we got an envelope that had been used all week for punching in. The amount was marked on it. We weren't paid by cheque, it was cash.

Louis-André Martin
1910-1912

If we arrived late, the doors were locked and we couldn't get in. We'd have to come back at noon or the next day. If it happened too often, we would get suspended.

Rosario Grenon
1904-1946

There were clocks. We had two envelopes, one plain, the other with the time marked on it. We had to punch in four times a day. If I got there at five minutes past, or even two or three minutes past eight, the door was closed. After the whistle went, that was it. We would go back home.

Lucien Gagnon
1913-1927

In '32, the place shut down for two or three months, and in '33, it wasn't quite so long... It shut down three years in a row. That didn't please people much. In 1934 or 35 there were elections. Bennett was defeated and King was returned to office. After that, things went well.

Louis-Philippe
Lamontagne
1930-1944

When something went wrong, if a worker got things mixed up, he would be suspended for two or three weeks.

Rosario Grenon
1904-1946

We couldn't get a raise. When we did get one, it took two, three, even four years to get a penny more an hour. One cent an hour! I spent years there, just like the other employees, it took several years to get two cents more an hour.

Napoléon Rousseau
1909-1942

Edmond Mecteau
1914-1964

Do you know what the reward was after twenty-five years ? Five cents more an hour, after twenty-five years of service ! Imagine, twenty-five years of work for five more cents !

Louis-Philippe
Lamontagne
1930-1944

They asked us to work as hard as we could. Things were serious. When France surrendered it was a bad blow. They were really uptight at the Côte du Palais. The war effort. Keep it up ! they used to encourage us. The war isn't lost, and won't be either. They won. We worked for the war effort, we had to do our part too. The ones at the front were worse off the us.

Raymond Binet
1952-1956

The noise of the presses was terrible, especially the hydraulic presses. They were used for flattening copper and sometimes it jammed a bit. You could even hear it from the gate. Especially when we went in at three-thirty. The weather was good, so the windows and doors were open and could we ever hear those presses. What a noise !

Raymond Binet
1952-1956

I had about 2,400 to do a day. To manage that, I had no time to waste. We didn't go to the washroom five times before lunch and five times after. We had to get our forty millimetres ready. They had to have the bits of sawdust blown off them and be put in or taken out of the machine and then piled in a box on the side. When that box was full, we had to take it away and bring back another. To fulfill the quotas they wanted, you couldn't slack off.

Boy Workers

At the Arsenal, as in many other businesses, cheap labour was provided not only by women but by a large number of boys between the ages of 12 and 14 years as well.

I began in 1909, in June, I believe. I must've been 12 or 13 years old. When we started there, we fed material into the machines. We got \$0.10 a box. At the end of the week it might add up to \$1.75 or \$2.00 for the week.

Napoléon Rousseau
1909-1942

I began as a young boy. They hired us at a fixed wage of \$3.50 to work the machines, not to operate them, but to feed material into them. They kept us there for a few weeks, then as soon as we were skilled enough, they put us on a machine to do some of the operations of cartridge-making. They would leave us on the machine for four or five hours a week until we had learned to keep up with the machine that produced the most. The machine didn't provide us with more than three boxes a day, and at \$0.35 a box, that came to a dollar and something. But we didn't work on Saturday afternoons so that gave us \$6.00 a week.

Louis-André Martin
1910-1912

To work on those machines you had to be very skilful. There wasn't a man of twenty-five or thirty years who could keep up with those machines. It took children. I really believe that in the long run they would have succeeded. That wheel whirled round as fast as a gramophone record. The holes were spaced about a half-inch apart. Our box was in front of us. We had to work with both hands to feed that machine.

Louis-André Martin
1910-1912

Twelve, thirteen years old. There were only young kids working there. We fed the machines by hand. We put the cartridges in the machines, that's the way it worked. When one box was done, we took another. We were paid so much a box. After that, of course, we "graduated" a little. Then we became truckers, moving



the boxes about on a hand truck. Now that paid \$4.00 a week. We were happy to get that job because we earned more.

Napoléon Rousseau
1909-1942

Ah but we fooled around in the factory. A little slap here and a little tap there. Little boys are teases when they get together. We had plenty of energy. It wasn't because we ate a lot, but we had energy anyway.

Louis-André Martin
1910-1912

Group of young employees
Circa 1915
Photo: Parks
Canada collection



Group of employees
of the Cartridge
Factory
Circa 1938
Photo: Parks
Canada collection

Safety on the Job

Industrial accidents were common at the Federal Arsenal as in all factories of its type and it wasn't until 1903 that a permanent doctor was hired to ensure medical care for the employees. Considering its nature, the cartridge factory had fewer major fires than one would expect. Nevertheless, several fatal accidents occurred, and the residents of the area in which the workshops were located lived in continual fear of a serious explosion. They were relieved to learn that the workshops on the Plains of Abraham were closing in 1938 and again when the Côte du Palais workshops closed in 1964.

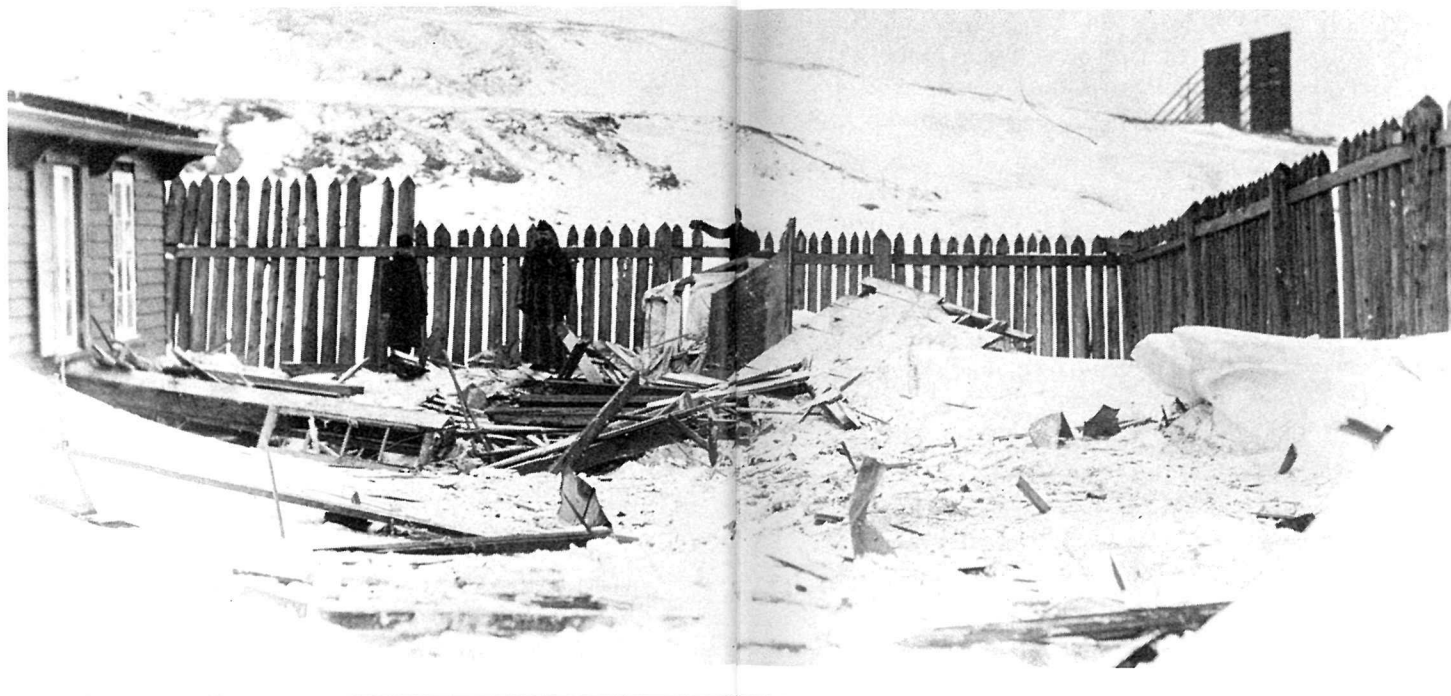
On January 12, 1899, a bag of mercury fulminate which had been left to dry on a heated table exploded. The incident made a commotion in the local newspapers. Even though the fire had claimed no lives, the public

became aware, for the first time, of the potential danger the workshops on the Plains of Abraham presented. Three workers who were a bit more talkative than the others, and who had been relieved of their duties, spoke to some reporters, and the local newspapers stirred up a controversy which called into question the competence of the Arsenal administration.

On October 17, 1907, one of the reducing furnaces exploded. Alfred Boucher, a worker in the washing room, was literally decapitated by the door of this furnace. Three of his fellow workers were injured.

Boucher was killed. The furnace had exploded. There were drums that went into that furnace and they were burned. It was to burn the charges; there were some kind of tubes that they had put there. There was more powder than copper and when put into the drum, it heated up. The furnace burst, its door flew off and cut off a man's head.

Rosario Grenon
1904-1946



Debris left after the explosion of the drying room on January 12, 1899. In the background, the targets used for quality testing the cartridges.

January 1899

Photo: Public Archives of Canada.

Géraldine Parent
1916-1938

My brother was at the foundry. There had been an accident there. Cartridge and case scraps were burned in the furnace. It seems that in amongst them there were some loaded ones. One of his friends was there near the furnace when it exploded. The door broke off and he (Boucher) got his head cut off. When my brother came home that evening, he seemed different. Then he told us about it. He was frightened by it all. He said it was dreadful.

Géraldine Parent
1916-1938

On October 10, 1927, two workers named Dion and Langlois were killed when the case of caps they were transporting exploded. They were hurled through the roof of the building in which they had been working.

It was ten o'clock in the morning. I was going to heat up the water. I saw Mr. Langlois. It was his first day back at work because he had been suspended. He was waiting for Mr. Dion. I left when Mr. Dion arrived. I had quite a ways to go. I had just closed the door when I heard a loud boom! And then nothing. I went back there. There was nothing more than that left of Mr. Dion, you would have thought it was a sack. Mr. Grenier came up to me and said, "Get going! What if there is another explosion all of a sudden." All the other employees were already at the gate.

Annie Bertrand
1927-1938

It was scrap, as we called it, that they were supposed to throw into the river. But it had been forgotten, they hadn't thrown it out. When they went in that morning, while moving the box, they knocked against it and it exploded. One of them, Tommy Dion, went right through the roof. They gathered up his clothing but there was nothing left inside. The next day, they found pieces of wood with bits of tendons... It was hard to take!

Handling powder and loaded cartridges implied certain risks and a great many accidents at the Arsenal were caused this way. But using the machines could also cause serious injuries to the workers.

To be burned by powder, it's not like other burns. The top is burned, it makes a kind of scab. They had to take the top off my burn to give it air so it would dry up.

Lucien Gagnon
1913-1927

A fellow by the name of Miller had his arm taken off. He was going off with a box of cartridges, a box of caps. There was fulminate inside. All of a sudden it went off, and ripped his arm off with it.

Louis-Philippe
Lamontagne
1930-1944

There was a press for making boxes for packing cartridges. It was pedal-operated. Without anyone touching the pedal, the machine started up. His whole hand was crushed. He had nothing left.

Lucien Gagnon
1913-1927

I saw a girl with long hair that got caught in the strap. She had the top of her scalp torn off... I went to see her, then I noticed that the top of her head was all red. I screamed, and they came to get her. Afterwards, they came to get her hair, but it was too late. She had to wear a wig the rest of her life.

Jacqueline
Catellier-Gagnon
1945, 1950-1954

The big strap went up, and I didn't know it was dangerous. The bell rang to stop work and I ran my hand over the top of the machine. Then the girl in front of me screamed with all her might. She nearly fainted. Then the machine came down and caught me. I was lucky that I'm small-boned. It stopped right there. I stopped the machine just in time, for I would have lost my arm. My arm turned black and blue, all kinds of colours. They sent me to see the doctor. He examined my arm and told me to put hot compresses on it. I told him, "It hurts." It had become swollen and blue. He said, "Don't worry, go home, put some hot compresses on it and come back to see me in a week." A week later, he told me, "Your arm is still in bad shape, too swollen. Come back again in two weeks." I wasn't able to move. I spent about three weeks at home.

Marguerite
Berthiaume
1936-1938

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