MANUFACTURING ACTIVITY IN HAMILTON

1861 -- 1921

# THE CHANGING PATTERNS IN DISTRIBUTION AND COMPOSITION OF MANUFACTURING ACTIVITY IN HAMILTON BETWEEN 1861 AND 1921

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## A Thesis

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SCOPE AND CONTENTS: A study was made of manufacturing activity in Hamilton between 1861 and 1921 with particular reference to the changes that occurred in the patterns of distribution and composition of this activity during this period. The years 1861, 1891 and 1921 were selected for detailed study and in chapters 3, 5 and 7 maps of manufacturing establishments in Hamilton for each of these years were analysed and explained. To give the study continuity and also to take account of the events and processes that brought about changes in the observed patterns chapter 2 was included to trace the origins and initial development of manufacturing in the city up until 1861; chapter 4 to cover the developments of the period 1861 to 1891; and chapter 6 to study the changes that occurred in the period 1891 to 1921.

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## CHAPTER I

## INTRODUCTION, SOURCES OF INFORMATION, THE PHYSICAL SETTING

## Introduction

This is a study of the changing patterns of the distribution and composition of manufacturing activity in the city of Hamilton during the period 1861 to 1921. Although the study is concerned with one facet of Economic Geography it is primarily a study in Historical Geography as it is felt explanations of the contemporary patterns of manufacturing activity can only be reached after a study of past conditions and changes in patterns through time. It stresses origins, therefore, in the belief that by supplying the background to the present day scene, a truer explanation of the present can later be made in the light of the evolutionary past. The main purpose of the work is to analyse the distribution of manufacturing activity in Hamilton in the period 1861 - 1921 and it does not attempt, definitively, to explain the reasons why manufacturers came to Hamilton rather than to other centres. It is not intended to be a systematic study of locational factors and any references made to such factors are as they appear to me based on research and popular opinion only.

To trace the changes in the patterns of manufacturing activity in Hamilton over the period of study, a series of cross-sections or period pictures have been reconstructed for selected years. In doing this, the author realises that<sup>1</sup> "a picture at any time necessarily needs to explain itself in the light of earlier sources," hence the processes involved in creating the pictures have also been taken into account. A series of cross-sections does, according to Darby,<sup>2</sup> provide treatment in depth especially if the crosssections are chosen so as to coincide with marked periods of change within the study area.

There is a need to link together the cross-sections to prevent the study from becoming a series of isolated

<sup>1</sup>H. C. Darby, "On the Relations of Geography and History," <u>Transactions of the Institute of British Geograph-</u> ers 1953. <sup>2</sup>Ibid. p.6.

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pictures in time. This can be achieved by combining the horizontal approach with a vertical one. Between each cross-section a study is made of the forces and processes of change that occurred in the intervening period. This not only provides a connecting link between each period picture, but also provides the background necessary to understand them.

Other aspects of the geography of Hamilton have sometimes been considered in as much as they form part of the setting for manufacturing activity, or are related to it. For, according to Harris,<sup>1</sup> "among other things, geographers are interested in where manufacturing is located and in the complex inter-relationships between concentrations of such establishments and the communities of which they are a part."

The years melected for study are 1861, 1891 and 1921. The year 1861 marks the end of a period of growth in the city, during which it had developed as the centre of a prosperous agricultural hinterland. The climax of this period was the coming of the railroad to Hamilton in 1854. In a few years this consolidated Hamilton's position as a manufacturing centre in south-western Ontario. The year 1891 is selected because it marks a boundary between a period of consolidation and slow growth in manufacturing, between 1861 and 1891, and a period of accelerated growth which began

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<sup>&</sup>lt;sup>1</sup>Chauncey D. Harris, "Geography of Manufacturing," <u>American Geography: Inventory and Prospect</u>, ed. James and Jones (Association of American Geographers, Syracuse University Press, 1954) Chapter 12, p.294.

in the 1890's and was to continue for almost three decades. These three decades were characterised by such events as the development of electric power, the establishment of a primary iron and steel plant in the city, the opening up of the Prairie Provinces and the large scale influx of American capital and branch factories into Canada. During this period Hamilton's hinterland grew to national and international extents. The year 1921 marked the end of this period of great activity in manufacturing and was soon to be followed by a long and marked depression. It is, therefore, a satisfactory point to draw the study to a close.

## Sources of Information

The information required for the reconstruction of the maps of Hamilton for the three selected years was generally of three kinds. Firstly, lists of the manufacturing establishments in the city,<sup>1</sup> together with their addresses, had to be compiled for each of the years. These were then mapped as accurately as possible. Secondly, information was required on the physical nature of the site of the city and, in particular, the shape of the shoreline, which has been altered considerably over the years by both man and nature. Finally, in order that manufacturing activity might be placed within its urban setting, it was necessary to obtain information on the extent of the built-up area of the city for each year and to indicate the limits of this area

1See Appendices.

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on each map. Also included were the railroad and road systems which themselves altered considerably over the period of study, this having some bearing on the location of manufacturing establishments at various times.

The outlines of the maps were drawn mainly by reference to old maps of Hamilton available at the Hamilton Public Library and the Ontario Archives in Torento. These were extremely useful for the recording of the shape of the shoreline, the road patterns and the location of some of the manufacturing establishments.

The compiling of the names and addresses of manufacturing concerns for each of the selected years was done by using several sources, which were checked and rechecked to ensure as great a degree of accuracy as possible. The main sources were the numerous street and business directories of Hamilton, including those of Vernon's, Mitchell, Boyd's, Lovell and McAlpine. As well as giving lists of the main businesses in the city from 1853 onwards, these occasionally included maps of the city and from 1858 on, in most cases, a street list system which accounted for every building on every street by its occupant. Other sources used to substantiate this information included newspaper files dating from the 1830's, which contained many advertisements for manufacturing concerns, and booklets produced mainly after 1880, by various city departments such as the Industrial and Publicity Department, the District Industrial Commissioner,

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and by publishing companies such as the Times and the Spectator. Also used were a number of miscellaneous books and articles about the city.

After the lists of manufacturing establishments had been acquired, systematic observation in the field was carried out to check on the sizes and locations of the buildings, This was quite successful for there are many remains of old factory buildings still to be found in the city.

For the analysis of the composition of manufacturing activity information collected from the sources named has been used in conjunction with that obtained from the Decennial Census of Canada. The Census itself presented a number of problems because the methods of collecting and recording of data changed frequently over the period of study. The 1861 census listed the industries to be found in the city, but no details were given of the number of persons employed. Then. in 1891, the census listed 1133 manufacturing establishments for Hamilton when personal research could locate only 179. This discrepancy was due to the census in that year defining an industrial establishment as 'any place where one or several persons are engaged in manufacturing, altering, making up or changing from one shape to another materials for sale, use or consumption.' At the same time establishments carrying on several kinds of activity made separate returns for each and this complicated the issue. The result was that there were listed, among others, 268 tailors and clothiers employing 1145

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persons, 200 dress and millinery establishments employing 715 persons, and 71 boot and shoe establishments employing 350 persons. To locate and map all of these was impossible so some method had to be used to eliminate the smaller ones.

The 1901 census supplied the answer. In that year the census provided that no factory should be so recognized which employed less than five people, but it made some exceptions, as in the case of bricks and tiles, where comparatively large operations could be carried on with less than five enployees. The result was that 232 establishments were listed for the city in 1901, employing a total of 10,196 people. In applying this method to the 1891 census it was found that the numbers employed by individual factories were not always available, therefore those branches of manufacturing employing an average of less than five persons per establishment were omitted. This left 189 concerns and this figure was so close to that reached by independent research that this method was used. Some exceptions were necessary, as for example in the case of the boot and shoe industry, which by this method was omitted but where the firm of J. Macpherson was a large concern in the city and hence was included.

## The Physical Setting (Fig.1)

The most prominent feature of the physical setting of Hamilton is the Niagara Escarpment, which runs in an east to west direction to the south of the original settlement but through the middle of the present city, which has expanded to

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include a large area on the crest and upper dip slope. The scarp rises to over 650 feet above sea level and in the city at the corner of Wentworth and Concession Streets is more than 400 feet above the foot of Wentworth Street and at least 350 feet above the centre of the city at the corner of James and King Streets. To the west of Hamilton, at Dundas, the escarpment turns sharply in a north-westerly direction. This caused an apparent weakness in the formation, which has been attacked by rivers to form the wide re-entrant known as the Dundas Valley.<sup>1</sup> This break in the escarpment allowed easy access to the lake shore from the interior, but then because of the steep nature and elevation of the scarp face communications were channelled eastwards along the narrow coastal plain between the scarp and the lake. The restriction of movement away from the lake shore has been the principal reason why the city eventually developed in a long Industry, narrow ribbon eastwards along the lake plain. following the main lines of communication, also developed in this direction as the difficulties involved in climbing the escarpment served to discourage industry locating on the crest.

#### The Lake Plain

The nucleus of the original settlement and, indeed, most of the development of the city until after 1900, occurred

<sup>1</sup>J.Wreford Watson, "The Geography of the Niagara Peninsula" (unpublished Ph.D. dissertation, Dept. of Geography, University of Toronto, 1945) p.157.

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on the narrow plain between the Ningara Escarpment and Lake Ontario, east of where a gravel bar formed by Lake Iroquois crossed the western end of the lake and carried the main road from Toronto into the city. The plain in this area sloped gradually down to the lake from the base of the escarpment and extended for a distance of about 6 miles in an east to west direction and about 2-1/2 miles north to south. It is possible to distinguish two parts, which can be called the "high" and "low" plains.

The "high" lake plain is really the result of the coalescing of several features which include the pre-scarp bench, the Iroquois Bar and the older deltas and offshore sands associated with Lake Iroquois. The pre-scarp bench. which is a narrow terrace at the base of the escarpment, is not very well developed in Hamilton. It developed on the more resistant quartzites of the Medina formation, was later buried by glacial drift, bevelled by the action of Lake Iroquois and covered in places with outwash. The Iroquois Bar, built during the lifetime of the lake, crosses an extensive swamp called Cootes' Paradise to the north west of the city and then forms a ridge across the western part of the city before serging into the pre-scarp bench and talus at the foot of the escarpment, near the head of Wellington Street. The major part of the city is found to the east of this feature where rivers entering Lake Iroquois built small deltas out into the lake. Here we have an area of offshore sands extending out towards the present Lake Ontario shore.

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The "high" lake plain merges imperceptibly into a lower, more recent "low" plain that lies along the present Lake Ontario shore, except along James Street, between Bay and Mary Streets, where bluffs often 25 feet high are found east and west of James Street. This is thought to have been the beginnings of a second Iroquois Bar and certainly forms a distinctive physical feature in this area as well as being the only place where dry land reached the bay. The "low" plain extends for about five miles east to west and up to one mile inland along much of the shore of Hamilton Harbour. In the neighbourhood of the Chedoke Valley and Redhill Creek it extends inland to the foot of the escarpment, a distance of about 2-1/2 miles.

The "low" plain is an area of low lying land composed of a considerable thickness of recent silt, clay, alluvium and fill. Until recently it may have been submerged beneath the lake but silting up has taken place to form new land. The protection offered by the bar that formed across the mouth of the harbour during the lifetime of Lake Ontario and which helped keep back the scour of the lake currents or storms would have helped to dam back and retain the silt of the scarp face streams. The gradual silting up formed an area of warsh and swampy land which extended inland until the gradual elevation enabled better drainage conditions to prevail.

Until the last few decades the creeks that crossed the lake plain had long narrow inlets at their mouths

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which extended inland to about the limits of the "low" plain. These inlets were also silting up but over the years many have been filled in by man as new land was required for industry. (Fig.2)

In the early history of Hamilton the "low" lake plain was regarded as unhealthy because of the marshy areas and was generally unattractive for urban development. This left the area open for later industrial development which was attracted by cheap factory sites provided by the open spaces, the available water front locations that facilitated the movement of goods by water, the proximity of the railroads that grew up along the easy gradients and the absence of competition from residential growth. The industrial development led to an attempt by man to quicken the silting up process and large sections of the bay have now been filled in to provide extra land for building.

The importance of the "high" lake plain lies in the fact that it was slightly higher in elevation and therefore better drained than the "low" lake plain. It was crossed by Indian trails before the white man came and was later used by the first settlers when making roads across the area. Being less marshy and generally more healthy than the "low" lake plain, this was the area where the first commercial and residential development of Hamilton took place early in the nineteenth century.

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Hamilton Harbour

The harbour is the result of the combination of two factors. Along the outer limits of the harbour is a sand bar which was built, during the lifetime of Lake Ontario, by easterly winds moving material that had been brought into the lake by the Red Hill Creek and which eventually caused the harbour to be almost completely cut off from the rest of the lake. Secondly,<sup>1</sup> the tilting of the lake at its northeastern end after the retreat of the ice age caused deep water conditions to prevail at the western end and in the harbour itself.

The north shore of the harbour can be divided into two sections.<sup>2</sup> On the west, the north arm of the Iroquois Ear extends from Aldershot to Woodland Cemetery. The materials are of sand and gravel and reach a height of 100 feet above the water level. East of Aldershot the slope to the water's edge is more gradual because this is a section of the sand plain of Lake Iroquois. The plain, however, is interrupted by deep ravines which have been cut by the action of short intermittent streams flowing over the impervious sandy material.

The south shore of the harbour, between the outer Lake Ontario bar and the inner Lake Iroquois bar, is a low flat

<sup>1</sup>Coleman, "Lake Iroquois" <u>45th Annual Report of the</u> <u>Ontario Department of Mines</u>, Part IV-VII, 1936, p.3.

<sup>2</sup>S.M.Ozanian, <u>A Geographical Study of Hamilton Harbour</u>, unpublished B.A. thesis, Dept. of Geography, McMaster University, 1957, p.26.

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plain that on average rises gradually to about 30 feet above the water level. The flat plain and the shallow nature of the bay in this area allowed silting up to take place and marshy conditions to prevail along the shore. However, the gradual slope down from the escarpment to the harbour and the absence of deep ravines over long sections of the plain made the south shore between the Chedoke Valley and Red Hill Creek more favourable for development than the north shore.

The deepest section of the harbour is 82 feet and is located approximately 1-1/2 miles due north from the corner of Burlington Street and Sherman Avenue.<sup>1</sup> The water is generally deepest along the north shore but fortunately the bluff at the foot of James Street met the bay where deeper water was found and this facilitated the building of wharves on the south shore at this point.

Before 1832, a small channel over the outer Lake Ontario bar was all that joined the harbour to the lake. Between 1826 and 1832 this channel was deepened to form the Burlington Canal and enabled lake vessels to enter the harbour. Later, in 1837, the Desjardins Canal was built through Cootes Paradise to Dundas, following the line of an old creek that wound its way around the north part of the Iroquois Bar.

Although silting is a problem, the presence of a deep, natural, landlocked harbour has provided a stimulus to urban and industrial development at various times in the history of

1 Ibid, p.27.

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Hamilton, notably in the 1830's, and in the 1880's when the Burlington Canal and new Welland Canal were built respectively.

## CHAPTER II

### THE ORIGINS AND EARLY DEVELOPMENT OF HAMILTON

A visitor in 1862 was urged<sup>1</sup> "to take his stand on the mountain and see the multitude of persons surging along the principal avenues of trade, the countless chimneys of industry, the magnificent carriages rolling along James Street ..... let him survey the busy hive at his fect."

When George Hamilton was laying out the original site of the present city in 1813, he could not have had any visions of Hamilton becoming such a 'busy hive' of activity by 1862, or one of the leading industrial cities of Canada by the end of the century. He was not to know that, based on its geographical situation, Hamilton's ability to take advantage of changing geographic values, associated with its development as a lake port in the 1830's and later with the railroad and steam age of the 1850's, would so profoundly affect the status 'and growth of his small settlement.

Loyalist settlers had begun to arrive in Upper Canada in large numbers after 1783 and by 1813 extensive parts of the

IF.L. Jones, <u>Historical Articles from the Hamilton</u> Spectator Clippings. Hamilton Public Library newspaper files.

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country in the Niagara, Head of the Lake and Grand River Valley regions had been settled for a number of years. Towns like Ancaster and Dundas were already established and flourishing. In 1793<sup>1</sup> Augustus Jones had been ordered by Governor Simcoe, "to cut and slightly wark a road" from the Head of the Lake to the Thames and by the end of that year the Governor's Road was laid out from Woodstock to Burlington Bay. The townships of Beverley, Flamborough and Ancaster were marked out along the road the same year, and by 1799 it was said<sup>2</sup> that it was nearly impossible to find a grantable lot in Flamboro' West. In 1799 the road from Dundas to Waterloo had been cut through the forest and was being used by the Mennonite settlers who had purchased a large area along the Grand River.

As early as 1788 the number of settlers in Upper Canada had become so large that administration by the government was proving very difficult and it was found necessary to create four administrative divisions in what is now Ontario. Later, in 1816, a further subdivision created the District of Gore (Fig.3) in this part of Upper Canada, of which Hamilton was named the capital. This was a remarkable achievement for a settlement that had only been in existence three years and must have been adequate compensation for such men as Gage,<sup>3</sup> Mills, Hess, Ferguson and Hughson. These men, in the 1790's,

		1 <sub>Spence</sub>	er Cro	eek (	Conservat:	ion Re	eport,	1960	).	
of	the	<sup>2</sup> Ibid. <sup>3</sup> These city.	were	the	original	land	owners	on	the	site

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had pushed back the rushes and sword grass that covered the site of the settlement and which had discouraged settlers, causing them to move on to more favourable sites as at Ancaster on the mountain, or up the Dundas Valley.

The year 1816 can therefore be regarded as the first significant step in the development of the settlement. As district capital its influence extended over a large area, consisting of the present Wentworth, Halton and part of Haldimand counties, and the connections made at this time were later to prove valuable when Hamilton was developing its hinterland.

The next few years saw considerable development in the village. A court house was built on the corner of John and Jackson Streets and in 1821 the Gore District Grammar School was built on the corner of Jackson and Hughson Streets. In 1825 the first Post Office was opened on the east side of James Street. The village was also beginning to develop commercial interests and in 1827,<sup>1</sup> although there was no canal to connect the bay with Lake Ontario, flat bottomed boats brought salt and other merchandise through the little channel in the outer bar and up to the Hamilton wharf. The first manufacturing establishments in Hamilton are mentioned at this time. John Aikman commenced business as a wagonwaster on the north side of the Gore on King Street and Edward Jackson opened a tinshop close by in 1828.

<sup>1</sup>Thompson, T.M., Hamilton City Sketches (published for Board of Education, Hamilton, 1954), p.30.

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Hamilton was overshadowed, however, by such places as Dundas and Ancaster, which had already become important centres for flour and saw mills as well as other manufacturing enterprises. The great expense and trouble involved bringing in articles ander in other districts, over roads that were generally impassable<sup>1</sup> for a large part of the year, led to the establishment of certain industries in most early settlements. Breweries and distilleries were widespread as ale and whiskey, easily produced from grain, were within the means of the early settlers, while imported Jamaica rum or French wine were not. Saw wills were also required for cutting logs and grist mills for grinding grain. The demand for wagons and such implements as axes and domestic utensils caused the early development of wagon works and foundries, while quite often establishments making woollens, cloth, blankets, leather, kegs and barrels, were located in these early settlements.

As water power was essential for industrial development, many of the original settlements grew up on sites close to creeks. The district around Hamilton was especially fortunate in this respect and this accounts for the establishing of mills and manufacturing establishments at Albion, Ancaster,

<sup>1</sup>Even as late as 1830 it was said of Dundas Street from Toronto to Hamilton, one of the better roads in the area, "at some seasons of the year this road in common with many others often contains gullies 50-60 feet deep, worn away by swollen streams, and travel by coach and wagon is dangerous, if not impossible."

President's Address to the Hamilton Association for the Advancement of Literatuze, Science and the Arts. 100th Anniversary, 1857-1957. Hamilton Public Library.

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Dundas and Waterdown. The village of Hamilton itself, however, was not well favoured. The streams flowing from the escarpment at this point often dried up in the summer and the settlement had no good sources of waterpower. The result was Hamilton's manufactories at this time were small and could not compete with those of nearby settlements located near good water power sites.

A distinct new phase in the development of Hamilton began in 1832 with the completion of the Burlington Canal. through the outer bar. This transformed the village into a lake port and it entered upon a period of new activity and accelerated growth. Until that time Dundas had been more important as a commercial and manufacturing centre than Hamilton. It was here that the main roads along the north and south shores of the lake and those from the interior converged. In the period before 1832, when flat-bottomed boats only could cross the outer bar from the lake to the bay, Dundas was also the head of navigation on Lake Ontario and not Hamilton. It had thus become the natural centre for the export of the surplus produce of the region at the Head of the Lake.

After 1832, however, Hamilton was able to exploit its position as the new head of navigation on the lake and the district capital of a prosperous agricultural area. The produce of the surrounding country could now be exported from Hamilton more easily than from Dundas, which could not be reached by the larger vessels able to use the Burlington

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Canal. Soon the routes of the neighbouring region became focussed on Hamilton rather than Dundas.<sup>1</sup> The new toll roads built in the 1820's to Galt and Guelph from Dundas were continued to Hamilton, while the plank road from Hamilton to Port Dover, constructed in the 1830's, brought the morainic ridges of the mountain brow into Hamilton's orbit. The bay was soon alive from one end of the season to the other with merchant vessels which were loading and unloading at the wharves in a constant procession.<sup>2</sup> Hamilton's commercial life was also stimulated by the ease with which manufactured goods could be imported and soon the wide choice of articles available drew merchants into the city from a wide area.

In 1833 Hamilton was incorporated as a town<sup>3</sup> and a market place and police force set up. It grew very rapidly as many houses were erected for the men working on the Burlington and Desjardins Canals. Storehouses and wharves were built on the bay shore, while at least two hotels were built on the north side of the town.<sup>4</sup> Between 1832 and 1837 the population grew from 800 to 3,500 (Fig.4). The limits of

<sup>1</sup>The Desjardins Canal, which would eventually enable Dundas to compete for trade with Hamilton, was not to be opened until 1837.

<sup>2</sup>Hamilton Spectator, Carnival Edition, 1903. Hamilton Public Library newspaper files.

<sup>3</sup>W.H.Smith, <u>Canadian Gazetteer</u> (Toronto 1846) p.76. <sup>4</sup>Hamilton Spectator, July 15, 1926. Spectator

Library.

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the town were then the Bay in the north, Concession 3 (Aberdeen Avenue) in the south, Queen Street in the west, and Wellington Street in the east (Fig.5).

The commercial activity associated with the development of Hamilton as a lake port acted as a direct stimulus to wanufacturing concerns. It was still very inconvenient and expensive to bring manufactured goods from New York, Philadelphia, or down the St. Lawrence. This latter route was closed by ice from November until April and involved merchants in a trail of at least 350 miles. The need for local manufacturing was becoming increasingly important. Hamilton's situation as a lake port facilitated the importing of raw materials such as pig iron, and it became possible to produce certain articles here much more cheaply than in inland settlements. Such articles included the new iron cooking stoves and ranges so popular in the 1830's. The movement of settlers through the town helped to build up trading connections, while merchants were soon attracted into the town by the wide range of products displayed in the stores and warehouses.

Hamilton thus began to develop its manufacturing interests seriously for the first time. In 1836 John Fisher was working a foundry on James Street near Merrick Street. It was here that the first threshing machine in Canada was made. Fisher came to Canada from New York State and his was the first foundry in Hamilton. By 1844 the "Bee,"<sup>1</sup> a local

The Bee, 1844. Hamilton Public Library newspaper files.

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newspaper, contained advertisements for the sash factory of J. Dunn on James Street, while Alexander Carpenter had crected a spacious brick building on John Street to wanufacture his latest patent cooking stove made of the best Scotch pig iron. Other establishments advertised included those of E. Migivern, Making saddles and harnesses, and R. Jusen making nails, both on King Street. In the same edition the Spring Brewery announced to the residents of Hamilton, Dundas, Ancaster, Nelson, Beamsville, Grimsby and Brantford that they were able to supply Amber and Pale Ale at short notice.

In 1843 the brothers Edward and Charles Gurney came from the United States, where they had learnt their trade and where they had heard that Hamilton had only one foundry. They brought \$3,000 capital and by 1845<sup>1</sup> were manufacturing potash kettles, parlor boxes, cooking stoves, ploughs and cultivators. In this year J. B. Dayfoot was employing several men to make boots and shoes, while James Myers had a cabinet and upholstering business on King Street and also made feather beds and mattresses.

At this time peddlers would start out with a wagon load of manufactured goods on a Monday morning and return home on Saturday with a book of promissory notes but little money. The Gurneys, among others, were often left short of cash and were helped on at least one occasion by James Fisher to pay for raw materials. The factories were really only

<sup>1</sup>Ibid. January 1, 1845. Hamilton Public Library newspaper files.

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small workshops where a few men worked to produce a very limited output.

Many of the industries established were similar to those found in other settlements, and like them, served the needs of a young, predominantly agricultural community and a few small urban communities. The town's hinterland extended for only a few miles in any direction and the volume of production was insignificant when compared with the activity at the turn of the next century. Water power was still the prime locating factor for industry and until the age of the steam engine reached this area, Dundas would always be more important than Hamilton. In 1845 Dundas had 20 manufacturing establishments while Hamilton had only 9.<sup>1</sup>

When the town was elevated to a city in 1846 its population was 6,832, or almost double that of 1837, and by 1851 had reached 14,112 (Fig.4). The city, in 1846, found it necessary to extend its boundaries from Queen Street to Paradise Road in the west and from Wellington to Emerald Street in the east. The Bay and Aberdeen Avenue still formed the north and south limits (Fig.5).

Smith in his gazeteer of 1346 said of Mamilton:2

Since the opening of the canal (Burlington) the trade of the town has increased rapidly and it is now the principal market for the western merchants. An immense amount of goods is annually imported. Excellent roads now stretch far away in every direction and stages leave Hamilton every day for London, Port Stanley, Chatham, Detroit, Port Dover, Galt and Guelph, Niagara and St. Catharines and Toronto .... it has 3 breweries, 2 foundries,

<sup>1</sup>Op.cit. Thompson, p.30. <sup>2</sup>Op.cit. Smith, p.77.

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4 printing offices, 2 tanneries, 3 coach makers, 2 soap and candle factories, 5 saddlers, 11 cabinet makers, 3 watchmakers, 10 shoe makers, 3 gunsmiths, 5 tinsmiths, 14 tailors and 1 marble stone works.

Exports from the city by water in 1844<sup>1</sup> included 81,597 barrels of flour, 329,674 feet of lumber, and 6,121 cwts. of domestic manufactures. This was the first indication that the products of Hamilton's factories were being sent beyond the boundaries of the District of Gore. The Gazeteer also listed 49 stores compared with 3 that were of any importance in 1832, thus showing the significant development in the city's commercial activities.

By 1852<sup>2</sup> it was said that on one typical day in Spring 11 ships came to Hamilton. They brought general merchandise, pig iron, barley and salt. Outgoing vessels left with pork, flour, wheat and stoves.

The city had made full use of its geographical situation to develop its agricultural and commercial connections and these, together with its advantages for assembling raw materials via the lake had furthered its industrial evolution.

The beginnings of a new industrial age came to Hamilton in the year 1853 with the railroad. As early as 1832 the extensive tract of fine agricultural land between the town of London and the headwaters of Lake Ontario, together with the inland parts of the Huron tract and Western District

1 <u>Ibid</u> .						
<sup>2</sup> W.H.Swith,	Canada,	Past,	Present	and	Future.	
(T.Maclear, Toronto	1851) p.	,219.				

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were complaining about deficiencies in facilities for transporting their surplus produce to market. However, attempts to build railroads had failed. The London and Gore Railroad, chartered in 1834, had perished amidst political unrest and the scarcity of fluid capital, as municipalities then lacked the legal power to invest in such undertakings.

By 1847 Great Eritain had 2800 miles of rail lines in operation, the United States 5,000 miles, while Canada had but 59 miles.<sup>1</sup> The Great Western Railroad, chartered in 1845 was, however, a more successful venture. Copies of the prospectus were discreetly distributed in England just when British investors were interested in developing enterprises in North America. At the same time Now England capitalists were anxious to exploit a more direct route to the Middle West. The Great Western, as well as forming a bridge between the Michigan Central Railroad and the New York Central Railroad, also passed through a productive agricultural area whose population amounted to 250,000.<sup>2</sup>

The railroad was originally planned to pass through Brantford and Ancaster and so skirt Hamilton at the top of the mountain. Due to the insistence of Sir Alan MacNab and Dr. James Hamilton of West Flamboro, both of whom were company directors, the plans were changed and the route surveyed down

<sup>1</sup>P.C.Warwick, "History of Rail Transport in Hawilton, 1845-1865," (Unpublished M.A. dissertation, Dept. of History, McMaster University, 1954.)

<sup>2</sup>Smith, <u>op.cit</u>. p.222.

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the Dundas Valley and across the high level bar into the city. The railroad was unable to serve Dundas, however, but had to pass to the north, along the face of the escarpment, and 200 feet above the elevation of the town. The first train ran through Hamilton in December 1853. When completed in 1854 the line was 245 miles long and called at 34 stations between Niagara and Windsor (Fig.6). Later the same year the Galt and Guelph Railroad was built to tap the trade of the upper reaches of the Grand and Speed Valleys and the building of the Hamilton and Toronto Railroad in 1855 made Hamilton a junction for traffic flowing from north to south and from east to west.

The coming of the railroad coincided with a great increase in the population of Upper Canada. This rose<sup>1</sup> from 486,000 in 1830 to 791,000 in 1850 and to 950,000 by 1852. The railroads opened up the land so rapidly that between 1852 and 1861 land under cultivation in Upper Canada increased by 36%. These were also years of great prosperity for local farmers who, after the setback associated with the repeal of the Corn Laws in England, began to recover in 1849, when the repeal of the Navigation Acts allowed foreign ships to enter Canadian ports. In 1854 the American market was opened by Reciprocity and this, together with the increased demand for wheat overseas as a result of the Crimean War in 1854-56, helped to raise the price of wheat in Canada from 30 cents to

<sup>1</sup>Innis, H.A. and Lower, A.M. (ed.) <u>Select Documents in</u> <u>Canadian Economic History 1783-1885</u>. (Toronto, University of Toronto Press 1933) p.629.

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# Fig. 6
\$2 a bushel.<sup>1</sup> The estimated production of wheat in Canada<sup>2</sup> rose from 16,156,000 bushels in 1851 to 26,556,000 bushels in 1856. Upper Canada produced most of this and by 1867 was producing 80% of all the wheat grown in the new Dominion.<sup>3</sup>

The great expansion of cultivation put a premium on labour, which became very scarce. This, and the surplus money the farmer was now able to accumulate created a demand for labour saving agricultural machinery and other manufactured articles. Hamilton's situation at the head of navigation on the lake, at the centre of an extensive railroad network and commanding a prosperous agricultural hinterland, enabled its manufacturers to supply this demand.

The railroad also signified in a dramatic way the coming of steam power. Hamilton had little water power and had not flourished in the same way as Ancaster, Dundas and Greensville, but the steam engine, fueled by coal transported either by boat or railroad, in a remarkably few years added other manufacturing industries to those already established in the city. In 1854 the Hamilton Agricultural Works was established by Luther, Samuel and Payson Sawyer, to meet the farming community's demands for agricultural machinery. D. C. Gunn responded to the stimulus of the Great Western Railroad and in 1854 built a foundry and machine shop on

J.W.Watson, op.cit., p.644.

<sup>2</sup>Innis, <u>op.cit.</u>, p.545. <sup>3</sup>Johnston, <u>Head of the Lake</u>. A History of Wentworth County (Hamilton, 1958) p.205.

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Wentworth Street North to make machinery and wood burning locomotives. Williams and Cooper, an enterprising firm of carriage builders, commenced building passenger and freight cars for the railroad. They erected new shops down near the tracks on Queen Street in 1854. F. G. Beckett built a new factory on James Street North to supply steam engines to the numerous mills and other establishments of the surrounding countryside when it was realized that the age of water power was rapidly disappearing. By 1857 there were five foundries and three steam engine workshops in the city, and the majority of Hamilton's manufacturers now used the steam engine to drive their machines.

The city was growing rapidly. The attraction of the work on the railroads drew men to the headquarters of the Great Western Railroad in Hamilton. The new industries being set up in the city were also a factor in causing the population to rise from 14,112 in 1851 to 27,500 in 1858. This created a demand for houses and a wide range of domestic and other manufactured goods and further stimulated industry. Although a recession after 1857 caused some businesses to close, nevertheless new ventures came to take their places. The population fell in the years following 1857 but it seems likely that many of those who left had only been drawn to the city by the readily available work on the railroads and when this came to a temporary halt, moved on to new areas. In 1861 Hamilton was a flourishing community and already an important manufacturing centre.

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Many great cities have developed in spite of serious drawbacks of site because their situation was favourable. Hamilton was certainly handicapped by the condition of its site, located in an area where the Iroquois lake plain was broken up by ravines and creeks and where the lake shore was bordered by an extensive area of marsh and swamp. The constricting effect of the escarpment was also a disadvantage, forcing the city to spread eastwards into the less inviting, poorly drained areas. The deficiencies of the site, however, were made up for by the advantages of the situation. Numerous writers have stressed the effect of Hamilton's situation at the head of mavigation on Lake Ontario and where routes along  $[\mathfrak{Y}]_{\mathbb{Z}}$ the Niagara Peninsula from east to west met the routes down the St.Lawrence from north to south. This certainly helped to concentrate industry in the city. It was its lakeside position together with the available routes to the interior that enabled Hamilton to develop all important relations with a hinterland. This extended from the head of the lake to beyond the banks of the lower and middle Grand River. The railroad eventually helped to expand this hinterland to a national and later an international scale. The growth of manufacturing interests in the city is a direct reflection of the demands of this hinterland and as the size and scale of this increased so did the size and scale of manufacturing activity in Hamilton.

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#### CHAPTER III

#### MANUFACTURING ACTIVITY IN HAMILTON IN 1861

The population of Hamilton in 1861 was 19,096 and the city limits were Paradise Road in the west, Wentworth Street in the east, Concession (Aberdeen Avenue) Street in the south, and the Bay in the north.

The land along the bay shore, to the east of Catharine Street (Fig.7) and north of Barton Street, was low-lying, marshy and relatively unhealthy. The same was the case in the several small valleys found to the west of Bay and north of York Streets, although, in 1854, the Great Western Railroad had filled in some of this area to make space available for the railroad to enter the city from the west and for workshops and goods yards to be constructed.

The shoreline along the bay was also very irregular and long, narrow inlets extended into the heart of the city from the lake. The most notable of these was No.l Inlet, which extended inland to beyond Barton Street, where it was possible to row a boat under the bridge at that point. In the west of the city the Chedoke Valley contained water as far

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inland as King Street, while its tributary valleys cut deeply into the lake plain in this region. In the south-west of the city a tributary valley, running east to west, extended from Dundurn to Hess Street. The Niagara escarpment formed a major barrier to the expansion of the city to the south, although the James Street extension did provide some means of access to the brow.

The urban development of Hamilton in 1861 was closely related to the physical nature of the city site. The only area where this development had reached the bay was between Bay and Catharine Streets. Here an extension of higher land thrust out into the bay and it was on this drier sandy section, above the level of the surrounding marsh, that the main avenues of trade between the bay and the city centre had developed. Little settlement had taken place east of Catharine and north of Barton Street. The marshy land in this neighbourhood, together with the No.1 Inlet, had discouraged development, except for a finger of settlement along Victoria Avenue, leading out towards Land's Wharf and along Wellington Street leading to the factories at its foot. Again west of Bay and north of York Streets, where several valleys ran down to the bay, except for the Great Western Railroad shops the only settlement was along Hess Street, the line of access to the railway station.

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Further inland the "high" lake plain, slightly higher in elevation than the land along the bay shore, better drained and relatively more healthy, had been utilised from the beginning of settlement. The commercial and business centre of the

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city was near the junction of James Street with King and Main Streets. This was near the point where the old Indian trails, later to become King and York Streets and which used the drier, better drained land away from the swamp, met James Street. The latter was itself a township road, drawn up after 1813, which fortunately happened to meet the bay shore at a place where the ground was high and the water deep.

William Sheldon had opened a shop on the corner of King and John Streets in 1814 and John Aikman and Edward Jackson were established on the north side of King Street near James by 1828. The first Post Office had been located on James Street by 1825 and in 1836 the first bank in Hamilton, the Gore Bank, was founded on the corner of King and Hughson Streets. By 1850, within a few blocks of James Street and between King and Main Streets were to be found the Market House, Court House, and five banks.

At the western limits of the city the Chedoke Valley provided an effective barrier to the expansion of settlement and this was also true in the south-west of the city where no development was found south of the east-to-west running tributary valley. The Niagara Escarpment contained the city to the south, although the built-up area reached its base in the region between James and Wellington Streets. There had been, as yet, no need to overcome these barriers to expansion for there was still land available for building purposes near the city centre. Towards the east the main expansion of the city was along Main and King Streets, which were the main avenues

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of traffic into the city from that direction, but, even so, urban development effectively ended at Wentworth Street.

It was within this setting that the already guite considerable manufacturing activity in the city was to be found. Manufacturing in Hamilton at this time represented both old and new trends in the evolution of the city. In the first place there was to be found a group of rudimentary manufacturing establishments, generally of a workshop nature, typical of those found in most young settlements. This group was closely associated with the agricultural hinterland, processing local produce and specifically designed to supply the immediate needs of the surrounding community and the urban population of the city itself. The majority of these concerns had been established before the railroad came to the city and included the making of leather goods, carriages and wagons, brooms, brushes and wooden ware, agricultural implements and utensils, bricks and pottery, breweries, food processing, lumber and planing mills, flour mills and small metal foundries and workshops.

The second group of manufacturing establishments can be called the technological manufacturing group. This group was associated with the age of the railroad, steam power and improved technology and was superimposed on the rudimentary pattern. In 1861 this group included the manufacturing of locomotives, railroad equipment, steam engines, boilers, and agricultural machinery.

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Of a total of 84 manufacturing establishments located in Hamilton and mapped in 1861 (Fig.7), 75, or 89%, belong to the rudimentary group and indicate the extent to which manufacturing in Hamilton at this time was dependent on, and oriented towards the local agricultural hinterland. They included: 5 leather goods makers, 5 breweries, 8 woodenware makers, 2 lumber and planing mills, 2 musical instrument makers, 6 carriage and wagon works, 2 boot and shoe manufacturers, 8 food and tobacco concerns, 3 clothing establishments, 1 flour mill, 3 brickyards, 1 pottery works, 2 marble and stone works, a sail making firm, 2 boat builders, 1 paper bag manufacturer, 1 potash works, 1 rope works, and 3 soap and candle works. There were also 4 foundries and 14 other metal working establishments making a variety of articles such as stoves, ranges, tinware, japanned ware, agricultural implements, bedsteads, springs, iron railings, wire, saws, scales, lamps, coach trimmings, saddlery, hardware, nails, spikes, sewing machines, screws, cages, and garden chairs.

The map shows that, of the establishments in this first group, over 85% were located within a half-mile radius of the King and James Streets intersection, near which had developed the commercial and business heart of the city. This area can be called the central manufacturing district.

The massing of manufacturing concerns near the city centre may be explained in several ways. In the first place many concerns had been established in the city for a number

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of years and had occupied sites then available near the city centre. The D. Moore foundry on Catharine Street was originally built by Edward Jackson in 1828, while the E. and C. Gurney foundry on John Street had been established there in 1843. On Mary Street Turnbull's foundry had been working since 1845. Although a tremendous increase in population and in residential building had taken place in the decade 1851-61, there was no real pressure on manufacturers to move away from the city centre. This was because establishments were still very small in size and did not require much land for plants or for the storage of raw materials. Thus the presence of these plants near the city centre was not unsightly or unacceptable and did not discourage urban development around them.

Secondly, in many instances, manufacturers in this rudimentary group needed to be readily accessible to merchants who came into the city from the surrounding districts and so preferred a location near the centre of commercial activity and where the main roads into the city converged. Since the opening of the Burlington Canal in 1832, most traffic came into the city along James, King, Main, and York Streets, and then moved along James, MacNab and John Streets to the wharves at the bay. A considerable quantity of produce must have passed along these roads every day in the shipping season, and business would naturally tend to locate on these main traffic arteries.

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This would partially account for the concentration of manufacturing concerns north of Main Street. This may, however, have been a reflection of the lower land values to be found north of Main Street, an area less favoured for residential development. That part of the city to the south of Main Street had always been noted for its residential value. being far away from the noxicus smells of the marsh near the The area also enjoyed the advantage of a slightly bay shore. higher elevation along the Iroquois Bar and on the gradual rise up to the base of the escarpment, where the drier land offered a more healthy atmosphere and a good view. It was oncesaid<sup>1</sup> that some of the stately stone mansions, which were to be found between King Street and the base of the mountain and on Main Street East, would do no discredit to any city on the American continent. Land values in this part of the city, therefore, would have been prohibitive to the locating of manufacturing establishments.

A location north of Main Street would also facilitate the movement to the foundries and workshops of such raw materials as pig iron, which was brought to Hamilton by water. Later, when the markets for the products of Hamilton's manufactories were extended, it also facilitated the movement of finished articles to the railroad and wharves for shipment.

<sup>1</sup><u>The Globe</u>, Toronto. 16th February 1877. Hamilton Public Library newspaper file.

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There seems surprisingly little concentration of activity in this rudimentary group near the bay, except for the making of sails and awnings by W. W. Grant, Robertson's boat building yard at Zealand's wharf, and Phelan's boat yard at the foot of James Street. L. Bauer's brewery was also located just off James Street North. The first three establishments have obvious connections with the lake but the absence of any other concentration indicates even more the considered value of a location near the business centre of the city.

A more detailed look at the location of establishments in the rudimentary group reveals several interesting features. The manufacturing of carriages, wagons, brushes, and wooden ware, was concentrated to the west of James Street and along. or just off, York and King Streets. Of the 15 firms working with wood, all but the carriage works of McGrath, which was situated on the corner of John and Jackson Streets, were found west of the city centre at James and King Streets. The greatest concentration was in the blocks between Vine, Bay, Main and MacNab Streets, centred around the two lumber and planing mills of Aitchison and Co. and J. Morden, both on Park Street. These two firms would have carried out the initial preparation of the timber and it was advantageous for the wood-working manufacturers to be close by to ease the movement of the timber from the mills. The concentration in this part of the city may possibly have been due to the source of much of the timber

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being to the west,<sup>1</sup> the main supply routes being along King and York Streets.

The coach factories of Hamilton were kept busy throughout the 50's and 60's by the demand for lumber wagons. This demand was the result of the timber merchants of the surrounding district experiencing a period of great prosperity associated with the tremendous increase in urban construction and the sceningly insatiable appetite of the railroads. H. & G. Cooper's carriage works, the Hamilton Coach Factory on Park Street, employed about 40 men in the manufacture of lumber wagons, carriages and sleighs, and had one of the most extensive carriage shops in Canada, producing 2 carriages a day with the help of a powerful steam engine.<sup>2</sup> Other carriage works were those of J. P. Pronguey on Park Street and E. H. Tallman on MacNab Street, while McCabe's works on King Street West employed 30 men and produced 120 buggies and carriages a year.<sup>3</sup>

Some of the broom, brush, and wooden ware manufactories in the city were extensive. Messrs. Sharp & Addison, on Bay Street, employed 100 men in making doors, blinds and agricultural implements, while the broom factory of Bruce and Mugridge on

<sup>2</sup>The Globe. Toronto, February 16th, 1877. Hamilton Public Library newspaper files. <sup>3</sup>Hamilton City Directory 1862-63.

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<sup>&</sup>lt;sup>1</sup>At this time the timber came from the mountain brow, between Vinemount on the east, and Camberville on the northwest, and also from the middle Grand Basin. Watson, <u>op.cit</u>. p.349.

King Street West consumed 100 tons of broom corn a year and gave constant employment to 20 men. In all, the carriage and wood working factories employed approximately 406 people, or 18.3% of the estimated total of 2,225 employed in manufacturing in the city.

The rudimentary metal working establishments numbered 18, all of which were located within a half mile of the King and James Streets intersection, and all but one north of Main Street. The main concentration was in a rectangle between Main, James, Robert and Elgin Streets, where 13 of the 18 were to be found. The reasons for their locating in close proximity to the city centre and north of Main Street were similar to those of the wood working concerns. Firstly, there was the need to make the show rooms easily accessible to the visiting merchants. Secondly, a location near the main routes of movement to the bay facilitated the transport of raw materials and finished goods. Finally, there was no great competition from residential development in the northeastern sector of the city as it was in close proximity to the marshy, low lying land along the bay shore and where the lake plain was considerably broken up by inlets.

The manufacturing of stoves was the most important single activity and had been carried on by a number of firms for many years. The E. & C. Gurney Company had occupied a foundry on John Street since 1833, employing 64 men in the making of cooking stoves, mandrel boxes and gadgets for the hardware merchants of the city.<sup>1</sup> In 1860 they bought a church

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next door to make room for the expansion of their premises and in 1861 were using 1,000 tons of pig iron and 300 tons of coal per annum. Stoves, agricultural implements and castings of various kinds were also made in the foundries of Messrs. Turnbull on Mary Street, J. Stewart on MacNab Street, D. Moore on Catharine Street, and A. & W. Copp on John Street. These between them employed over 140 men.

Other important metal concerns scattered through the central part of the city were the sewing machine factory of R. M. Wanzer, which began operations in 1861 on the corner of James and Vine Streets and employed over 50 men; Gurney and Ware, who made scales on James Street and employed 15 men; Robbins & Co., established in 1856, who made grates and iron railings in a building on Mary Street; R. R. Jusen, who manufactured nails, spikes and rivets in a factory on Hughson Street; and Young Bros. who made coal oil lamps on John Street, having made the first coal oil lamps in Canada. G. Grayson, whose factory was located behind Cooper's carriage works on Park Street, made steel springs for the carriage works; the Greening family, who had originally begun making wire in Warrington, England<sup>1</sup> in 1799, had now built a factory on Peter Street; J. B. Morrison made stoves and furnaces on King Street West, while J. Dean made iron bedsteads in a small factory on Hunter Street.

The rudimentary metal working establishments employed about 350 men, or just over 15% of the total employed in

1 Ibid.

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manufacturing in the city.

The food, beverage and tobacco manufacturers were irregularly distributed throughout the city, although the majority were within half a mile of the city centre. These establishments in all employed about 210 people, or 9.4% of the manufacturing employees.

The clothing manufacturing concerns employed about 576 persons, of which the firm of Sanford and McInnes on King Street employed 300-400 in the manufacture of ready-made clothing. All the clothing concerns, except the Canada Felt Factory on Wellington Street, were located within three blocks of the King and James Streets intersection in the central manufacturing area.

Also in this area were the leather and shoe making establishments, the largest of which was Nisbet & Co.'s factory on King Street<sup>1</sup> employing 100 men and women in the making of boots and shoes to the value of \$50,000 per annum.

Near the western limits of the city, where red brick clay was found to varying depths, the lake plain had been opened up in several places by brickyards. The three brickyards located here in 1861 were those of A. Bawden, A. Leittle and Daniel New. The last two were each turning out 1-1/2 million bricks a season, and each employed about 25 men.<sup>2</sup> The great increase in the population of the city during the

> <sup>1</sup><u>Ibid.</u> 2<u>Hamilton Spectator</u>, Souvenir Carnival Edition 1903.

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decade prior to 1861 had increased the demand for the products of these brickyards. Also situated near the western limits of the city was the pottery works of W. & R. Campbell on Locke Street, who manufactured pottery and drainage tiles. The Campbells were Americans who came to Canada from New Jersey in 1852 and to Hamilton in 1859.

By 1861 there was evidence in Hamilton of a new technological group of manufacturing industries developing. This group was associated with the building of the railroad, the use of the steam engine as a source of power, and the technical discoveries of the industrial revolution. The railroad made the assembling of large quantities of raw materials, such as coal and pig iron, relatively easy and also opened to the manufacturers markets far beyond the local hinterland. The demand it created for equipment also acted as a direct stimulus to the iron industry. The steam engine was rapidly taking the place of water power in the mills and workshops of the surrounding region by 1861, and the production of engines and boilers was becoming increasingly important.

The manufacturing establishments of the technological group were often the most recently constructed factories in the city and their location shows the beginning of a movement away from the siting of factories near the commercial centre of the city. This movement, which was to gain momentum over the next sixty years, was due, in part, to the increasing size of factories and the need for more extensive storage areas for

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raw materials. It was also due to the increasing dependence on the railroad, both as a supplier of raw materials and as a means of transporting manufactured goods to markets beyond the local hinterland.

Typical of the technological group was the Mamilton Agricultural Works, owned by the Sawyer Bros. This works was originally located on the corner of James and Merrick Streets and was owned by Fisher and McQuesten. In this factory the first threshing machine in Canada was built. In 1854, however, the building was burnt down and a new one was built on Wellington Street, north of the Great Western railroad and on the eastern edge of the city. The factory was re-sited here to take advantage of the demand by the Great Western railroad for rail castings and in its early years it supplied the railroad with many of the principal castings. The site proved a very fortunate one later in the 1850's when the increasing prosperity of the farmers of Upper Canada led to a depand for labour saving equipment. The factory then expanded its production of agricultural machinery considerably. Its location, in an area where space was readily available for new buildings and storage, combined with the proximity of the railroad to facilitate the movement of materials and finished products, thus enabling the works to become one of Hamilton's major industries.

Another important concern was the Canada Felt Hat Company factory<sup>1</sup> built in 1860 on Wellington Street at the

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<sup>&</sup>lt;sup>1</sup>This has been included in the technological group on account of its large plant, the numbers it employed, and its orientation towards the railroad, features typical of this group rather than the rudimentary one.

railroad tracks. The factory was sited away from the city centre probably because of the need for a large storage space and a location close to the railroad. In one year the factory used 100,000 lbs. of finest wool, 500 cords of wood, 600 tons of coal, 10,000 skins and 200 barrels of alcohol. From 35 to 40 dozen hats were turned out every day and marketed throughout Canada, while 150 people were constantly kept in work.<sup>1</sup>

In 1854 the Great Western Railroad Co. had filled in the lower stretches of several small valleys to the west of Bay Street to make room for the railroad to enter the city. This area had never been used for residential purposes and when, in 1860, the company decided to construct its own shops for the repair and construction of locomotives, land was available here. The shops were the largest in Canada and supplied the needs of the whole railroad in locomotives, cars, rails and other equipment.

The presence of the railroad facilities and the large urban market led the Canadian and Hamilton Oil Companies to locate their refineries in the east of the city near the railroad tracks. The refineries were outside the city limits probably because of the desire to keep them well away from the residential districts. The Canadian Coal Oil Company's refinery had been in operation about three years and manufactured illuminating and machine oil and naphtha. All the raw oil for both refineries was procured from the Enniskillen oil wells. The Hamilton Oil Co. was organized in 1861 and turned out 100

Hamilton City Directory 1862-63.

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barrels a week. This refinery employed 10 men and had already completed arrangements to supply foreign demand.

The remaining establishments in the technological group were concerned primarily with the making of steam engines and boilers. F. G. Beckett had built a large factory on James Street in 1855 and employed 40 hands making 40 steam engines and boilers a year. The siting of the factory, in the north of the city, shows more relationship to the railroad than to the commercial centre of the city, indicating that a location where merchants could easily view the finished article was no longer important. McAllister had a large boiler making works at Zealand's Wharf where he employed 20 zen mainly making ships' boilers, and his location was, naturally, near the lake shore. Only one establishment in this new type of manufacturing activity was to be found near the city centre in the central manufacturing district, namely the Hamilton Iron Works, owned by J. Thomas, sited on Rebecca Street. This began operations in 1851 and employed 70 men making boilers and steam engines.

Manufacturing activity in Hamilton by 1861 was of considerable magnitude and importance, and employed about 2,225 persons out of a total population of 19,096. The overall pattern of distribution shows a marked concentration of manufacturing establishments near the commercial centre of the city and relatively little concentration, as yet, along the railroad or along the bay shore. Within the general framework, however, there were two distinct groups of manufacturing establishments each creating its own pattern on the landscape.

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The first of these was the rudimentary manufacturing group, concerned with the processing of local raw materials and the supplying of basic necessities and small luxuries to settlers in the local hinterland. The establishments in this group were predominant in the city and accounted for 75, or 89% of the 34 manufactories in Hamilton at this time, as well as employing 1,745 people, or 78.4% of the total employed in manufacturing. The articles were produced mainly in small workshops, in relatively small quantities and by very few workers. The distribution of the establishments in this group was almost entirely confined to the central part of the city, where the main business area was located and where the finished articles could be most easily displayed and sold.

The second technological group of manufacturing establishments had developed since 1854 and was directly associated with the development of the railroad system in the area. It is also a reflection of the changing emphasis from water to steam as a major source of power. This enabled Hamilton to compete favourably at last with other local manufacturing centres. Previously the lack of available sources of water power had proved a serious disadvantage. The railroads now brought coal to the city from as far as Pennsylvania and soon settlements not served by the railroad and unable to get supplies of this raw material, found their industries being attracted away.

In 1861 the establishments in this group, although they numbered only 9, or 10.7% of the total manufactories of Hamilton,

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employed 480 persons, or 21.6% of the total employed. This indicates a trend towards large scale production in much bigger factories than was typical of the older rudimentary group. The distribution of establishments in this group within the city was away from the central manufacturing district and towards the north-east, north and north-west. Establishments tended to be near the Great Western Railroad, which acted as a generator industry and which also offered distinct advantages to industries locating beside it.

It is significant, however, that the number of manufacturing establishments directly oriented towards the railroad was only 6, or 7.1% of the total for the city. This indicated that the railroad had not yet become the major factor in influencing the distribution of manufacturing activity in Namilton. In 1861 the majority of establishments were still oriented towards the city centre and numbered 74, or 68.1% of the total. The fact that manufacturers showed a distinct preference for a location near the city centre, where the local market could be served most conveniently by road, indicates their dependence on the local hinterland.

The influence of the bay itself was negligible, since it attracted only 4 establishments to its shores. These were small concerns and, until raw materials were imported in great quantities by water, manufacturers showed no desire to establish plants near the bay front. The cost and difficulties involved in draining the marshy land along the bay shore also deterred manufacturing concerns from locating there. Those

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that were sited there were on the drier tongue of higher land that thrust out into the bay between Eay and Catharine Streets.

The table (Fig. 8) shows that, even at this early stage in the evolution of the city as a major industrial centre, metal working was the most important single branch of manufacturing, employing 29.6% of the total number of persons employed in the city. The textile industry was second in importance and employed 25.9% of the total. These two branches of industry between them accounted for 55.5% of all the workers in manufacturing and indicates the beginning of a trend that was to continue throughout the period of study.

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# Fig.<sup>8</sup>.

# MANUFACTURING IN HAMILTON IN 1861

	No. of establishments	Number employed	% of total employed
Metal goods, machinery, and transportation equipment	24	660	29.6
Carriages, wood- working, furniture, and paper goods	21	406	18.3
Food, beverages and tobacco	14	210	9.4
Clothing and Apparel	4	576	25.9
Leather, boots and shoes	7	148	6.7
Others	14	225	10.1
Total	84	2225	100.0

#### CHAPTER IV

#### 1861-1891. A PERIOD OF SLOW GROWTH

The widdle of the nineteenth century had seen, in Upper Canada, the beginnings of mechanisation in agriculture and the introduction of the steam engine as the main source of power. Factory sites were no longer dependent on water power but had become increasingly dependent on available supplies of coal. It was the use of coal, iron and steel that caused industries to leave such towns as Ancaster, Greensville and Waterdown, and to cluster on the lake plain around the new railroad in Hamilton. Hamilton, although not on an iron or coal field, was closer to them by rail and water than many industrial cities and was also in the centre of a large market opened up and continually expanded by the railroad.

The agricultural prosperity of the 1850's had continued after 1861, due mainly to a series of poor crops in Europe and the American Civil War, which created an increase in the demand for Canadian meat, leather, wool and timber. With this prosperity came a demand for more canufactured articles which the manufactories of Hamilton supplied eagerly. The metal industries in particular grew increasingly important as iron became the universal material of the second half of the

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century. Iron rails, engines, stoves, furnaces, bedsteads, lamp standards, railings and fences were in constant demand and this provided a stimulus to the expansion of manufacturing activity in the city.

The Great Western Railroad itself provided a considerable stimulus in the period immediately following 1854. In 1861 workshops were built in Hamilton for the repair and construction of locomotives and this was followed, in 1864, by the erection of a plant to re-roll English iron rails, which cracked easily in the cold of a Canadian winter.<sup>1</sup> The rolling mill cost \$100,000 and supplied work for 100 men. Its capacity was about 7,000 tons, equal to 70 miles of track a year. Operations were, however, to be suspended in 1872, when steel began to replace iron in the manufacture of The demand for railroad equipment also attracted rails. several metal manufacturers to Hamilton. The need for car wheels and axles brought new foundries into existence, one of which was the Hamilton Tool Co. which commenced production in 1863 on Caroline Street near the railroad tracks. In 1870 this company became the Mamilton Bridge Co., its initial contract being to make the first swing bridge over the Eurlington Canal. The Hamilton Malleable Iron Works was established by Burrow and Stewart on the corner of John and Cannon Streets in

# Hamilton City Directory 1864.

The workshop was 170 feet in length, 100 feet wide, and 35 feet to the eaves. One engine of 400 h.p. was used with 2 smaller engines of 2 h.p. each. To manufacture 4,000 tons of new rails it consumed about 5,000 tons of coal.

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1864, and employed 12 men. In 1870 Cowie and Thomas opened a factory on Stuart Street, opposite the railroad depot, to make cast iron pipes of large dimensions and thus gave a considerable impetus to the labour market in the city. A concentration of industry had now begun to develop around the railroad yards at the foot of Queen Street.

Throughout the 1860's, however, the Great Western Railroad was engaged in a struggle with the Grand Trunk Railroad for supremacy in south-west Ontario. In addition, other rival lines were being constructed. The Lakeshore and Michigan Southern Railroad was built between Euffalo and Chicago, south of Lake Erie, and this track took away much of the American traffic from the Hamilton line. A more serious blow was the incorporation, in 1868, of the Canadian Southern Railroad. This company opened a direct route, in 1873, from Fort Erie to Windsor, by-passing Hamilton.

To combat the decline in trade caused by the loss of the American traffic, the Great Western began to develop further traffic and, in 1873, rail connection was made between the city and Lake Erie at Port Dover with the completion of the Hamilton and Lake Erie Railroad.<sup>1</sup> In 1874 this company was amalgamated with the Hamilton and Northwestern Railroad Company and its lines extended across Hamilton Beach to reach Barrie in 1877 and Collingwood in 1878. This line tapped the forests of the north and was immediately profitable. It carried

<sup>1</sup>Thompson, op.cit. p.35.

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down vast quantities of lumber and firewood, the latter being a popular fuel for the stoves of the Hamilton housewife.

In the meantime the Grand Trunk Railroad had been completed from Montreal to Toronto and it then turned towards southern Ontario, with the intention of driving its tracks to the Detroit frontier. Eventually it forced the smaller Great Western Company to sell out to it in 1882. This was a serious blow to Hamilton, as the general offices of the company were moved to Montreal and the workshops closed down, the locomotive shops being moved to Stratford and the car shops to London. The rolling mills belonging to the railroad had already been closed in the period between 1872 and 1879.

In 1878, however, there came another great impetus to manufacturing activity in Hamilton, and in Canada as a whole, with the protection given to Canadian industry by the National Policy. As early as 1865 the Americans had refused to renew the Treaty of Reciprocity, mainly because the North had committed the country to a severe protectionist policy. The effects of the loss of American trade were further increased by a slight depression that occurred in Canada in 1873.<sup>1</sup> This spread from England to America and eventually reached Canada, lasting a period of five years. It had the effect of stimulating the protective movement in industry<sup>2</sup>

<sup>1</sup>W.Kilbourn, <u>The Elements Combined - A History of</u> <u>Stelco</u>. (Toronto, Clarke and Irwin 1960) p.38. <sup>2</sup>J.W.Watson, <u>op.cit</u>. p.647.

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and, during the Federal Session of 1874, a select committee<sup>1</sup> of the House of Commons made a report on the condition of manufacturing interests in the Dominion. Among its conclusions were that the American manufacturers found it convenient to relieve themselves of their surplus products in Canada, in many instances at less than the cost of production. This began a campaign which ended in the election of 1878, when Sir John A. MacDonald was returned to power with a mandate to inaugurate the 'National Policy,' which was specifically designed to encourage and protect Canadian industry.

The effects on manufacturing activity in Hamilton were immediate. Already in 1877 a preliminary raising of tariffs on most hardware items to about 35% took the Canadian market for screws away from the Eirmingham producers who had previously dominated the field. In that same year the Eirge and Alexander Company, who made screws, moved from Dundas to a larger site in Hamilton, partly on the strength of special tax concessions made by the city<sup>2</sup> and invested heavily in new equipment.<sup>3</sup> They took over and enlarged the buildings of the Canada Felt Hat factory on Wellington Street, at the railroad tracks.

<sup>1</sup>Middleton, J.E. <u>A History of the Province of Ontario</u> <u>1615-1927</u>, Vol.1. (Toronto, Dominion Publishing Co. 1927-28) p.645.

<sup>2</sup>The City Council granted on May 3rd an exception from tax for a term of 15 years on the buildings and plant of the Canada Screw Co. if the business was moved to the city from Dundas. <u>Hamilton Spectator</u>, May 2nd, 1887. Hamilton Public Library Newspaper files.

<sup>3</sup>Kilbourn, <u>op.cit</u>. p.34.

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Meanwhile a group of friends and relatives of Charles Wilcox, in the Ohio town of Painesville, had heard, in 1879. of the Canadian plan for tariff protection for Canadian manufacturers. 1 They knew of the old Great Western rolling wills that had been shut down in 1872 and, as some of the group had experience in the iron business in the United States, they came north to Hamilton and were incorporated by provincial charter in April 1879 as the Ontario Rolling Mills Co. They leased the idle plant and rolling mills from the Great Western Railroad and brought in American technical help to rehabilitate them. By the summer of 1879, just a few weeks after the new tariff measures became law, they were rolling iron. This began a new period in the development of the heavy metal industry in Hamilton and was the basis for the intense industrial activity that was to come later in the century.

The business of the mill was largely in re-rolling old iron rails, which were being taken up and replaced by steel ones, into bars and plate which were cut into nails.<sup>2</sup> The mills, which covered several acres and consisted of a rolling mill 200 feet square, a forging works 160 feet square and a nail factory 175 x 60 feet,<sup>3</sup> was crowded in a small compass below the Queen Street hill. Coal was brought into

<sup>1</sup>Ivid. p.42.

<sup>2</sup>Hamilton Spectator, July 25, 1926. W.A.Child, "Iron Trade built by determined men." Spectator Library. <sup>3</sup>Hamilton - the Birmingham of Canada 1892. (Times Printing Co.) p.60.

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the wills in cars, from which it was simply shovelled out by hand, no conveyors being used at all. Trains loaded with iron rails would be pushed up a steep grade where the rails were unloaded by hand. The skilled labour all came from the Ohio iron districts of Cleveland and Youngstown, and from Sharon, Pennsylvania. The common labourers were mostly immigrants from Ireland, Germany, or the Baltic regions.

In the 1860's, across the road on Queen Street, the Hamilton Forging Co. was attracted by the presence of the mills and started operations to make heavy iron forgings and axles. After a while the company sold out to the Ontario Relling Mills. In 1885 the Ontario Tack Company was established on the corner of York and Queen Streets to use tack machines brought across the border from Chicago by an Englishman named Francis Whitton. This became an important outlet for the Ontario Rolling Mill and Charles Wilcox and the other Ohio men were on its board of directors from the beginning.

Throughout the second half of the nineteenth century the construction of railroads, the growth of population, the development of urban centres and the expansion of agriculture hastened the development of iron manufactures throughout Canada. Lower costs of producing iron in the United States and Great Britain, together with lower rates of transporting pig iron, contributed to the growth of the foundries. Industries engaged in the manufacture of farming equipment, stoves,

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edge tools, farming implements and utensils, expanded rapidly. The foundry and the plant supplying iron work to the railroads provided a base for the development of the iron industry. Hamilton was one of many centres in the country where this branch of industry grew considerably.

Coal and iron were now being imported into the country in vast quantities. The table of imports of pig iron into Ontario gives some indication of the development in the metal industry in the country during this period.

#### IMFORTS OF PIG IRON IN TONS - ONTARIO From G.B. From U.S. 1875 281 18,870 1876 991 7,058 1877 2.872 5,291 1878 3,486 3,633 1,830 1879 1,237 3,959 1880 2,814 8,587 1881 8,058 1882 13,444 8,097

Hamilton was dependent on cheap supplies of coal for the growth of its metal industries. In 1887<sup>2</sup> the enlarging of the Welland Canal permitted larger boats from the upper lakes and Lake Erie to enter Lake Ontario. The city was now able to secure Lake Superior ore more cheaply than Pittsburgh and coal from Pennsylvania more cheaply than the western manufacturing cities. Coal was brought in by rail and boat

> <sup>1</sup>Innis, <u>op.cit.</u>, p.599. <sup>2</sup>Thomson, <u>op.cit.</u>, p.20.

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and, in 1888, 168 ships, primarily coaling schooners, arrived at Hamilton wharves and brought in 65,923 tons of coal.<sup>1</sup>

Other enterprises were established in the city during the age of the National Policy. The Britannia Co., from Connecticut, erected a foundry on Wellington Street at the corner of Cannon Street, employing 65 men for the purpose of manufacturing plated ware. This firm was the first branch factory of American concerns to locate in Hamilton, although many more were to come in the near future. In 1880 the Hamilton Cotton Co. was founded on Mary Street. As early as 1842 there had been over 300 mills in the province dealing with some phase of the woollen industry. The latter part of the nineteenth century saw the small local plants give way to the large factory and at this time the industry expanded in Hamilton at the expense of its neighbours. There was a great demand for clothing in any early settlement, but mills were then confined to sites near available sources of water power. Now, with the steam engine, coal was the basic raw material for power and this, together with cotton, was easily transported by the railroad to Hamilton. In 1888 John and James Moodie began the city's first knitting mill.<sup>2</sup> J. Calder had been manufacturing clothes in a five storey building on the corner of Merrick and James Streets since 1881. The latest venture was the Wentworth Knitting Co., which began

Least Library newspaper files.

<sup>2</sup>Thompson, <u>op.cit.</u>, p.49.

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operations in 1889. Skilled workers for the industry moved into the city from Dundas and Ancaster, and many immigrants arriving from England were experienced in the textile trade. For years the demand for cotton operatives in Hamilton had been largely in excess of the supply and some hands were imported from New England.

The fruit preserving industry was also developing in the city. As early as 1859 no fewer than 30,000 barrels of peaches, plums, grapes and apples had been shipped via the railroad and steamboat from the towns and ports of the Niagara Peninsula.<sup>1</sup> In 1886 the Norton Manufacturing Co. introduced automatic can making equipment to the city and by 1891 there were several flourishing concerns in Hamilton.

In 1890 a new factor was encouraging manufacturers to locate in the city. In that year the City Finance Committee recommended that all manufacturers locating in Hamilton should be exempted from paying taxes for 10 years on all their buildings, machinery, tools, income and personal property. This helped to prepare the way for the explosion of industrial activity that was to take place in the next 30 years.

The period 1861-1891 had, generally speaking, been one of slow but steady growth in manufacturing activity in Hamilton. The heavy metal industry had become firmly established after the initial impetus of the Great Western Railroad workshops and rolling mills and later in 1879 with the

<sup>1</sup>Johnston, op.cit., p.210.

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encouragement given by the National Policy. Other metal fabricating industries of a highly specialized and technical nature had also developed as well as large textile and food preserving entorprises. Although the rudimentary group of manufactories was still of very great importance, it was the success and prosperity of these new manufacturing establishments that were to attract others to the city and eventually enable Hamilton, by 1921, to become one of the most important manufacturing centres in the country.

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### CHAPTER V

### MANUFACTURING ACTIVITY IN MAMILTON IN 1891

The population within the city limits of Hamilton at the beginning of 1891 was 45,423. Many people, however, were living outside the city to the east of Wentworth Street, which, until this year, marked the eastern limit of the city. Many were also living on the mountain, thus making it difficult to assess the figure accurately. Later in 1891 the eastern limit was extended from Wentworth Street to Sherman Avenue, but Paradise Road in the west, the Eay in the north and Concession Street (Aberdeen Avenue) in the south, still represented the city limits in these directions (Fig.5).

Physically, the shoreline of the bay was still very irregular, but many of the long inlets that in 1861 extended well inland between Mary and Victoria Streets had been filled in to a considerable degree and the land used both for residential and industrial development (Fig. 9). The Hamilton and Northwestern Railroad had made use of the filled-in No.1 Inlet for its track, that crossed from Ferguson Avenue along the Eay shore towards the Beach exit from the city. Some manufacturing establishments had also made use of this previously waste land and Wellington Street had been continued

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out to the bay shore, while Wood, Macaulay, Picton, Ferrie, and Simcoe Streets had been extended eastwards to join Wellington Street.

In the west the water in the Chedoke Valley had been pushed back and several roads now traversed the area, thus making it less of a barrier to the city's expansion in a westerly direction. The escarpment was still proving an effective barrier to expansion southwards, although many people now lived on the crest. Access roads had been improved but were still limited to John and James Streets. The Jolley Cut, off John Street, had been constructed in 1871 by James Jolley, who wished for a road from his mountain top home to his saddlery business on John Street.

The built-up area of the city had extended considerably since 1861. In the north, the land west of Bay Street, north of York and east of Locke Streets, unoccupied in 1861, had now been settled by the workers from the factories along and at the foot of Queen Street. The area to the east of Mary Street and north of the Grand Trunk Railroad had been built up as far east as Emerald Street and as close to the bay as the inlets and marsh would allow. Some development towards the bay had also taken place along Wentworth Street, since 1861, alongside Sherman's Inlet. In the east of the city much of the land had been occupied as far east as Sanford Avenue. From here fingers of settlement extended, as in 1861, along King, Main and Barton Streets, the main arteries of traffic into the city, to well beyond Sherman

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Avenue. In the south, by 1861, settlement had reached the escarpment in the area east of James Street. In 1891 this had grown to include the area between Wellington and Wentworth Streets. To the west of James Street, in 1861, the east-to-west running tributary of the Chedoke Valley had marked the limit of the built-up area in this part of the city but, by 1891, this had been crossed and settlement extended south of Aberdeen Avenue to the foot of the escarpment as far west as Dundurn Street. The Chedoke valley, in the west of the city, had not yet been crossed to any extent and Dundurn Street still formed a well-marked boundary to the built-up area in this direction.

The continuing absence of settlement along much of the bay shore, in the north of the city, and the pushing of the built-up area to the escarpment, in the south, indicates that the lower marshy areas along the bay still discouraged settlement to some degree and that the higher, drier areas to the south of the city were regarded as being more favourable for residential development.

The density of settlement within the city must have increased considerably since 1861, as the city limits had not been greatly extended whereas the population had increased by over 138%, from 19,096 in 1861 to 45,523 in 1891 (Fig.10).

A total of 179 manufacturing establishments have been located in the city and mapped for 1891; these employed a total of 6,909 people. The figures can be compared with those for 1861, when 84 establishments employed a total of

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Fig. II

2,225 people. Of the 179, 135, or 75.4%, were continuations of the rudimentary group of manufacturing establishments, designed to serve the immediate needs of the local hinterland. In 1891 many of these had extended their production and markets to serve the new pioneer regions of the western frontier. There was a demand in these new regions for articles similar to those required by the local hinterland of 1861. The establishments in this rudimentary group included: 31 metal foundries and workshops; 9 carriage makers; 9 brick, stone and pottery works; 8 leather concerns; 22 food, beverage and tobacco manufacturers; 37 lumber, furniture, wooden ware, paper and printing establishments; 11 clothing and apparel firms; 2 blacking, 1 glue, 3 soap, 1 harness oil and 1 sail makers.

What, in 1861, had been a small nucleus of the technological group of manufactories, associated with the development of the railroad, the steam engine and new technical discoveries, had grown, by 1891, into a considerable number of highly organized and specialized plants. These included rolling mills and the making of nails, tacks, screws, wire, agricultural machinery, engines, boilers, bridges, tin cans, elevators, axles, wheels, canned foods and cotton goods. Although in 1861 this group accounted for only 9 of 84 establishments, or 10.7% of the total, by 1391 they numbered 44, or 24.5% of the total.

The map (Fig. 9) shows that there was still a great concentration of manufacturing activity within a half-wile

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radius of the city centre at the junction of King and James Streets, in what can be called the central manufacturing district. Of the 179 establishments in the city 117, or 65%, were located within this area. There was, however, some movement of manufacturing away from this region and oriented to the railroads that passed through the city.

The reasons for the continuing preference for a location in the city centre are varied. In the first instance many of the establishments found there had occupied the same sites for many years, some since before 1861. Having invested much capital in their buildings and equipment, they tended to remain there rather than move to larger sites on the periphery of the city. E. & C. Gurney had an extensive premises on John Street which the firm had occupied since 1843 and had enlarged several times. The D. Moore foundry, on Catharine Street, had been established in 1828 by Edward Jackson. Other sites occupied for many years included the Sanford clothing factory on King and John Streets, the lumber mill of Aitchison and Co. on Main Street West, the Hamilton Coach factory on Park Street, the Spring Brewery on Bay Street, J.Stewart's foundry on Vine Street, and Pattison's biscuit works on Cannon Street.

Secondly, some buildings in this central region, vacated by their original owners, had been re-occupied by new manufacturing concerns. Initially these could not afford to build new plants and preferred to make use of empty, old factories. The Laidlaw Co. took over the Turnbull foundry on the corner of Mary and Kelly Streets in 1874; Burrow, Stewart and Milne took over and extended the Jusen nail factory on

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the corner of Hughson and Cannon Streets; and Malcolm and Souter had occupied the furniture factory of J. Reid on King Street West.

Thirdly, a number of new factories had been built in this area since 1861 to be near the local market, notably the boot and shoe factory of J. Macpherson, on the corner of John and Jackson Streets; the Eagle Knitting Co. on the corner of Main and MacNab Streets; the clothing factory of J. Calder on Merrick Street; the Van Allen shirt factory on George Street; the Dominion Brewery on Eay Street North; Copp's foundry on the corner of York and Bay Street; and Williams' iron foundry on Gore Street.

Fourthly, the majority of manufacturers in this central district belonged to the rudimentary group. These invariably produced a variety of articles in competition with other firms, rather than one specialized product. This was true of many of the metal working establishments in the central district. The firm of Eurrow, Stewart and Milne on Cannon Street sold stoves, ranges, hot air furnaces, wagor, carriage and saddlery hardware, scales, and oil stoves, articles which were also produced, in direct competition, by the Laidlaw Manufacturing Co. on Mary Street, the D. Moore foundry on Catherine Street, Eowes and Jamicson on King Street, E. and C. Gurney on John Street, Copp Bros. on Bay Street, Gurney and Ware on James Street, J. Williams on Hughson Street, and J. Stewart on Vine Street. To sell their goods in such a competitive market the

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firms had, of necessity, to display their wares before the merchants and public, as in 1861. A location near the city centre facilitated this. The importance of this factor is seen in the ways in which firms not in close proximity to the city centre, strove to overcome this disadvantage. The D. Mcore foundry, producing stoves, ranges and hollow ware, was located at 190 Catharine Street North, four blocks east and five blocks north of the King and James Streets intersection. To compensate for this the firm had set up a warehouse and showroom on King Street near the Gore. Similarly, Bowes and Jasieson, making cookers, stoves, ranges, and self-feed heaters, and who were located at 519 King Street East, thirteen blocks from the city centre, stated on their advertisements that their showrooms could be reached easily by merchants from the Grand Trunk Station and the King Street East street cars.

Fifthly, many of the concerns in this district did not use large quantities of raw materials, or need much space for storage, and did not occupy large areas of land or unduly interfere with residential development around them. Thus no great forces were working to discourage manufacturing concerns from locating near the city centre at this time.

Within the central manufacturing district were found the majority of the 46 wood working establishments of the city. The surrounding conntryside was well endowed with timber and the processing and working of wood had been an important activity in Hamilton since its early days. Many

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articles were still made in wood and had not yet been replaced by metal ones, and this branch of manufacturing still occupied an important place in the industrial composition of the city. In 1891 they included: 6 lumber and planing mills, 5 furniture concerns, 3 piano makers, 1 coffin maker, 5 wooden ware firms, 9 carriage makers, 10 paper box and paper goods manufacturers and 7 printers.

Carriage making was still important, and 9 concerns were active in the making of these in the city; 8 were in the central manufacturing district, of which two, the Hamilton Coach factory and the McGrath works, had been established since before 1861. There was a distinct change in the detailed In 1861 the main concentration was in location. however. the blocks between Vine, Bay, Main and MacNab Streets, but by 1891 the main concentration was south of Main, on James and John Streets. Here were located the works of McGrath. G. Bridgwood, R. E. Haumil, Rattensburg & Co., and B. Hunt. The only ones located north of Main Street were the Hamilton Coach factory and the Malloy and Malcols works on Park Street and Delorme & Co. at 168 MacNab Street North. The reasons for this change may have been that, by 1891, carriages were produced only for the local urban market and factories tended to locate near the better residential parts of the city from where came the greatest demand for carriages.

The waking of paper boxes, bags and envelopes had become quite important, there being no fewer than 9 such manufacturers in the city. All were located within a few

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blocks of the King and James Streets intersection and included the Duncan Lithographic Co.; the Howell Lithographic Co.; the Hamilton Paper Box Co.; Buntin, Gillies & Co.; J. B. Mills; McKichan & Co.; A. Gibb; R. Haigh; and J. G. Kelk.

The main furniture concerns were those of J. C. Cooper on James Street; Hocdless & Co. on Main Street, who had been established over 30 years, occupied the whole block from Main to Jackson Street, and employed 50 men; McCallum & Hall; and Malcolm & Souter, both on King Street. The latter firm had taken over the factory of J. Reid in 1884 and now employed 40 men. The only coffin factory was that of Semmen, Ward & Evel, located on Sophia Street, well away from the city centre. This factory may have been located here, in a less densely built up part of the city, because it was not regarded as a desirable neighbour.

Of the 8 leather working concerns in the city, 6 were found in the central manufacturing area. The most important was the boot and shoe factory of J. Macpherson, on the corner of John and Jackson Streets, which was the largest of its kind in Ontario. Euilt in 1890, this factory employed between 100 and 150 men.

The food, beverage and tobacco manufacturers in the city, in 1891, totalled 27 and included: 4 breweries, 2 soft drink works, 3 tobacco concerns, 5 food canning and meat packing plants, 2 vinegar works, 7 flour and spice mills, and 4 confectioners and biscuit makers. Of these, 20 were in the central manufacturing area, or just outside it, near the

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commercial and retail centre of the city. Among the largest concerns was Thomas Lawry on MacNab Street, established in 1864 and who had a most extensive meat packing business, sending goods as far afield as the Maritimes, Newfoundland, Manitoba and British Columbia.

Nine clothing establishments were located in this central district and all within four blocks of the King and James Streets intersections. Some had, quite recently, begun operations in new buildings. Their location, near the conmercial centre of the city, indicates that the selling of the finished product was more important than the assembling of the raw materials. The Eagle Knitting Factory on MacNab Street employed 200 people, producing underwear that was sent to places from the Atlantic to the Pacific.<sup>1</sup> J. Calder's factory on Merrick Street, which began operations in  $1881^2$ was five storeys high, heated by steam and lit by electricity. The samufacturing roos for clothing occupied the full sweep of the building and several hundred hands were employed producing goods marketed throughout Canada. Van Allan made shirts in a new factory on George Street, as did the Dominion Shirt Co. on the corner of King and James Streets. John Mayhew, on King Street West, made hosiery, jackets and shirts, while the Sanford clothing factory on King Street was one of the largest in the city.

<sup>1</sup><u>Hamilton, Birmingham of Canada, 1892</u>. (Times Printing Co.) p.87. <sup>2</sup>Ibid.

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Several distinct manufacturing concentrations were developing away from the central manufacturing district by 1891, having grown from the nucleus of activity present in 1861. The establishments in these new areas consisted predominantly of factories associated with the technological manufacturing group. They produced articles of a highly specialized nature and, in most cases, did not enter into competition with other firms in the city. Therefore no great value was placed on a location near the city centre, as the customers of these firms had no need to visit the factories at all. The siting of these plants was influenced more by such factors as abundant, cheap land for buildings and the storage of materials, and good facilities for assembling the materials and shipping the finished articles.

The area of greatest development was along and at the foot of Queen Street. The considerable concentration of manufacturing activity here by 1891 can be accounted for in several ways. Firstly, the locating of the yards and shops of the Great Western Railroad at the foot of Queen Street in 1854 and 1860 respectively, and later the railroad's rolling mills in 1864 directly attracted other industrial concerns. This was, in part, due to the ease with which materials and goods, especially pig iron and coal, could be moved to and from this area, and in part the demand of the railroad itself for equipment and rolling stock. As early as 1863 the Hamilton Tool Co. had been attracted to

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this site to make wheels and axles for the railroad. Later, in 1872, when this concern became the Hamilton Bridge Co., it supplied many of the constructions that enabled the railroad to cross the numerous gullies and creeks in the city. The first major contract was for a steel bridge over the Eurlington Canal in 1872. In 1870 the Cowie & Thomas (later John Gartshore) Pipe Foundry moved here from Dundas to make cast iron pipes and to take advantage of the facilities offered by the site.

Secondly, in 1879, the Ontario Rolling Mills leased the old Great Western wills, closed in 1872. This concern was to prove a great stimulus to further manufacturing activity nearby. The mills re-rolled, into bars and nail plate, old iron rails that were being replaced by steel rails and used as the raw material for other industries. In the early 1880's the Hawilton Forging Co. was established nearby on Queen Street to use this new source of raw saterial. A nail factory was attached to the mills, which also attracted the Ontario Tack Co. from Chicago, which located near the foot of Queen Street. Other establishments siting in this area included the Norton Can Company, the Leitch and Turnbull Elevator Co., and Olastead's Ornamental Iron Works. The Greening Wire Works, on Napier Street, was enlarged, while the Morrison Engine and Boiler Works had been moved from John Street to a more extensive site on Caroline Street.

It was the proximity of the railroad, the available land for building and the complementary nature of many of the

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plants that had created this first concentration of manufacturing activity away from the central manufacturing district.

The beginnings of another concentration of activity was seen in the east of the city close to the railroad tracks, north of Barton Street and between Mary Street and Victoria Avenue. In this area an old creek had been filled in since 1861 and a large area of previously waste land made available.

The first major concern to locate here was the Hamilton Agricultural Works in 1855 after the burning down of its original factory near the city centre. Sy 1891 several other industries were found nearby. A tax exemption for 15 years and an available site had attracted the John Birge Co. from Dundas in 1887. This company occupied the premises formerly owned by the Canada Felt Hat Co. and became known as the Canada Screw Co. John Hore made wheels for railroad cars near the tracks at the foot of Elgin Street, while W. Wanzer had expanded his sewing machine business well beyond the capacity of his factory on the corner of James and Vine Streets, and had built a new premises on Barton Street. Osborne and Worswick, iron founders, obtained land for their new plant in the filled-in creek near the corner of Wellington and Barton Streets. In 1880 the Mamilton Cotton Co. built a factory on Mary Street near the Grand Trunk Railroad tracks, mainly because of the need to locate near a good transportation system. This facilitated the importing of raw cotton from the U.S. and also the marketing of the

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firm's products from the Atlantic to the Pacific.<sup>1</sup> The building had a frontage of 250 feet and the company employed over 200 people in the making<sup>2</sup> of denimes, carpet warps, hosiery yarns, ball knitting cotton, twines of white and fancy colours, skirt tape, belt webs and stove wicks.

Another nucleus of manufacturing establishments could be seen near the former Hamilton and North-western Railroad, which ran along the bay shore before turning south along the filled-in No.1 Inlet and Ferguson Avenue, then turning east to climb the escarpment on its way to Port Dover. Several concerns were located some little distance from the tracks, probably due to the fact that the land along Ferguson Avenue was built up prior to the building of the railroad in 1873. The Meriden Britannia Co.'s plant had been built on Wellington Street in 1879 and employed between 100 and 200 skilled artisans in the making<sup>3</sup> of knives, forks, spoons, and silver plated ware. On Cathcart Street E. T. Wright made tinware, while F. Fearman had a large pork factory on Rebecca Street near the railroad, which brought some of the 50,000 hogs he used each year and helped distribute orders as far afield as the U.S., Great Britain, France, and the West Indies. The Ontario Canning Co. was located in the south of the city near the railroad which linked it directly with the Niagara fruit belt.

	1 <sub>Ibid.</sub> , p.76. <sup>2</sup> Mapilton Specta	tor, Carnival	Edition	1397.	Mamilton	
Public	Library Newspaper files.					
	<sup>3</sup> Hamilton, Birm	inghas of Canad	la 1893.	P.103.		

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Near Wentworth Street, on the extreme eastern limit of the city, was a fourth nucleus of activity. This comprised the Hamilton Oil Co. and the Canadian Oil Co., both of whose refineries had been there since 1861, and a second works of the Hamilton and Toronto Sewer Pipe Co. on Terra Cotta Road, using clay outcropping on the sides of Sherman Inlet. The other works was in the west of the city on Jackson Street.

Of the several other manufacturing establishments scattered throughout the outer sections of the city, those of the brick, pottery and glass manufacturers are much in evidence. Near the Chedoke ravine, the presence of good supplies of brick clay, together with the continued expansion of the built-up area of the city to cope with the everincreasing population, had led to the presence there of four brick yards in 1891. These were the yards of A. Bawden, Crawford Bros., Frid and Fanning, and D. New. On Locke Street, near to the Hamilton and Toronto Sewer Pipe Company's works on Jackson Street, was Campbell's Pottery, established in 1859.

In the north of the city the Eurlington Glass Works and the Hamilton Glass Works occupied large buildings on MacNab and James Streets respectively. The Eurlington Glass Works occupied the buildings of an old hotel built in the 1830's when the wharves at the bay saw a great deal of passenger traffic. The coming of the railroad in 1854 had led to a decline in this business and the hotels had become vacant only to be taken over by small manufacturing companies.

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The location of both glass works near the bay may indicate that certain raw materials were still being brought in by boat to the wharves at the foot of James and MacNab Streets.

North of the railroad, on James Street, the Ontario Cotton Mills had taken over the factory built by P. G. Beckett in the 1850's and was employing 400-500 hands. The mills consumed 3,000 bales of raw cotton each year in the production of shirting, ducks, denims, awnings, ticks and cottonades. Not far away were the works of the Imperial Straw Co. on Bay Street and the Hamilton Straw Works on Ferguson Avenue, both making straw hats. W. Soper was also making sails and awnings in a small works on the corner of Bay and Perrie Streets.

Tuckett's tobacco factory on Queen Street had just been built and was employing almost 200 people. Nearby, on the corner of York and Inchbury Streets, was the Sincoe Canning Company; while the Canada Fruit Preserving Co. had located in the south of the city on Pine Street. The presence of canning companies in the manufacturing structure can be understood, but the detailed siting of these factories is difficult to explain.

Small manufacturing establishments in the city included 3 drug makers, the biggest concern being that of Sutherland on King Street. The firework firm of Hand and Co. was doing a good trade on King Street West. Professor William Hand had come to Hamilton from England in 1873 and had a reputation of being one of the foremost firework makers of his time. He also made signals and high explosives.<sup>1</sup> There were also 2

Hamilton Spectator, Carnival Souvenit, 1903.

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blacking makers and 3 soap manufacturers, one of whom was D. Morton on Emerald Street who sold his soap as far afield as Halifax and Vancouver.<sup>1</sup> The latest industry in the city was the making of electric light bulbs, the city streets having been lit by electricity since 1888. The main producers were the Edison Electric Co. on James Street, the Wanzer Lamp and Manufacturing Co. on King Street, and Brice and Co. on James Street North.

A study of the figures in Fig.11 shows that metal working was the predominant activity in the industrial structure of the city, both in terms of the number of establishments and of persons employed. The number of establishments represents 27.9% of the total for the city, but of more importance is the fact that the average number employed by individual plants is over 50. The numbers employed by each establishment were not available but it is known that very many of the concerns were only small workshops producing tinware and other small metal articles. This means that some plants must have been considerably larger in size in terms of numbers employed and productive capacity and were comparable to modern day factories. The predominance of metal in the composition of industry in Hamilton had been seen as early as 1861 and was to continue until the city became the most important metal working centre in Canada.

<sup>1</sup>Hamilton Spectator, Carnival Souvenir, 1889.

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## Fig.ll

# MANUFACTURING IN HAMILTON IN 1391

	No. of Establishments	Nos. Employed	% of total Employed
Metal Working	50	2,634	38.1
Textiles, Clothing and Apparel	15	1,363	19.7
Food, Beverages and Tobacco	27	922	13.2
Wood, Furniture, Paper, Lithographing and Printing	46	925	13.4
Non-Metallic Minerals	13	497	7.2
Leather Goods, Boots and Shoes	8	345	5.0
Others, oil, glue, soap, blacking, drugs, fireworks, electric light, fancy goods	20	217	3.3
Totals	179	6,903	100

<sup>1</sup>Dominion of Canada Census 1891, plus individual research.

The textile branch of manufacturing had increased in importance and although the number of firms was only 15, or 8.4% of the total number of establishments in the city, nevertheless the average number employed was over 90. Indeed, such firms as the Ontario Cotton Mills, J. Calder & Co., and the Eagle Knitting Co., employed several hundred people each. This trend towards fewer but larger textile establishments had begun with the use of steam power and with it the increasing importance of coal, over water power. Since the middle of the century, small mills in outlying settlements had been closing down and the industry had become more and more centralized at points where facilities for the receiving of coal and other raw materials were to be found, as in Hamilton.

The older rudimentary type of manufacturing activity still occupied a place of considerable importance in the city. In the main, however, they were small establishments employing only a few workers each. It was their workshop nature that enabled them to function near the city centre when the larger, more specialized concerns were often debarred from such a location. This was in part due to the lack of available building space in this central area, and in part to the competition from other forms of urban development. As a result, therefore, by 1891 there were emerging new manufacturing regions away from the city centre showing some relationship to the railroad and to the large areas of open land available on the "low" lake plain, which had not attracted building of any other type. The larger firms coming to the city at this

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time were able to afford to spend considerable sums of money on the draining and development of the marshy land in this area.

The railroad had come to play a major role in the economic development of Hamilton by 1891 but, as yet, only 27 manufacturing establishments, or 15% of the total, were in a location directly oriented towards its tracks, although these were, in the main, the largest factories in the city.

It is interesting to note that a location along the bay shore was not yet considered valuable and, in 1891, there were no firms located directly on the bay front. It was not until later in the 1890's that a premium was to be placed on a waterfront site with the increasing development of the Great Lakes as a transportation system.

In 1891, therefore, the largest number of manufacturing establishments were directly oriented to the city centre. 117 establishments were located within half a mile radius of the King and James Streets intersections and belonged predominantly to the rudimentary group, producing mainly for the local market and needing to display their wares to the public. The remaining 32 concerns in the city, although not actually located in the central district, were also of the rudimentary type and looked inwards rather than towards the bay and the railroad.

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#### CHAPTER VI

#### 1891-1921. A PERIOD OF RAPID EXPANSION

The 30 years from 1891 to 1921 were ones of intense industrial activity in Hamilton. During this period the population of the city increased from 45,423 to 114,151; the number of manufacturing establishments from 179 to 312, and the numbers employed in manufacturing from 6,909 to 21,609.

Several factors coincided during these three decades to give a tremendous impetus to manufacturing activity and to increase greatly Hamilton's importance as an industrial centre. The first factor was the siting of a primary iron and steel plant in the city in 1895, which provided manufacturers with a local source of pig iron and later steel. Secondly, the Toronto, Hamilton and Buffalo railroad, built through Hamilton in 1895, gave the city direct connections with the coal mining districts of Pennsylvania. Thirdly, the new Welland Canal, built in 1887, increased the possibilities of using the Great Lakes for the movement of raw materials and manufactured goods. Fourthly, the city developed, in 1898, the first major electric power service to industry in

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Canada. Fifthly, in the 1890's, the opening up of the Prairie Provinces greatly increased demand for the manufactured goods of Hamilton. Sixthly, after 1890, great efforts were made by the City Council to attract American capital into Hamilton and equal efforts were made by firms from the United States to establish branch factories in the city. The seventh factor was the ability of the city to advertise large areas of vacant land which were suitable for industrial development, served by excellent rail communications and located near a large natural harbour. Finally, after 1915, came the economic benefits and stimulus to industry in Canada associated with the First World War.

The total effect of these factors was to attract manufacturers to Hamilton in an almost continual stream over the thirty year period, creating new patterns of manufacturing distribution and composition, as well as altering considerably the urban and physical geography of the city.

#### The Period 1891 - 1900

By 1891 a heavy metal and engineering industry had developed in parts of the city. This development was based to a great extent on the advantages Hamilton possessed for assembling bulky raw materials cheaply from long distances, including imported pig iron. At this time it was found cheaper to import pig iron than to produce it locally, for Hamilton, situated on good water connections with Britain and the United States, was better placed than most cities in Canada

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for importing. As late as  $1889^1$  Scottish pig iron could be bought at \$13.70 a ton, or American pig iron at \$21.20 a ton, whereas it cost between \$20.50 to \$24.50 a ton to buy Canadian produced iron. In  $1891^2$  the consumption of pig iron in Canada amounted to more than 100,000 tons, of which only 20% was made in Canada and the balance was imported, principally from Scotland and the United States.

Since it was felt that this was not a good basis for future Canadian industrial development, efforts were being made to stimulate the production of Canadian pig iron. In 1884<sup>3</sup> the Federal Government offered a bounty of \$1.50 a ton on iron made from Canadian ore and placed \$2 a ton tariff on imported iron and scrap. This duty was increased to \$4 a ton in 1887 and this had a serious effect on the production of metal goods in Canada as a whole and thus in Hamilton. The need for a nearby source of pig iron was now felt to be all the more imperative.

Several events occurred at this time to allow Hamilton to take advantage of its geographical situation and industrial traditions and to become the location for the first primary iron and steel plant in Ontario.

In the first place the increasing of the duty on imported pig iron to \$4 a ton in 1887 coincided with the building

<sup>1</sup>A.H.Wingfield, <u>The Hamilton Centennial 1846-1946</u> Hamilton, 1946) p.32. <sup>2</sup> Klbourn, <u>op.cit.</u>, p.46. <sup>3</sup>Ibid.

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of the new Welland Canal. This enabled larger vessels to pass from Lake Erie to Lake Ontario and allowed Lake Superior iron ore to be shipped to Hamilton for as little as \$1 a ton. Coal was already being shipped by water and by rail from Pennsylvania and this made the basic raw materials for pig iron production as easily and as cheaply assembled in Hamilton as in most industrial cities in the U.S., including Pittsburgh.

Secondly, for some years previous to this time, the Hamilton City Council had been making tax concessions to new industries locating in the city. In 1893<sup>1</sup> a group of New York capitalists, looking for a suitable site for an iron and steel plant in Canada, accepted the City Council's offer of a long-term tax exemption, a free site of 75 acres, and a bonus of \$100,000 if a \$400,000 blast furnace and a \$400,000 open-hearth furnace were built and operating by certain fixed dates.

A third event was the building of the Toronto, Hamilton and Euffalo railroad through the city. This railroad, begun in 1893, had the great advantage of providing a direct route from Hamilton, via Buffalo, to the Appalachian coal field. It lowered the cost of importing coal and enabled Connelsville coke to be brought to Hamilton at prices only a little above those provailing at Euffalo. When the railroad reached Hamilton from Brantford, Dundurn Street was, for some time, its Hamilton terminus, but, in 1895, a tunnel was cut through the Iroquois Bar under Hunter Street, and a new terminus

110id. p.48.

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erected in the centre of the city. The line was then extended to Welland, where it connected with the Michigan Central Railroad, making the through connection with Pennsylvania.

The effect of another link in the transport system of south-western Ontario was to increase the competition for traffic and to reduce freight rates on the Grand Trunk Railroad. In 1897 the Canadian Pacific Railroad negotiated with the Grand Trunk and the Toronto, Hamilton and Buffalo Railroad for a service from Toronto to Buffalo. The Canadian Pacific Railroad eventually secured running rights over the Grand Trunk lines from Toronto and the use of the T.H. & E. station in Hamilton and its lines to connect with the Michigan Central into Buffalo.

On the day the first train of the Toronto, Hamilton and Buffalo Railroad ran through the city in 1895, the Hamilton Blast Furnace Company produced the first pig iron to be made in Hamilton. A government bonus on the use of Ontario ore was at this time an added inducement to production, but when this ore proved too difficult to smelt, American ore had to be brought in from Lake Superior. Later, in  $18^9 8^1$  a bounty measure was granted to Canadian iron made from foreign ore and then iron made in Hamilton was \$2 a ton cheaper than imported British ore.

The site chosen for the new iron and steel plant<sup>2</sup> was

<sup>1</sup>Ibid. p.50. <sup>2</sup>Ibid. p.48. -85-

Huckleberry Point, a piece of land jutting into Hamilton Bay. This site was on the 'low' lake plain to the east of Sherman Avenue, in an area of marshy ground and wide inlets that had been shunned by settlement for fear of lake fever. No other site in, or near, the city was as feasible for a blast furnace and a steel plant. The west end of the bay was controlled by the Grand Trunk Railroad. A high bluff bordered the waterfront some distance to the west of Sherman Inlet and areas large enough for the new plant were not available near the established foundries and rolling mills. Sites available in the Chedoke Valley were far away from navigable water, water supplies for cooling, and were on topographically unfavourable land.

The production of the first steel in the city, however, was delayed for another five years and the City Council had to extend its deadline for the completion of the steel plant. More capital was needed for the project and not until the Ontario Rolling Mills invested in it was it to be finished. Until 1897 the Mills were afraid to invest because they thought that with a change of government the 'National Policy' would be discontinued. In that year the Liberals came to power and by accepting the principle of the National Policy finally dissipated all fears. The Ontario Rolling Mills immediately approached the Hamilton Blast Furnace Company and amalgamated with it to become the Hamilton Steel and Iron Company in 1899. With the help of the new capital and some American technical help the first open hearth steel was produced on 15th June, 1900.

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The locating of a primary iron and steel plant in Hamilton, the coming of the Toronto, Hamilton and Buffalo Railway, and the Canadian Pacific Railroad, and the tax exemptions offered by the city, were a direct stimulus to industry establishing here. The movement of manufacturing concerns into the city was further activated by another event of great significance. This was the provision of electricity on such a scale that it could be used as the major source of power by manufacturing plants, replacing the more unwieldy steam engine.

In 1888 the streets of Hamilton had been lit by electricity supplied by the coal-powered generators of the Hamilton Electric Light and Power Company. Then in 1889 five Hamilton business men<sup>1</sup> formed the Cataract Power Company of Hamilton Ltd., the name being changed to the Dominion Power and Transmission Company in 1896. This company intended to utilise a fall of 200 feet over the Niagara Escarpment made by the Beaver Dam Creek at DeCew Falls, some 35 miles east of the city, to generate electricity which would be transmitted to Hamilton. The original plan<sup>2</sup> was changed, however, because of the need for a constant supply of water, not forthcoming from the Beaver Dam Creek. Eventually a constant supply was secured through a feeder channel from the Welland Canal at Allanburg, which at this point was still at the level of the Lake Erie water. The canal constructed was 4-3/4 miles long

<sup>1</sup>J.Patterson, J.Gibson, J.Moodie, J.Dixon, and J.Sutherland, known as the "Five Johns" as all were named John. Thompson, <u>op.cit.</u>, p.44.

<sup>2</sup>Ibid. p.227.

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and by securing land along its route reservoirs were built to conserve some of the water. The actual fall of water over the escarpment was some 3/4 mile east of DeCew Falls where an additional 70 feet in height was available and at a place where it was easier to build a powerhouse. The head of water was now 265 feet.

The ground was broken on October 5th 1897, and current flowed to Hamilton for the first time on the 25th August 1898. From the power house the transmission lines crossed the Twelve Mile Creek and ran north along a concession road to the Grand Trunk Railroad. It then ran west along the railroad right-ofway to the company's step-down station 34 miles away on Victoria Avenue. The company had already contracted for a large amount of power for factories of different kinds and they hoped, in a short time, to replace the majority of the steam engines used in the manufacturing establishments of the city with electric motors. The use of electricity was to increase to such an extent that plants like that of the Westinghouse Company would soon be built to supply the demands for electrical apparatus.

One final event had an effect on the locating of manufacturing establishments in Hamilton in the last decade of the nineteenth century. This was the opening up of the Canadian West and the Prairie Provinces which resulted, in part, in a movement of farmers from south-western Ontario, but which also gave new opportunities to the eastern industrialist in the field of agricultural machinery and domestic

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appliances. By the turn of the century heavily loaded wagons would be seen in late March or early April<sup>1</sup>making their way to the wharves at the foot of MacNab, James and Wellington Streets. On the wagons would be piled stoves, reapers, hay wire, horseshoes, blacksmith's bars and rivets for repairing farm machinery. Nails went at a hundred kegs to the wagon load. Within 48 hours the ships would be on their way to the Welland Canal and on through Lake Erie to the Upper Lakes, taking the first supplies of the season to the west.

Among those establishing factories in Hamilton in this decade was the Westinghouse Company in 1896. This firm came to manufacture air brakes for the railroad companies and by 1897 was producing the first air brakes to be made in Canada. The Brown and Boggs Co. came to make machinery in 1890 and the Smart-Turner Machine Co. likewise in 1900. Another rapid development after 1893 was in the fruit canning industry. In this year the city council offered a bonus towards the building of the Hamilton, Grimsby and Beamsville Electric Railway. This enabled the easy movement of fruit into the city from the neighbouring countryside and stimulated the canning and preserving industry.

About this time manufacturers in Hamilton were beginning to complete with large concerns in Britain and the United States. The small factories and workshops typical of the years before 1891 were finding it increasingly difficult to complete

Kilbourn, op.cit. p.51.

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with the new large sechanised factories and their mass produced products. There had grown a need for the combing of the resources of small concerns in order to eliminate inefficient machines and methods, and to provide capital to install new machinery to produce greater quantities at a reduced cost. The result was that several mergers took place in the city about 1900.

#### 1901 - 1911

In the years 1901 to 1911, iron and steel and their products became Canada's foremost industry. Steel production<sup>1</sup> jumped from 29,000 to 882,000 tons a year, pig iron from 252,000 to 923,000 tons. The net value of iron and steel manufactures more than trebled in size to 91 million dollars in the first decade of the twentieth century.

Hamilton's ability to play a large part in this industtrial progress was due, in no small measure, to the policy of the city after 1901 towards tax exemptions. In 1903 the Canadian Westinghouse Company built a second factory in the city to make electrical apparatus of all kinds. The taxes on this plant, on all property then existing, or thereafter established, were fixed at \$1,500 per annum for the period 1905-1909, \$3,000 from 1910-1914, and \$4,500 from 1915-1919. In 1903 the city annexed from the township of Barton a parcel of land running east from Sherman Avenue to near Gage Avenue between Barton Street and the Bay. Industry locating in this

<sup>1</sup>Ibid. p.51.

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district was assessed according to the assessment of the township for that year. This meant the tax rate was just over one third of the rate for the city and this was to continue for 15 years.

The International Harvester Company built a large plant in this area the same year to cater for the rapidly growing grain trade of the country. By 1909 it was producing 78,000 machines a year. The plant<sup>1</sup> was sited on a piece of land sold to them by the Hamilton Steel and Iron Company with the object of setting up a good customer next door. The decision of this company to locate in Hamilton led directly to other companies deciding to come here. From 1903 to 1905 numerous metal industries were established in the city, many of them in the area east of Sherman Avenue recently annexed. Here, the available cheap land, the tax concessions, proximity to a source of steel, and excellent rail communications all contributed to put a premium on the area as a site for industrial development.

In 1902 the Otis Elevator Company of New York came to Hamilton after looking for a suitable site elsewhere in Canada. In 1905 the firm became the Otis-Fensom Elevator Company by an amalgamation of the Canadian Otis Elevator Co. and the Fensom Elevator Co. of Toronto. In 1903 the Canada Steel Goods Co., located on Arthur Ave., a block west of Sherman Avenue. In 1904 the Forst Wire Fence Co. moved from

Front 7.

<sup>1</sup>Ibid. p.48.

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Welland to a site on Princess Street, off Sherman Avenue. In 1905 the Banwell-Hoxie Wire Fence built a factory on Lottridge Street in the newly-annexed area, as did the London Machine Co. and the firm of F.W.Bird making building paper and roofing materials. 1905 also saw the Canadian Drawn Steel Co.locate on Arthur Ave., while in 1906 the Canada Shovel and Tool Co. became established on Imperial Street. In 1910 the Standard Underground Cable Co. and Atkins Saw Co. sited on Sherman Avenue, while the Oliver Chilled Plow Co. built a large plant just west of Sherman Inlet.

Many other concerns contributed to the gradual development, during this period, of an industrial complex centred on Sherman Avenue.

Meanwhile manufacturers were adding to industrial activity in other parts of the city. The Schultz Manufacturing Co. was established on York Street in 1904 to make brass and metal goods. The Union Drawn Steel Co. built a factory on Webber Street and became the only metal concern to locate in the south of the city. In 1906, the Hamilton Tool Co. began making tools, drills and machinery on Catharine Street. In 1907 the Canadian Wire Goods Co. located on King William Street and in 1909 the Cummer-Dowswell Co. moved into a factory on Elgin Street to manufacture washers, wringers and other household equipment.

Several textile firms located here in this period. These included Zimmerman Reliance Co. on Garth Street in

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1907, the Chipman-Holton Knitting Co. on Mary Street, Coppley, Noyes and Randall on Merrick Street in 1900, and the Princess Underwear Co. on Park Street in 1910. The presence of spinning mills in the city attracted firms here to make such products as knit goods, hosiery, shirts, underwear, threads and yarns.

In 1900 the Hamilton Steel and Iron Co. had entered primary iron and steel production in a small way. Although many more open hearths were added year by year, the company's capacity in 1907 had scarcely reached 100,000 tons, or about 1/8 of Canada's steel production for that year. A second blast furnace was then built, raising the iron capacity to 180,000 tons, or 1/4 of the country's total. Since it made spikes, tie plates and raw materials for the car and locomotive makers, the company depended heavily on railroad business. It had the advantage, however, of being in a position to supply easily the iron and steel market of south-western Ontario, where the manufactures for the west were chiefly made, as well as the increasing number of metal establishments in Hamilton.

The year 1910 marked a great step forward in the affairs of the company, with the formation of the Steel Company of Canada. In 1907 the Canada Screw Company and the Ontario Tack Company in Hamilton, each the strongest manufacturer in its field, amalgamated under the former name. This served to consolidate and specialise the production of some items and allowed inefficient machinery and plant to be scrapped or moved to a better location. This process was

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carried on, and in 1910 the Hamilton Steel and Iron Company, the Montreal Rolling Mills, the Canada Screw Company and the Canada Bolt and Nut Company of Toronto amalgamated to form the Steel Company of Canada. This huge organization was now able to have greater control over the marketing of its products and was able to compete very favourably for the markets for a wide range of articles.

With the increased use of electric power, more capital was being invested in hydro-electric schemes. By 1910 the power of the Niagara River had begun to be harnessed. The years 1901-1910 also saw the beginning of an electrical apparatus industry in Hamilton, the city having the cheapest power costs of any large Canadian city.

#### 1911-1921

Manufacturing in Hamilton prospered until 1913. In that year a serious recession struck the North American economy and was particularly severe for heavy industry. The outbreak of war in 1914 turned the recession into a depression as the flow of orders for agricultural implements and railroad equipment and the demands of the overseas markets stopped almost completely. The decision to go into the munitions business saved a very precarious situation as it offered a market to Canadian metal manufacturers at a time when no others existed. A grand total of 60 million<sup>1</sup> shells were made in Canada during the war and 480 firms figured in the work, including the Steel

Made in Hamilton Quarterly, Summer 1919.

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Company of Canada in Hamilton. Before the end of the war Canadian factories were producing 800,000 shells a week.<sup>1</sup>

The revival in industry took place in mid-1915 and brought the return of the pre-1913 demand for most of the regular steel products used in Canada. The western land boom also began again as the European food shortages began to drive up world wheat prices. Canada's wheat acreages increased by over 80% over the five year period following 1915.

During this period the organized development of Hamilton Harbour began for the first time. The harbour had come to be increasingly used, after 1900, for the movement of materials to and from the industries located on the 'low' lake plain. In the early years of the century, however, the development of the harbour front<sup>2</sup> was largely a private matter, consisting almost wholly of the building of docks, wharves and retaining walls by private enterprise, including manufacturing companies. Until 1912 the harbour was in the charge of a committee of the city council and little was done towards its improvement. In 1912 the Hamilton Harbour Commission Act was passed, creating an independent harbour board. Even then, during the next few years very little was done except for the building of a revetment wall and the filling in of part of the bay between Catharine and Wellington Streets. At the end of the war in 1918, only two docks, both private, were connected by rail with the hinterland, while Burlington

<sup>1</sup>Kilbourn, <u>op.cit</u>. p.99.

<sup>2</sup>Hamilton Herald. Hamilton Harbour Clippings 1904-1951. November 15, 1920.

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Street, an important traffic artery adjoining the waterfront, was narrow and unpaved. With the exception of the docks of the International Harvester Company and the Steel Company of Canada, no commercial improvement at all existed east of Wellington Street.

In 1919 the area between Ferguson Avenue<sup>1</sup> and Wellington Street, which had been enclosed by a revetwent wall, was advertised by the city as available for industrial development. The advertisement stated that the area was 15 acres in extent and was provided with a dock wall across the front of 650 feet of dockage with a depth of water throughout of 18 feet. The very good connections to the main railroads gave the area facilities (it said) that could not be satched in any harbour on the Great Lakes. The area was never used for industrial purposes, however, possibly because of an episode that occurred in 1920. In that year Burlington Steel Company, located on Sherman Avenue away from the waterfront, sold 500 tons of bar steel to Cuba. When the ship arrived to load the steel it found no docking space available in the harbour. It was only through the generosity of the International Harvester Company, whose dock happened to be clear at the time, that the vessel was able to load and clear. This was one of the first occasions that a firm in Hamilton had had a chance to compete for overseas markets and it made it imperative that the city should provide docking space for ocean-going vessels,

<sup>1</sup><u>Mamilton Spectator</u>, January 21, 1919.

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otherwise a considerable amount of business would be lost.

The result was that the Harbour Commission used the land between Ferguson Avenue and Wellington Street to develop municipal harbour facilities, and by 1925 new warehouses had been erected there. This was of great importance to concerns located away from the waterfront but who required dock space to develop overseas trade.

The period 1911-1921 was also notable for the large number of branch factories of American companies that located in the city. These strengthened the industrial structure and consolidated Hamilton's position as a major industrial city. Although the National Policy had barred the importation of many American manufactured goods to Canada, the investing of American capital was still encouraged and, with it, the establishment of branch factories in the country.

Eefore the First World War<sup>1</sup> about 350 American firms were operating in Canada, mainly to escape the Canadian tariff, and in 1913 there were 46 firms of American parentage in Hamilton. Prior to the war U.S. merchandise had to pay, on average, 35% customs duty. During the war this was increased with the addition of a 7<sup>1</sup>/<sub>2</sub>% war tariff. By 1919, however, there were added reasons for locating in Canada. Firstly, a Canadian location allowed a firm to enjoy the benefits of any trade arrangements made within the British Espire. An

<sup>1</sup><u>Magazine of Industrial Management</u>, Vol.64, 1922, "Branch Factories in Canada."

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example of this was the Canadian-West Indian agreement of 1920 which granted tariff preferences to imports from Canada. South Africa at this time permitted Canadian goods to enter the country duty free.

Secondly, a branch in Canada allowed the easy handling of export orders received by the parent company in the U.S. for shipment to the U.K. or other parts of the Empire. Thirdly, these factories could handle the rapidly expanding Canadian market at close range. The result was that 200 branch factories located in Canada in 1919 and even more in 1920, bringing the total to about 1,000 in that year. By April 1920, in Hamilton alone,<sup>1</sup> there were nearly 100 branches of U.S. industry, 32 of which had located in the city in 1919 and 27 in 1920.

Among the many firms that came to Hamilton during this decade were the Canadian Steel Car Co., which in 1912 secured 77 acres on the bay front at the foot of Kenilworth Avenue. The firm was organized to meet the growing demands of the Canadian railroads for rolling stock, and the first freight car was completed in December 1912. The period 1910-1913 alone, saw 30 new industries locate in the city, including Graselli Chemicals, the Dominion Steel and Foundry Co., the Mercury Mills, the Ontario Yarn Co., the National Abrasive Co., the Pirestone Tire and Rubber Co., and the Hoover Suction Co.

<sup>1</sup>Made in Hamilton, op.cit., April 1920.

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There were several notable features in the evolution of manufacturing in the city during this period. The building of the new Welland Canal in 1887 and the T.H. & B. Railroad in 1895, gave Hamilton important international connections with the U.S. This occurred at a point in time when the initial industrial development of the U.S. was coming to a close and when American capitalists and industrialists were looking towards Canada for new fields of activity. The great influx of American capital and branch factories into Canada and Hamilton in the decade 1911-1921 was a direct reflection of this trend. Making use of the new links in the communication system, American capital and technological ideas were to begin to play an ever-increasing role in the industrial affairs of Hamilton and, indeed, of the whole of Canada.

The period 1891-1921 also saw the serious development of the bay front, the low level plain and Hamilton Harbour for the first time. The opening of the new Welland Canal, the building of a primary iron and steel plant and agricultural machinery plant on the bay shore, initiated the movement of raw materials and manufactured goods in bulk by water. This took away some of the importance of the railroads as the major transportation medium.

Finally, it is significant that the new primary iron and steel plant was a great stimulus to metal working in the city. The predominance of metal working in the industrial composition of Hamilton was firmly established by 1921.

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# CHAPTER VII

# MANUFACTURING ACTIVITY IN HAMILTON IN 1921

The physical appearance of Hamilton had altered considerably in the years from 1891 to 1921. In 1921 there remained no signs of the inlets so evident in 1891 between Catharine and Wellington Streets. This was the result of the city council building a revetment wall and filling in a large area of marsh and inlet east of Catharine Street. Eurlington Street, which in 1891 ended at Wellington Street, now continued along the bay shore to the east end of the city.(Fig 12)

In 1891, Sherman Inlet extended as far south as the Grand Trunk Railroad and was 1,000 feet across at its widest part. By 1921 the water had been pushed back to the north of Burlington Street and a considerable area filled in. The new land created here had been occupied by industrial plants, while Birch Avenue had been built along the line of the old creek. On both sides of the inlet the shoreline had been straightened with the construction of docks.

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To the east of Sherman Inlet, however, little had been done except for the filling in of the inland extremities of Lottridge, Stipes and Gage Inlets. This allowed the T.H. & B. belt line to be built northwards towards the bay to serve the new factories established there. The land between these inlets, which used to be low-lying and marshy, had been drained and reclaimed to some degree and was now being used for industrial development.

Again, little change had taken place since 1891 from Catharine Street west to beyond Locke Street. This had been the first section of the bay front to be developed, but had not been greatly altered since before 1861. The building of wharves at various times had caused minor differences in outline but nothing of any importance had been done since the coming of the railroad in 1854.

In the west of the city the Chedoke Valley still cut a deep gully the whole way back to the escarpment. Certain sections, however, had been filled in to make room for industrial plants wishing to locate there and also for the residential development of the south west part of the city. In the south the escarpment remained generally unchanged except for the improvement of the access routes to the summit, making it less of a barrier to development in that direction.

The most significant feature of the appearance of the city in 1921 was the great spread castwards of the built-up area of the city since 1891. In that year Sanford Avenue

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had marked the eastern limit of the built-up area with the exception of fingers of settlement which extended along the main arteries of traffic for about 1-1/4 miles from the city centre at the King and James Streets intersection. By 1921, however, the city limits in this direction extended for another 2-1/2 miles to Strathearne Street, almost twice as far as in 1891 and a distance of 3-3/4 miles from the city centre. The fingers of settlement along King and Main Streets could no longer be seen and, in fact, expansion along these two arteries had lagged, while a great development had taken place near the new industrial areas to the north. Barton Street was built up further east than either Main or King Street and the movement of population into this northeastern part of the city far outstripped that in any other part of Hamilton.

North of the Grand Trunk Railroad and east of Wellington Streets much of the area covered by marsh, creeks and inlets in 1991 had been utilized since then. The laying of such streets as Beach Road and Kenilworth Avenue had allowed residential areas to grow up here. The main use of the reclaimed land in this area, however, was for industrial purposes. The massing of industry here by 1921 had been a considerable factor in stimulating a large residential building programme in the north-east of the city, the majority of the houses being for workers in the nearby factories. In 1891 the only area that was built up to the bay shore was between Locke and Catharine Streets, but by 1921 the whole bay front between

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Cootes Paradise in the west and Strathearne Street in the east had been used for some form of urban development.

In the west of the city, settlement had spread across the Chedoke Valley as far west as Paradise Road, but this extension was insignificant compared with that to the east. In the south some expansion onto the crest of the escarpment had taken place since 1891. In that year the base of the escarpment had effectively marked the southern limit of the built-up area, but by 1921 a large area along the brow, especially along the line of Concession Street, had been developed. In the neighbourhood of James and John Streets, this development extended as far south as Fennell Avenue.

The reason for the great expansion to the east in preference to other directions can be said to be partially a reflection of the physical nature of the site of Hamilton. Expansion in any other direction was restricted by unfavourable topographic features. Only in the east of the city was there a large area of flat land available for development and which allowed railroad lines to be constructed on easy grades. It had to be reclaimed from a marshy state, but when reclaimed made a good area for urban development.

The population of Hamilton in 1921 was 114,151, an increase of 68,728, or 151.3% on the figure for 1891. The increase in population is reflected, to some degree, by the number of manufacturing establishments, which rose by 74.3%, from 179 in 1891 to 312 in 1921. By 1921, 21,609 persons were employed in manufacturing activity in the city, compared with

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6,909 in 1891, an increase of 212.8%. The great increase in numbers employed in manufacturing was the result of several large factories locating in the city during this period.

The pattern of the distribution of manufactories in Hamilton in 1921 was very different from that of 1891. Most significant was the development of a great industrial complex in the area to the north of Barton and east of Wentworth Streets, little used in 1891. Considerable development had also taken place in the west of the city near the Chedoke Valley and in the south along the T.H. & E. Railroad. The centres of manufacturing activity in 1861 and 1891 were still present as in the case of the central manufacturing district and along Queen Street, but by 1921 these areas had declined in importance as new industrial regions were growing up in other parts of the city.

Nine manufacturing regions can be distinguished in the city in 1921 -- 1. The central manufacturing region. 2. The north end extension region. 3. The east end extension region. 4. The Sherman Avenue region. 5. The Ottawa Street region. 6. The Wentworth-Wellington Streets region. 7. The North Queen Street region. 8. The Chedoke region. 9. The Southern region.

## 1. The Central Manufacturing Region

This consisted of that part of the city found within a half-mile radius of the King and James Streets intersection. This region was the nucleus of the original settlement and the place where manufacturing first began in Hamilton. In

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1921 125 establishments were located here, or 40.1% of the  $72^{\frac{1}{4}}$ total for the city, compared with 71% in 1861 and 65% in 1891. The relative decline in importance over the years was more the result of new industries locating in other parts of the city than of industry moving out from the city centre.

In this region were to be found 40 metal working firms; 22 wood, paper and printing works; 25 food, beverage and tobacco concerns; 13 clothing works; 4 carriage works; 5 leather works; 6 glass and stone works; 2 chemical works; and eight other establishments. The reasons why so many manufacturers continued to locate in this region were several.

Firstly, many had been established here for a number of years, often in their original buildings. Such firms included the D. Moore Co. on Catharine Street making stoves and hardware goods; Eurrow, Stewart and Milne on Cannon Street and John Gurney on John Street. These concerns still produced a type of product that did not require large plants or large quantities of raw materials, and their production was on a scale insufficient to warrant the investing of large sums of money on new factories and machinery. Many of the metal concerns produced articles for direct sale to the public and so desired a location near the commercial and business centre of the city. The Olmstead Ornamental Iron Works on Rebecca Street made iron railings, garden fences and chairs; Metal Studios Ltd. on Walnut Street made brass electrical fixtures; Riddell and Son on Ferguson Avenue made coal chutes; and the Hamilton Lamp Co. on York Street made lamps.

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Secondly, many of the establishments located here were continuations of the old rudimentary group of industries now better classed as service industries. These needed to be near the business centre of the city to function adequately, and among others included food, beverage and tobacco concerns, leather works, tinsmiths, and printers. The products of these manufacturers were in the main directed towards the local urban market and were often passed directly on to the retail stores in the city. The ability to locate near their market encouraged the smaller factories to remain in this region. Such would be the case of Dunn's Spice Mill on Main Street, McCornick's biscuit factory on John Street, D. Sweet's cigar works on Merrick Street, and R. Duncan's printing establishment on James Street. As none of these industries were of an offensive nature they were not unacceptable to the nearby residential and business district.

Thirdly, although there was little room for the expansion of buildings in this central area because of its densely built-up nature, new concerns to the city would often locate here where there were many cheap, old factory buildings available. Often their function bore no relation to their location and as soon as production increased beyond the limits of the buildings they were forced to move to another part of the city. The result was that old factories were seldom demolished but continued to house manufacturers wishing to become firmly established in the city before they invested a large sum of money in plants and machinery.

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Within the region there were two distinct concentrations of activity. The first was along the Ferguson Avenue railroad, where 39 establishments were located within two blocks of the tracks. Many of these used the railroad for moving raw materials and finished products, but some located here because the area had become less favourable as a residential locality and property was fairly cheap. The second concentration was within the area encompassed by Caroline, York, Merrick, James and Cannon Streets. Here 29 manufacturing concerns produced between them a wide range of products but all on a small scale. On Cannon Street, for example, 6 manufacturers shared two three-storey buildings and none had the facilities to produce on a very large scale.

The commercial centre of the city near the King and James Streets intersection had been cleared of industry except for one or two small firms. The high taxes on buildings in this neighbourhood now discouraged industry from locating here and forced them to choose less expensive sites elsewhere.

#### 2. The North End Extension Region

This region in the main occupied the bluff that extended north along James Street to the bay. Like the central district, this area had been developed very early in the history of the settlement, being the main avenue of approach to the bay from the city centre. The result was that the several manufacturing concerns found here were very similar in nature to those found in the previous region and were oriented towards the urban and local markets. None were

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sited along the railroad tracks because it ran through a deep cutting in the bluff between Bay and Mary Streets. The 12 establishments in the area included 3 metal works; 5 textile concerns; 2 chemical works; 1 boat; and one vinegar works.

## 3. The East End Extension Region

This area which lay east of Wellington, south of Barton, west of Sherman and north of Hunt<sup>6</sup>Streets, was another off-shoot of the Central Manufacturing District, which developed as the city spread eastwards after 1861. The establishments are again typical of the central manufacturing area and many had been established for a number of years before 1891. Some concerns, however, as the Embree Tool Co. on Munro Street, although located in this area, show some relationship to the more recently developed manufacturing regions oriented towards the railroads.

## 4. The Sherman Avenue Region

This region comprised the area enclosed by Birch Avenue in the west, Barton Street in the south, the T.H. & B. belt line in the east, and the Bay in the north. Some factories, outside these limits, are included in the region because of their similarity to those within the area. The most notable are the Oliver Chilled Plow Works on the west side of Sherman Inlet, and the Chipman-Holton Knitting factory near Gage Avenue.

The region had only developed since 1895, but had rapidly become the major centre of iron and steel manufacture

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in Hamilton, with a predominance of metal working factories. Some establishments in the region were oriented towards the use of the bay and the Great Lakes for transportation or as a source of water supply, but a great number of concerns were oriented towards the complex railroad network of the region. A combination of factors attracted manufacturers here and had created a great industrial complex within a very short time. 1. The region lay on the 'low' lake plain and the topography allowed factories, roads and railroads to be built easily. 2. The close proximity of the bay with its numerous inlets made the construction of docks possible and facilitated the use of water transport. 3. Industries requiring large supplies of water in their manufacturing processes could obtain it at little cost from the bay. 4. The siting of the first primary iron and steel plant in Hamilton near the foot of Sherman Avenue gave the area a local supply of pig-iron and steel and encouraged manufacturers to locate here to reduce the cost of assembling raw materials. 5. In 1903 the city acquired a large area of land from Barton Township, between Sherman and Gage Avenues and north of Barton Street. Tax concessions were given to industrialists locating here and this attracted many to the area. 6. The original Great Western Railroad and later the Hamilton and North-Western Railroad, Grand Trunk, and T.H. & B. belt line all crossed the area to the north of Barton Street and gave an excellent system of communication to manufacturers establishing there. 7. The area had only recently been developed, never having

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been used for residential purposes because the marshy nature of the region was regarded as unhealthy. The considerable residential development that had taken place to the south of Barton Street, however, provided a ready source of labour for the factories of the area. 8. The Dominion Power and Transmission Company's main electric supply line from DeCew Falls came along the Grand Trunk Railroad track to their service station on Victoria Avenue, and was readily available to serve this region. 9. The region was an adequate distance from the densely built-up part of the city for pmoke and fumes to be discharged inoffensively and easily.

The first large factory to be built in the region was the Hamilton Steel and Iron Company's works, later to become the Steel Company of Canada, in 1895. In 1903 this concern sold land to the International Harvester Company, which built a plant on the bay front east of Sherman Inlet. The entrance to the inlet was deepened to 21 feet, and 2,200 feet of docks were built. The International Harvester Company located here to be near a supply of steel and because the geographical situation on the Great Lakes made handling of the Canadian market much easier than from inland cities and ports further east. These two plants provided the stimulus for the railroad spur branch development near Sherman Avenue and their prosperity, together with the factors previously mentioned, led to a large number of firms locating here.

There were 49 manufacturing plants established in the region and these included: 31 metal working plants; 2 metal

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electrical product factories; 5 textile factories; 2 varnish works; 1 chemical factory; 1 glass works; 2 abrasive works; 1 oil refinery; 1 building paper factory; 1 canning factory, and 1 lumber mill.

Among the largest metal concerns were the Stanley Steel Co., Canada Steel Goods Co., and Canadian Drawn Steel Co. on Gerrard Street. On Sherman Avenue were the Eurlington Steel Co., the Canada Cartridge Co., the Brown & Boggs Co., the Frost Steel and Wire Co., Canada Fasteners, Burlington Products, and the Standard Underground Cable Co. On the bay front were located the Steel Company of Canada, the International Harvester Co., and the Oliver Chilled Plow Co.

Many of these concerns occupied large areas of land and produced on a scale previously unknown in Hamilton. The factory buildings were extensive, and the numbers employed large as compared with the manufacturing establishments typical of the city before 1900.

The spatial pattern of establishments in this region shows a close relationship to the pattern of the railroad system and only three plants are on land that is bordered by water capable of being used for navigation. It appears that the railroad was still considered more important than the lakes as a transport system. The absence of many plants on the bay shore may, however, have been due to the land along the bay, at least as far east as Ottawa Street, being owned privately. Once factories were forced to locate away from the bay front it would have been too costly to relocate them if an opportunity arose.

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In some cases the inability to locate on the waterfront proved a serious disadvantage, as in 1919 when the Burlington Steel Co. required a dock to export steel to Cuba and had to rely on the generosity of the International Harvester Co. The Dominion Foundry and Steel Co. were later to realize the need for a site on the bay front and accordingly build a plant there.

# 5. The Ottawa Street Region

East of the T.H. & B. Belt Line and mainly north of the Grand Trunk Railroad, are a number of manufacturing establishments that form a distinct region on their own. These were among the last to locate in the city and may have been forced into this eastern sector by a lack of space further west in the area served by the railroads for the accommodation of their very large plants. Some of these covered many acres of land, as the Dominion Foundry and Steel Co. on Gage Avenue, the Dominion Sheet Metal Factory and the National Steel Car Co. on Burlington Street.

Firms such as the Grasselli Chemical Co., the Firestone Tire and Rubber Co., and the Procter and Gamble Co., may have decided on this location because of the need to keep their fumes away from the residential part of the city. These firms needed large supplies of water, and the Firestone Co. would also require docks for the importing of rubber. To obtain these requirements they had, of necessity, to locate here, in the only area where waterfront sites were still available.

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The Dominion Foundry and Steel Company's plant seemed to be very disadvantageously sited, having no waterfront, even though large supplies of iron would have to be assembled. It was also on land formerly occupied by the Gage Creek, and this area had not been adequately filled in, leaving little roon for expansion. The plant, however, used electricity to some extent and this eased the need for supplies and storage of coal.

The Dominion Sheet Metal factory was built in 1915, specifically for the production of galvanized steel sheets and was purposely sited opposite the Grasselli Chemical Co. because of the need for pickling acids which could be obtained from this plant. It was also only about 5,000 feet to the Steel Company of Canada's works, which was the source of black steel sheets needed in the process.

Other concerns in this region included the Buffalo Brake Beam Co. and the Hamilton Bridge Co. on Depew Street, and the Hammant Steel Car Co., Canadian Libbey-Owens sheet glass factory, and Radcliffe's Cement Block Works, on Kenilworth Avenue.

# 6. The Wellington and Wentworth Streets Region

This region is composed of the land enclosed by Barton Street in the south, Mary Street in the west, Birch Avenue in the east, and the Bay in the north. The Oliver Chilled Plow Co.'s plant in the north is excluded from this region, having been included in the Sherman Avenue region. This part of the city was one of the first areas to develop as

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a manufacturing region away from the city centre and had grown up in direct response to the building of the railroad through the area in 1854. Many concerns here had therefore been established for many years before 1891, in sharp contrast to those found in the Sherman Avenue region lying immediately to the east.

The Hamilton Agricultural Works was built on Wellington Street in 1854, the Canada Screw Co. established there in 1877, and the Hamilton Cotton Mills built on Mary Street in 1880. The Great Western Railroad served the area after 1854 then the Hamilton and Northwestern line was added after 1871, and in 1900 the western part of the T.H. & B. belt line served the factories here. The region, however, had never developed a large manufacturing complex, as would have been empected from its early start. In 1891, there were 14 manufacturing establishments located here, but by 1921 this had only grown to 21. Further east, in the Shorman Avenue region, 48 establishments were prosent in 1921, where in 1891 there had been none. This lack of growth can be explained in several ways.

Firstly, establishments in the west of the region near Wellington Street were almost a mile away from the primary iron and steel plant of the Steel Co. of Canada, whereas establishments in the Sherman Avenue Region were less than a half mile away. This would tend to discourage industry from locating near Wellington Street after 1895. Secondly, a large part of the area west of Wentworth Street had been built up by 1891 and industries locating here after that date would

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have little room for expansion. Although the long inlets in the north had been filled in, to a great extent, after 1891 the new land had not been made available for industrial development. The reclaimed area between Ferguson Avenue and Wellington Street was taken over by the Harbour Commission Board in 1912 and used to develop a municipal dock. The only large plant built in the western part of the region after 1891 was the Otis-Fensom Elevator plant on Victoria Avenue, which was sited on a filled-in creek, the only large vacant space left in this meighbourhood south of Eurlington Street.

Those manufacturers who had located near Wellington Street included the Climax Baler Co., Climax Road Machine Co., and the Standard Pattern Works on Eurton Street; the American Can Co. and the Boston Insulated Wire Works on Shaw Street; the Sapon Soap Factory on Victoria Avenue; Hore's Wheel Works; the Dowswell-Lees Co. on Elgin Street; and the Smart-Turner Pump and Machinery Factory and Malcolm & Souter's Furniture Factory on Barton Street.

The eastern part of the region, near Wentworth Street, had also been by-passed during the period of intense locating activity that occurred between 1891 and 1921. Here, even as late as 1891, a large part of the area north of Barton Street was still under the waters of Sherman Inlet. Although this was eventually filled in, the topography was not as even as that of the land further east, near Sherman Avenue, and factories locating here again had little room for expansion. The

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tax concessions, granted after 1903 to manufacturers locating in the annexed part of Barton Township lying to the immediate east, were also more favourable than those granted in this region. The result was that the only large plant to be sited in this sector was the Westinghouse factory in 1896.

However, the presence of clay, easily worked on the sides of Sherman Inlet, had led to a clay products industry being developed on Terra Cotta Avenue from a very early date. The Hamilton and Toronto Sewer Pipe Co. and the Canadian Clay Products Co. had factories here. Other concerns that had become established in this area included the Ontario Tube and Pipe Co. on Munro Street, Wires of Canada, the Canada Oil Co. and the Quaker Oil Co. on Wentworth Street, and Duff's pork packing plant on Brant Street.

## 7. The North Queen Street Region

This region included the land along Queen Street and the area at its foot on the north side of Barton Street. This was the first region where establishments of the technological manufacturing group developed in Hamilton outside the central manufacturing region and was again a direct response to the railroad built in 1854. Many of the original plants were still in existence but all faced serious handicaps to expansion and the region had failed to grow in extent or importance after 1891. In that year there were 12 industrial concerns in the region but by 1921 this had only risen to 16.

After 1891 a premium was placed by manufacturers on the availability of large flat acreages for factories, on

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intricate railroad connections and on a site near the new steel plant. In these terms the Queen Street region could not compete with those regions in the eastern part of the city.

In the early days after 1854 factories in the Queen Street region had the advantages of a location within 3/4 of a mile of the city centre and the proximity of the Great Western Railroad yards and workshops. By 1921, however, factories no longer required to be near the city centre, and the railroad yards were too small to maintain their former importance. Again, space was not available for expansion here because of the bluffs down towards the bay and because the steep grade to the lake in this area complicated building and traffic arrangements. Finally the fact that the building of the railroad cut off the approaches to the bay had made it impossible for docks and wharves to be built in this part of the city.

Industry continued to operate here, however, because of the large sums invested in plants and machinery, but some concerns had opened new plants in the east when the demand for their products grew. The Hamilton Bridge Company's original factory was at the foot of Caroline Street but, by 1891, the company had been forced to buy out the Morrison Boiler Works nearby to get extra space. In 1921 they had a new factory on Depew Street, in the east of the city, to cope with the increased demands for their products. The Ontario Rolling Mills and the Canada Iron Foundry at the foot of

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Queen Street had become part of the larger Steel Company of Canada in 1910 and produced only a small part of the output of that concern.

Other large plants still functioning were Gartshore's Pipe and Foundry Co., the Hamilton Facing Mills, the Tuckett Tobacco Co., and the Greening Wire Co. This latter concern had taken over the buildings of former manufacturing concerns nearby in an effort to expand. The remainder consisted of the Presnail Cigar factory on Harriet Street, the Garlock Packing Co. on Queen Street, the National Paper Bag, Electrical Material and Products Co., and Canada Color Type Ltd. on York Street, and the Hamilton Tar Products Co. on Caroline Street.

#### 8. The Chedoke Region

This region consisted of that part of the city to the west of Locke Street and extending to beyond Paradise Road. Except for the brickyards using the clay exposed in the flanks of the Chedoke Valley, little manufacturing activity took place here before 1895. The area was not accessible to the main railroad system of the city before this date, was a long way from the commercial centre of the city and from the bay. It was also situated near to one of the better residential parts of the city. In this neighbourhood the Chedoke Valley cut deep gullies in the lake plain and for a long time little urban development of any kind was found in the area.

Although the steep bluffs and marshy floor of the

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valley hindered road building, it offered cheap sites for factories after 1895 when the T.H. & B. Railroad gave the area a transportation system. This explained the presence in the region in 1921 of 6 brickworks, 5 metal product plants, 1 metal electrical product factory, 3 textile factories, 2 potteries, 1 chemical factory, 1 porcelain factory, 1 casket factory, 1 canning factory, and 1 firework factory.

The metal working establishments were mainly located in the formerly neglected Chedoke Valley, and included the Westinghouse Electrical Appliance Factory, the Wallace Barnes Co., the Monarch Metal, and N. Slater Co.'s works near Main Street. All were in close proximity to the railroad. The textile plants were not located on the railroad but could be easily served by road transport and were near a residential area which supplied a source of female labour. The Zimmerman Reliance Co., making underwear, and the Farsons & Parsons Co., making collars, were located on Dundurn Street, while Mac-Gregor's Shirt Factory was on Margaret Street. The Canadian Porcelain factory, built on waste land west of Paradise Road, supplied the increasing demands of the electricity users in the city. The 6 brickyards continued to prosper, especially with the tremendous building projects of the period.

# 9. The Southern Region

This region lies between Ferguson Avenue and Ottawa Streets, west and east, and south of Hunter Street to the foot of the escarpment. The number of manufacturing establishments in the area had grown from 3 in 1891, to 17 by 1921.

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They were 3 metal goods factories, 2 jam or preserving factories, 2 baking powder works, 2 wooden box makers, 1 barrel maker, 1 textile mill, 1 brewery, 1 lumber mill, 1 polish factory, 1 oil manufacturing company, 1 pressed brick company, and 1 engine packing firm.

The development of this region came after the building of the T.H. & B. Railroad through the southern part of the city. Previously this had been essentially a residential area, and industries locating here needed to fit into the surroundings inoffensively. The Union Drawn Steel Co. on Webber Avenue was the only large steel plant in the south of the city, the rest being generally light industries not requiring bulky raw materials or large plants. The ability to draw on a supply of female labour encouraged some location here, especially in the case of the textile mills and jam factories. These latter concerns were directly connected by the railroad and the electric radial lines of Hamilton to the fruit district of the Niagara Peninsula.

All the manufacturing concerns worked under the disadvantages of restrictions to expansion and relative isolation by an extensive residential sector from the major industrial parts of the city.

A study of Fig.13 shows that the metal working branch of industry was the most important group in the city's industrial structure, both in terms of the number of establishments and the numbers employed in manufacturing activity. This had been noted in 1891 when this group accounted for 27.9% of the total number of establishments and 38.1% of the persons employed

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# Fig 13

# MANUFACTURING IN HAMILTON IN 1921

	Number of Establishments	No. of Esployees	S of Employees
Metal Working	127	10,394	48.1
Textiles, clothing and Apparel	31	4,184	19.3
Wood, Furniture, Paper, Lithographing and Printing	47	2,230	10.3
Food, Reverages and Tobacco	43	1,140	5,3
Non-metallic minerals	27	709	3.3
Chemicals, Rubber, Oil	17	346	1.7
Leather, Boots and Shoes	6	196	0.9
Miscellaneous polish, brooms, brushes, stamps and stencils, bulbs, fireworks	13	2,410	21.1
Totals	312	21,609	100.

in manufacturing. By 1921 these figures had increased to 41% of the establishments and 48.1% of the persons employed. The growth in importance can be explained, mainly, by the attraction of the metal manufacturers to Hamilton by the primary iron and steel plant built in 1895. Other attractions were the excellent transport system, the tax concessions offered to industry, and the metal working tradition of Hamilton built up over a period of 70 years. The dense population of Central and South Ontario created a large market for Hamilton's manufactories and it was estimated that between 65 and 75% of all the steel manufactures in Hamilton were marketed in this area. Again, many manufacturing establishments in towns near Hamilton depended on her factories for intermediate products or parts for finished articles.

The distribution of metal working establishments in 1921 shows a continuation of the trend begun in 1854 to locate away from the central part of the city. In 1861, 76% of the metal establishments of Hamilton were within a half mile radius of the King and James Streets intersection; by 1891 this had fallen to 46%; and by 1921 to 33%. The greatest concentration was now to the north of Barton Street and east of Wellington Street, where over 40% of the metal working concerns were found. There is a close relationship between the railroad pattern in the north and the location of metal working plants, indicative of the important influence of the railroad in the location of industry. Since 1861 this form of transportation had been predominant for the assembling of

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raw materials and the distribution of finished articles, and had grown in importance over the period of study, when the building of new railroads widemed the sphere of influence of the city.

The textile branch of industry had also grown in importance over the period 1891 to 1921. In 1921 there were 31 textile plants in the city, employing 4,184 persons, or 19.3% of the total employed in manufacturing. The factories and mills were widely distributed but all were in close proximity to a railroad or a good road for moving materials and where electric power and water were available. The absence of textile plants from the bay front indicates that relatively little use was made of water transport by this branch of manufacturing. Not being offensive in any way, many were found in the central manufacturing region, although expansion in this area was severely restricted. This was often overcome by the factories being built several storeys high. A location in this region was advantageous in that it facilitated the marketing of goods for local consumption and, being near the residential parts of the city, rendered a supply of female labour readily available. Of the 4,184 people employed in textile and clothing establishments in Hamilton in 1921, 2,516 were women.

Food, beverage and tobacco processing concerns numbered 43, and accounted for 5.3% of the employed population. The majority of these were small firms providing a service to the urban population and a location near the retail centre of the

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city was preferred. Thus 23 of the 43 establishments in this group were in the Central Manufacturing Region, and 5 more in the Northern and Eastern Extension Regions. The newer canning and jam factories, however, were often located away from this district and were oriented towards the railroads that brought the fruit into the city from the surrounding countryside.

There were 47 establishments engaged in the working of wood, paper, and printing. These employed 10.3% of the population employed in manufacturing, and 27 were located in the Central Manufacturing Region, plus another 6 in the Northern and Eastern Extension Regions. Many provided a service, as in the case of the printers, or produced articles for local consumption, as paper bags, boxes, envelopes, and wrapping paper. This group also included 5 carriage makers supplying the decreasing demand for carriages in a city where the new electric radial railroads provided a more convenient form of travel.

As late as 1891 it had been possible to distinguish two groups of manufacturing establishments in Hamilton. These were the rudimentary group and the technological group. The rudimentary group originated early in the history of the settlement. It consisted of basic manufacturing activities designed to serve the immediate needs of the local community. Local raw materials were often used and plants were small, employed few people, and produced a very limited output. Typical of this group were the food processing, brewing, leather working, wood and paper working, carriage making,

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textile making and small metal goods manufactories.

The technological group originated with the advances of the industrial revolution. Their products often involved the use of skilled techniques and machinery in their production and this was on a much larger scale than was usual in the rudimentary group. The many stages of production of some articles involved large factories and a large number of employees, and factories were restricted to sites where space was not at a premium and where transportation facilities could be easily developed. Such industries in Hamilton included locomotive building, the making of steam engines, agricultural machinery, chemicals and, later, the many different metal fabricating establishments.

By 1921 it had become somewhat difficult to separate clearly the two groups, as some former rudimentary concerns had grown beyond this stage. The large spinning mills, clothing factories and food canning plants were typical examples. These would now have to be omitted from the rudimentary group. This left, in 1921, 138 rudimentary manufacturing establishments in Hamilton, or 44.25 of the total number of establishments in the city. The figure in 1861 was(895) and in 1891 was 75.45, showing that the importance of the rudimentary group had decreased gradually over the period as more and more industries of the technical group located in the city.

In 1921 only 7 manufacturing plants were in a position adequately to utilize the harbour either as a method of

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transportation or as a source of water supply. These were two boat builders, the Steel Company of Canada's plant near Sherman Inlet, the International Harvester Co., Oliver Chilled Plow Co., the Grasselli Chemical Co., and the Firestone Tire and Rubber Co. The absence of a great industrial complex on the bay shore can be explained in several ways. First, manufacturers found that all their requirements for transportation could be adequately supplied by the three railroad companies serving the city. Second, large sections of the bay shore were unfavourable for industrial development. West of Bay Street the railroad effectively cut off all access to the bay, between Bay Street and Catharine Street steep bluffs along the shore and the built-up nature of the area discouraged industries from locating here. East of Catharine Street as far as Gage Avenue the waterfront was privately owned by 1895 and other manufacturers had little opportunity of locating here. This left for development only the waterfront east of Gage Inlet. A location here meant that metal goods manufacturers were at least one mile away from the source of steel at the primary iron and steel plant near Sherman Inlet. To be near this plant appeared to be more important to many concerns than a waterfront position.

A much greater premium was placed on a location near the railroad tracks. The main assembling of raw materials and movement of finished products was done by the railroad companies and an extremely complicated system of branches and spurs had developed in the industrial regions. The number of

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factories directly oriented to the railroad and lying within one block of the tracks numbered 169 of the 312, and included the vast majority of large concerns in the city. Many others, however, were served by spur lines too numerous to map, and this figure may be considerably higher.

The apparent number of firms who preferred a location in the central part of the city to a railroad or waterfront location was 122. These were mainly small concerns adequately served by the road network of the city. Many marketed their products within the retail part of the city and little transportation was involved.

Those establishments remaining were scattered throughout the city but consisted mainly of the brick works near the Chedoke Valley. These probably used both road and rail transport to some extent in their operations.

The great expansion of manufacturing activity in Hamilton during the period 1891 to 1921 had been the result of the stimulus provided by the coincidence of the many factors and events previously discussed. This had led by 1921 to the evolution of several new manufacturing regions in the city. The most important of these were found north of Earton and east of Wentworth Streets, and in the south and west of the city along the line of the T.H. & B. Railroad. This distribution was in part a reflection of the geography of the city site which channelled new manufacturing concerns eastwards along the lake plain and towards formerly unfavourable sites in the west of the city. It was also in part a zeflection

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of the influx of American capital and branch factories into the city, which made it possible for the formerly unfavourable parts of the city to be reclaimed and developed. Large sume of money were spent by the new American companies on the filling in of the marsh and waste land along the bay shore and in the Chedoke Valley, and only then were these areas to become centres of manufacturing activity.

The vast majority of concerns locating in the city after 1891 belonged to the technological manufacturing group and this led to the continued increase in the importance of this group over the older rudimentary one. A considerable number of establishments belonging to the rudimentary group were, however, still present in the city in 1921, but were in the main confined to the original manufacturing regions that had been in existence since 1861. These establishments were now better classed as service industries as, in the main, they supplied only the meeds of the local urban market.

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## CHAPTER VIII

# CONCLUSIONS

Several stages of growth can be identified in the development of Hamilton as a centre for manufacturing industry. The overall picture is characterized by periods of intense locating activity interspersed by periods of slow growth and consolidation.

The first stage began in 1832 when the Eurlington Canal was completed and Hamilton became a lake port. The city soon emerged as the commercial centre of the local hinterland. As well as exporting much of the surplus produce of the surrounding area, the ability to use the lakes to bring in manufactured goods and raw materials stimulated the development of the city's own manufacturing interests for the first time. The lack of available water power, however, hindered progress and did not allow the city to compete favourably with towns like Ancaster and Dundas in this field.

The second stage in the growth of manufacturing was a period of intense locating activity between 1854 and 1858.

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The building of the Great Western Railroad through the city in 1854 marked the moment when Hamilton began to gradually assume the position of the most important manufacturing centre in this part of south-western Ontario, and it was soon able to capture much of the trade in manufactured articles of the towns in the adjacent area. The city now had direct contact with a very much extended market and hinterland, as well as with the United States, for the first time. The railroad also brought the age of the steam engine to south-western Ontario, and by giving Hamilton the ability to import coal cheaply, allowed it to take full advantage of the changing geographic values when steam took the place of water as the main source of power.

The demand for the products of Hamilton's manufactories created by the widening of the city's sphere of influence, and by Reciprocity, was further increased by the demand for equipment for the railroads themselves. The result was that many manufacturers became established in the city in a very short period of time. The slight recession of 1858, however, brought activity to a temporary halt.

The third stage was a period of slow growth and consolidation that began about 1861 and lasted until approximately 1891. The population of Hamilton increased gradually over the period from 19,096 to 45,423. The number of manufacturing establishments increased from 84 to 179 and the numbers employed in manufacturing from 2,225 to 6,909. The relatively slow growth in manufacturing activity during this period was

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interrupted by a surge of activity that accompanied the adoption of the principle of protection embodied in the 'National Policy' of 1879.

The last stage of growth during the period covered by this study took place between 1691 and 1921. This was an era of unprecedented expansion in manufacturing activity which was precipitated by the coinciding of a number of events that greatly increased Hamilton's potential as an industrial centre. These events, which acted as a stimulus to industrial location, were the building of the Welland Canal in 1887, the siting of a primary iron and steel plant in the city in 1895, the building of the Toronto, Hamilton and Euffalo Railroad through the city in 1895 and later its industrial Belt Line in 1900, the energetic policy of granting tax concessions to new industries pursued by the city council after 1893, the provision of electric power for industrial use in 1898, the opening up of a large market for manufactured goods in the Canadian West in the 1890's, and later the boom to industry created by the demands for Canadian products during the First World War and especially after 1915.

The cumulative effects of these factors caused the population of the city to increase from 45,423 in 1891 to 114,151 in 1921; the number of manufacturing establishments from 179 to 312; and the number employed in manufacturing from 6,909 to 21,609. By 1921 Hamilton had emerged as the third largest manufacturing centre in Canada.

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Hamilton's rise to importance as a manufacturing centre was also in part a reflection of its geographical position. The situation of the city at the western head of navigation on Lake Ontario, where the lake thrusts deeply into the heart of a prosperous agricultural region enabled it, after 1832, to become the commercial centre for a large section of southwestern Ontario. It became a centre for the exporting of the surplus agricultural produce, for the distributing of imported goods and also for the landing of immigrants.

After 1854 it became the junction of the railroad systems running east to west along the Niagara Peninsula from Niagara Falls to Windsor and turning along the north shore of Lake Ontario down the St.Lawrence Valley to Montreal. This helped the city develop wider connections with the U.S. and south-western Ontario, as well as with new sources of raw materials, thus enhancing its importance as a manufacturing centre.

A revival in the use of the Great Lakes system for trading purposes took place with the building of the new Welland Canal in 1887. This trade had been seriously affected by the development of a railroad network in this part of Canada after 1854. Hamilton's geographical situation, on a deep natural harbour, again allowed it to take advantage of its position and some manufacturers in the city used the Great Lakes to assemble raw materials and trade with the Prairie Provinces after 1895.

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The evolution of the patterns of distribution of manufacturing establishments in Hamilton over the period of study allows several conclusions to be drawn. The part of the city located within a half mile radius of the King and James Streets intersection was the first area of concentrated manufacturing activity to develop in Hamilton. This sector, called the Central Manufacturing Region, contained 76% of the city's manufacturing establishments in 1861; 65% in 1891; and 40.1% in 1921.

This initial concentration can be explained by the fact that, prior to 1891, Hamilton was important mainly as the manufacturing centre for the adjacent hinterland. Much of the trade was carried on with the merchants of the nearby towns and manufacturers in Hamilton required to be located where they could be easily reached by the merchants coming into the city. Thus preference was given to a site near the commercial and business centre of the city and where the main roads converged. Manufacturers generally had little difficulty in doing this, for the majority at this time operated only in small factories and workshops. Large quantities of raw materials were not required, as production was on a very limited scale, and storage space was also seldom necessary. The movement of products and materials along the roads to and from the wharves at the bay, out of the city, and later to the railroad tracks did not inconvenience manufacturers or encourage them to move away from this central area. The ones who did move to new locations were those who grew beyond the

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limits of production permitted by their small plants, and found themselves unable to expand in the relatively densely built-up area.

This region had declined considerably in importance by 1921. By this date the majority of the establishments found there were either relics of the original rudimentary group of manufacturers working in wood, leather and paper, or service industries supplying the needs of the urtan population. Also included were some concerns whose function was not related to a location near the city centre but who occupied cheap vacant factories in this locality. These usually moved out to less congested parts of the city as they grow in size.

The first manufacturing regions to come into existence away from the central region developed after 1854. These were in the neighbourhood of the Great Western Railroad tracks near Queen and Wellington Streets, to the west and east of the cut through the tongue of high land that ran along James Street to the bay. The building of the railroad in 1854 made possible the assembling of raw materials from distant parts and the distributing of finished products over a wider area in Ontario. This, together with the demand for equipment for the railroad itself, led to the beginnings of a heavy engineering industry in Hamilton. The newly established plants embodied recent technological changes in machinery and produced bulky products which required more space for buildings and storage. This could not be provided near the city centre and

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a premium was now placed on a site near the railroad tracks and on areas where large acreages were available.

It was not until after 1895 that the large industrial complex to the east of Wellington Street and north of Earton Street began to develop. The fact that this was the only area topographically favourable for the siting of a primary iron and steel plant was a prime factor in the emergence of the concentration of ganufacturing activity here. Such a plant required a waterfront site for assembling coal and iron ore and a large acreage of flat land suitable for the erecting of extensive buildings. Immediately west of Wellington Street steep bluffs bordered the bay and caused complications in the building of factories, while further west near the foot of Queen Street the Great Western Railroad had in 1854 occupied most of the land along the bay shore. The presence of the iron and steel plant, together with the excellent rail facilities, easy grades, available land, tax concessions, and available water supply, combined to make this area the most important manufacturing region in Hamilton by 1921.

The growth of manufacturing activities in the south and west of the city began at a very late date in the history of manufacturing in Hamilton. That area to the south of Main Street had always been highly regarded as a residential district, being far away from the marshy, unhealthy land along the bay shore and on the higher land that rose towards the base of the escarpment. For this reason manufacturers

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were for a long time discouraged from locating here. Little manufacturing had developed on the top of the escarpment since this area was not served by the railroads, was a long way from the bay, and the commercial centre of the city, and since considerable expense would have been involved in moving materials up and down the scarp face. In the west of the city the Chedoke Valley had hindered urban development of any kind except for the few brick yards that used the clay outcropping in the valley sides. It was not until the T.H. & B. Railroad was built through the southern part of the city in 1895 that manufacturing establishments located there in any significant concentrations.

Throughout the period of study a location on the bay shore was never considered as attractive, as would have been expected. At no time did there build up a concentration of industry directly oriented towards the harbour and the Great Lakes. Before 1854 the only section of the bay shore built up was between Bay and Catharine Streets, and this was predominantly for residential purposes or for docking facilities. Elsewhere the shore was left in its marshy unreclaimed state. Manufacturers at this time used the bay for moving materials and finished articles, but preferred to locate their factories near the city centre, 1-1/2 miles to the south.

The building of the Great Western Railroad in 1854 led to a movement of manufacturing activity north towards the bay. These establishments, however, were almost entirely oriented towards the railroad tracks, although the railroad shops at the foot of Queen Street did use the bay for the importing of

some raw materials and equipment. The advent of the railroad led to a decline in the use of the lakes as a transportation system. The railroads now provided all the requirements for transportation needed by manufacturers in the city, and had the added advantage of being able to operate all the year round whereas the bay was closed from November to April.

It was not until 1895 that industry of any importance or size was oriented towards a waterfront location. In that year the Hamilton Steel and Iron Company's plant was built on the bay shore east of Sherman Inlet and used the lakes for assembling its raw materials and as a source of water supply. Later, in 1903, the International Harvester Co., and in 1910 the Oliver Chilled Plow Co., located on the shore in the same area to use the lakes to move agricultural machinery to the Canadian West. In 1912 the Hamilton Harbour Commission was formed and the development of the bay shore by the municipality began seriously for the first time.

Even so, in 1921 only 7 of the 312 manufacturing concerns in Hamilton were directly oriented towards the waterfront and used the bay both as a transportation system and as a source of water. The continuing apparent reluctance to locate near the bay can be attributed to several factors. Firstly, for many years the land along the bay shore had been neglected because of its marshy and unhealthy nature. The city had grown up away from this region and as the early manufacturers wished to locate near the city centre, this area continued to

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be little developed. Secondly, the presence of four railroads in the city provided an excellent transportation system and made the use of water transport less essential. Thirdly, west of Bay Street the Great Western Railroad had, in 1854, effectively cut off access to the bay and prohibited any development along the shore. Between Bay and Catharine Streets the high bluffs complicated building along the shore and industry here had to compete for land with other forms of urban development. East of Catharine Street to beyond Sherman Inlet the land was privately owned by a few concerns and after 1900 no land was available on the waterfront there. Fourthly. before the Bay shore could be used a considerable amount of fill was required to reclaim the marsh north of Burlington Street. This involved the spending of large sums of money and not until after 1891, when firms with considerable capital became interested in locating in Hamilton, was this available.

Fundamentally, the distribution of manufacturing activity in Hamilton in 1921 fell into two groups. The first group consisted of those establishments who required a location near the city centre, either because they were relics of the older rudimentary type or service industries for the urban community. This accounted for the continuance of a manufacturing concentration near the city centre. The second group developed after 1854 and consisted of those concerns who required a location near a railroad. Until 1895 the distribution of this group was mainly in the north of the city. In 1921

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this area could be divided into two segments. West of Wentworth Street was an older segment lying immediately east and west of the tongue of high land that extended along James Street to the bay. This belt was broken in two by the deep cut through the bluff at this point. The second segment developed east of Wentworth Street after 1895. Both segments had one common characteristic, namely that both had key plants located on the bay shore which acted as generator and feeder industries. These were the railroad workshops in the western segment after 1854 and the primary iron and steel plant in the eastern segment after 1895. The last development was along the railroad built through the west and south of the city in 1895, but this never attained the importance of the manufacturing regions in the north of the city.

#### METAL WORKING IN HAMILTON

	% of Establishments	% Employed
1861	28	29.6
1891	27.9	38.1
1921	41.0	48.0

The table shows that metal working was always the most important group in the industrial structure of the city. The gradual increase in importance of this manufacturing activity can be explained in several ways.

The development of the city as a lake port after 1832 allowed the importation of pig iron from abroad and enabled metal goods to be made here more conveniently than in inland

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settlements. This helped Hamilton build a metal working tradition before the coming of the railroad. The building of the railroad through the city in 1854 and the establishing of the workshops here stimulated the development of an engineering industry by creating a demand for metal products and by making the assembling of raw materials and coal relatively cheap.

Hamilton had been poorly endowed with water power and little manufacturing really took place before the advent of the steam engine. Thus no traditions were built up in other branches of industry as textiles or leather working to compete with the metal working establishments.

Finally the building of the first primary iron and steel plant in Ontario in Hamilton in 1895 and the case with which iron ore and coal could be assembled by water and rail, consolidated the importance of the industry in the city and directly attracted numerous metal firms to locate here.

The last event of significance that took place during the period of study was the great influx of American capital and branch factories into the city after 1895. In 1921, over 100 out of Hamilton's 312 manufacturing establishments were branch factories of American firms. Although Hamilton's geographical position near the U.S. border, in the most densely peopled part of Canada and at the centre of an excellent transportation system, had for a long time made it attractive to American manufacturers, few located in the city before 1895

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for several reasons. In the first place it was not until the 1890's that the initial industrial development of the U.S. was completed. American industrialists and capitalists now began looking towards Canada as a new field for development. In the second place, after 1895, many American firms located branch factories in Canada to overcome the high protective tariffs put up against U.S. goods, to take advantage of the expanding market in Canada, and also to obtain preferences in trade with countries of the British Empire.

These new additions to Hamilton's manufactories were tied to a location near the railroad from the start because of the need for direct connection with the U.S. and the desire to obtain markets throughout Canada.

The geographical situation of Hamilton had allowed it, during the nineteenth century, to adapt itself to changing conditions and to become, by the end of the century, an important centre for manufacturing activity. The expansion of the early twentieth century, which by 1921 formed the base upon which the present industrial structure was to be built, was due, in no small part, to the influx of American capital and technical knowledge that occurred between 1895 and 1921. This in itself however was made possible by the advantages of Hamilton's situation and site, and the growth of the city into the third largest manufacturing centre in Canada was truly a reflection of its geography.

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# APPENDIX I

# MANUFACTURING ESTABLISHMENTS IN HAMILTON - 1861

Foundries and Metal Working

1.	E. & C. Gurney	38-40 John St. N.	stoves
2.	Turnbull & Co.	Mary c. Kelly	stoves, agricultural implements
3.	J. Stewart	73-83 MacNab N. c. Vine	stoves
4.	D. Moore	100-121 Catharine St. N.	castings, stoves, japanned ware
5.	G.W.R. Workshops	Noot of Queen St.	engines, locomotives
6.	J. Thomas	64-68 Rebecca St.	boilers, stoves, steam engines
7.	B. Greening	3 Peter St.	wire
8.	Young Bros.	28-30 John St. N.	oil lamps, gas fixtures
9.	Hamilton Wire Goods	96 King St. E.	screens, cages, sofas, chairs
10.	H. Spencer	37 King William St.	tin, copper, sheet iron
11.	W. Wanzer	c. James and Vine Sts.	sewing machines
12.	Copp Bros.	John near King	stoves, tin, sheet iron
13.	J. B. Morrison	19 John St. N.	stoves, furnaces, tin
14.	Gurney & Ware	102 James St. N.	scales
15.	F. G. Beckett	250 MacNab N.	steam engines and boilers
16.	R. R. Juson	Hughson c. Cannon	nails, spikes, rivets
17.	L. & P. Sawyer	Wellington St. N.	threshing machines, reavers, ploughs
18.	McAllister	Zealand's wharf	boilers
19.	Field & Davidson	46 James St. N.	saddlerv hardware
20.	McGivern & Co.	54 King St. E.	coach trippings
21.	J. Northey	Wellington c. King William	engines
22.	G. Grayson	18 Park St. S.	steel springs
23.	J. Dean	Hunter c. MacNab	iron bedsteads
24.	Robbins & Co.	Mary c. Wilson	iron railings

Abbreviations: N. - north, S. - south, E. - east, W. - west, c. - corner.

# Carriages and Wagons

<ol> <li>E. Tallman</li> <li>H. &amp; G. Cooper</li> <li>McCabe</li> <li>J. B. Pronguey</li> <li>J. Semmens</li> <li>McGrath</li> </ol>	63 MacNab St. N. 18 Park St. S. 204 King St. W. 24-28 Park St. N. Pearl near King Jackson near John	carriages carriages carriages carriages children's carriages carriages and wagons
Woodworking		
<ol> <li>B. F. Smith</li> <li>Bruce &amp; Mugridge</li> <li>Sharpe &amp; Addison</li> <li>Edgar &amp; Melville</li> <li>Aitchison &amp; Co.</li> <li>J. Dallyn</li> <li>A. Eason</li> <li>Meakins &amp; Sons</li> <li>J. Morden</li> <li>J. Reid</li> </ol>	Cannon St. near Gasworks 88 King St. W. 80 Bay St. N. 142-144 York St. 18 Park St. S. 7 Murray St. W. 215-220 King St. W. 176 King St. E. York c. Park 91-93 King St. W.	blinds, sashes, matching brooms doors, sashes, blinds doors, spokes, chairs planing mills bellows brooms, brushes, wooden ware brushes lumber furniture
Soap and Candles		
41. J. Walker 42. J. Judd 43. Morton & Smith	Fcot of Victoria Avenue 73 Bay St. N. Emerald St.	soap and candles soap and candles soap and candles
Leather Working		
<ul> <li>44. E. C. Kraft</li> <li>45. W. Inkson</li> <li>46. J. Jolley</li> <li>47. Humphries &amp; Newberry</li> <li>48. McMichael</li> </ul>	14-16 York Street 11 James St. N. 51 John St. S. 121 Hunter St. E. 54 Napier St.	saddles, harness, trunks saddles, harness, trunks saddles, harness, trunks tanners whips

## Clothing

49.	Sanford & McInnes	90-94 King St. E.	clothing
50.	S. Atkinson	111 King St. W.	boys' clothing
51.	Foster & Galbraith	44 King St. W.	hats and caps
52.	Canada Felt Hat Co.	Wellington St. N.	hats

## Pianos

53.	C.	L	Thomas	90-92 King St. W.
54.	T.	W.	White	40 King St. W.

Food, Beverages and Tobacco

biscuits 55. Chilman & Co. King W. near Bay 56. B. C. Charlton 333 King St. E. vinegar 57. Grant's Spring Brewery Bay c. Mulberry beer 58. Pilgrim 310 King St. E. mineral water 59. L. Buer John St. N. near the bay beer 60. Belk & Co. 523 King St. W. beer 61. Bell & Co. 52 Catharine, c. Hunter beer 62. Scharz 51 James St. N. beer 63. Brearley Nill Augusta c. Hughson flour 64. Quimby & Tuckett York near Caroline tobacco 65. Pattison 83-91 Cannon St. W. biscuits 66. Groves & Schrader 103-5 James St. N. cigars 67. Excelsior Spice Mills Catharine c. Rebecca spice

## Sails and Boats

68.	W. W. Grant	Zealand's Marf	sails and awnings
69.	Robertson	Zealand's Wharf	boats
70.	D. Phelan	Janes near Guise	boats

# Marble, Stone, Bricks and Pottery

71.	Day & McCoub	108 Merrick St.	marble
72.	A. Campbell	nunter St. W.	pottery and drainage tiles

pianos

melodeons

73. A. Bawden	Canada near Poulette	bricks
74. A. Leittle	Main St. W. at limits	bricks
75. D. New	Main St. W. near Garth	bricks
76. Hurd & Roberts	87-89 Merrick St.	marble

## Paper

77. J. Buntin	62 King St. E.	envelopes, wrapping paper
Oil and Coal		
<ul> <li>78. Canada Coal &amp; Oil Co.</li> <li>79. Hamilton Oil Co.</li> <li>80. Forbes</li> <li>81. Nisbet &amp; Co.</li> <li>82. Hopkins &amp; Acland</li> <li>83. Hamilton Powder Co.</li> <li>84. A. Main</li> </ul>	Wentworth St. N. Wentworth St. N. Barton, corner Wellington 96-93 King St. E. 8 James St. N. 7 King St. W. Mary c. Strachan	potash boots and shoes boots and shoes baking powder rope

# APPENDIX II

# MANUFACTURING ESTABLISHMENTS IN HAMILTON - 1891

1.	Aitchison & Co.	98 Main St. W.	planing mills
2.	Hamilton Facing Co.	Hess near Stuart	foundry facings
3.	H. Barnard	23 Hughson St. N.	rubber stamps
4.	C. J. Wright	40-42 York St.	tinsmith
5.	J. Bawden		bricks
6.	Bowes & Jamieson	519 King St. E.	stoves, tinware
7.	Hamilton Wrought Iron Wor	ks 58-60 King William	hardware
8.	Brown & Boggs	32-34 Bay St. N.	tinsmith's tools
9.	Irwin & Co.	22 MacNab St. N.	tinsmith
10.	Burlington Glass Works	42-52 Burlington, c.MacNab	glass
11.	Hamilton Malleable Iron 8	lorks	
	(Burrow, Stewart & Milr	ne) 37-61 Cannon St. E.	
12.	Canada Fruit Preserving (	Co. 2 Pine St.	canned fruit
13.	A. Stroud	205 Ferrie St.	tanner
14.	Canada Pipe Foundry (Gart	tshore) Caroline c. Stuart	iron pipes
15.	Canada Screw Co.	356 Wellington St. N.	screws
16.	Canadian Oil Co.	Wentworth St. N.	0il
17.	G. Cartile	58-60 Caroline St. N.	refrigerators
18.	Times Press	Hughson c. King William	printers
19.	J. C. Cooper	10 Magill St.	children's carriages
20.	J. C. Cooper	96 James St. N.	furniture
21.	Copp Bros.	112-143 York St.	iron
~~	(Empire Foundry)		
22.	Crawford Bricks	Macklin St.	bricks
23.	Kilgour	25-27 Aurora	pianos and organs
24.	F. F. Dalley	123-127 Janes St. N.	blacking
23.	IGW & CO.	28-30 John St. N.	printers
20.	Gay a Co.	58 King St. W.	printers
28	C. Deloring	168 MacNab St. N.	carriages
20	Hart English 1	122 MacNab St. N.	brass founders
20	Dominium (think in the	15-19 Hunter St. W.	emery wheels
30.	Fourmiton Suirt (Treble)	1-3 King St. E.	shirts

31. Dovon Bros. 32. J. E. White 33. Duncan Lithographic Co. 34. W. G. Dunn 35. Hagle Knitting Co. (Moodie & Moodie) 36. Canadian Lamp Works 37. Ennis & Co. 38. Evans, Wh. 39. Kelk, J. G. 40. Pinlayson 41. Frank, C. 42. Frid & Fanning 43. Furniss & Co. 44. Garlock Packing Co. 45. J. D. Mills & Co. 40. A. Gibb 47. P. Grant & Son 48. Greening Bros. 49. R. Haigh 50. Robson Bros. 51. E. & C. Gurney 52. Gurney Scale Co. 53. Har & Edwards 54. Hamilton Brass Co. 55. Hawilton Bridge Co. 56. Hamilton Cigar Co. 57. Namilton Coffee & Spice 58. Hamilton Cotton Co. 59. Wanzer Lamp Co. 60. Harper & Co. 61. Hamilton Glass Works 62. Alert Mills 63. Hamilton Herald 64. Peerless Nfg. Co. (Dowswell) 65. Bradley, Morris & Reid

41 Stuart St. 105 King St. E. 17 James St. N. 97 Main St. W. 51-3 MacNab St. S. 43 Hughson St. N. 9 Bay St. N. 88-90 Caroline St. N. 162 Queen St. S. 154 King St. E. 526 Catharine St. N. 254 Garth St. S. 67-69 York St. 17 John St. N. S Catharine St. N. 153 King William St. 167 Bay N. c. Mulberry 55-65 Queen St. N. 60 King William St. 440 York St. 30-56 John St. N. 2-6 Colbourne St. 19 York St. 173-175 James St. N. 272 Caroline St. N. o Catharine St. N. rear 51 Main St. E. 304 Mary St. 132-4 King St. E. 7 Market St. 439 Hughson St. N. 100 Catharine St. S. 13-15 King St. W. 276-8 Bay St. N.

Wellington c. Barton

vinegar recalia envelopes coffee, spices, sustard knitwear electric lamps pianos planing mill paper boxes and bags barness naker clue bricks marble cutters engine packing paper boxes and bags paper boxes brewers wire goods paper boxes millers irnn founders scales tinsmith brass steel cigars spices cotton electric lamps miller glass flour printing mangles, washing machines

lumber

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oil refinery Wentworth St. N. 66. Hamilton Oil Co. 24 MacNab St. S. pork packers 67. Hamilton Packing House (Lawry & Son) lumber 68. Hamilton Planing Mills 106 Main St. E. paper boxes 27 King St. W. 69. Hamilton Paper Box Co. mattresses 100-104 Main St. E. 70. Hoodless, J. 71. Hamilton Straw Works 336 Ferguson Ave. N. straw goods 72. Hamilton & Toronto Sever Pipe Co. 426 Main St.W. pipes 73. Hamilton & Toronto Sewer Pipe Co. Wentworth St.N. pipes 74. Vinegar Works Co. 15-41 Wellington St. N. vinegar 75. Hamilton Wheel Works 234 Elgin St. wheels. (Hore) 119-123 Mary St. 76. Hamilton Whip Co. whips 584 King St. W. fireworks 77. Hand & Co. 78. M. Brennan 84-94 King William lumber terchants 79. Howell Lithographic Co. 24 Janes St. S. paper boxes SO. B. Hunt 180 John St. S. carriages 81. Imperial Straw Goods 469 Bay St. N. straw goods 82. Imperial Mineral Water 17 Jackson St. E. mineral waters 83. Strathroy Co. 28 James St. S. knitwear 84. James Jolley & Son 51-3 John St. S. saddlers 85. Judd & Co. 98-103 Eay St. N. soab 86. Killey-Beckett Engine Co. 144 York St. engines and boilers 87. J. B. House 165 John St. S. harness oil 88. Kraft & Son 14-16 York St. saddlers 89. Laidlaw Mfg. Co. 122-136 Mary c. Kelly iron founders 90. Calkins & Co. 60 James St. N. furriers 91. Olster & Co. 255 James St. N. files 92. Leitch & Turnbull 76-80 Queen St. N. elevators 93. Kay Co. 263 James St. N. electric lights 94. R. Hyslop 26 John St. N. fancy goods 95. Edison Electric Lamps 85 James St. N. electric lamps 96. McCallum & Hall 37-39 King St. W. furniture 97. McKichan & Co. 22-24 John St. S. paper bags 98. McPoerson & Co. 77 Joan St. S. loots and shoes 99. Malcoln & Souter 91-93 King St.W. c.Park furniture 100. Malloy & Malcola 17 Park St. N. carriages

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101. Marsden & Son 102. Meakin & Co. 103. Meriden Britannia Co. 104. Metropolitan Mfg. Co. 105. Midgley Bros. 106. J. D. Mills 107. Morgan Bros. 108. Morrison, G. C. 109. D. & S. Morton 110. Brice & Co. 111. New, D. 112. Newson 113. Nicol & Son 114. Norton Mfg. Co. 115. Olasted 116. Ontario Brewing Assoc. 117. Ontario Canning Co. 113. Ontario Cotton Mills 119. Ontario Rolling Wills 120. Ontario Tack Co. 121. Ostorne & Warwick 122. Pattison, Z. 123. Wilson & Archdale 124. Sutherland 125. Pilgris Bros. 120. Radigan & Co. 127. R. Walston 128. Ratteniurg & Co. 129. Winer & Co. 130. Riddell & Sons 131. Sanford Mfg. Co. 132. Sawyer & Massey Co. 133. F. Chilman 134. Robertson & Co. 135. J. Calder 136. Flynn Bros. 137. Seileek & Co. 138. Semicns, Ward & Evel

46 James St. N. 382-392 King St. E. 146-164 Wellington St. N. 197 James St. N. 282 James St. N. 136 King St. H. 71-95 Main St. E. 246 Caroline St. N. 376 Main St. E. 20 John St. N. King West near Dundurn 106 Queen St. S. 190 King St. W. 286 York St. 82 Oucea St. N. 554 Join St. N. 185 Young St. 352 MacNab St. N. foot of Queen St. H. 206 Queen St. N. 191-215 Barton St. E. 83-91 Cannon St. W. 17-19 MacNab St. S. 264-266 King St. W. 317 King St. E. 46 Kelly 97 Main St. E. 139-141 John St. S. 56 King St. E. 257 King St. E. 90-94 King St. E. Wellington St. N. 185 King St. W. 11 Walnut St. N. MacNab, c. Merrick 158 Mary St. 282 Catharine St. N. 128 Sophin St.

picture frages brushes plated silverware wringers and washers printers paper boxes milers engines and boilers SORD electric lamps Lilchs trunks wire fences tin cans o namental iron Leer canned fruit cotton goods bar iron tacks iron founders biscuits drugs drugs mineral sheet iron ware blacking, polish carriages drugs. tinspith clothing agricultural machinery confectioners confectioners clothing cigars **biscuits** caskets

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139. Shaw Mfg. Co. 140. R. E. Hammill 141. Silver Creek Brewery 142. Simcoe Canning Co. 143. Soper 144. Spectator Press 145. G. Bridgwood 146. J. Stewart & Co. 147. J. McGrath 148. McAdam & Son 149. W. Hunter 150. Tuckett Tobacco Co. 151. Van Allen & Co. 152. J. Walker 153. J. Wallace 154. Wanzer Sewing Machine Co. 155. W. Griffiths 156. J. N. Williams 157. F. Fearman 158. Walter Woods 159. E. T. Wright 160. Spence & Co. 161. D. Moore & Co. 162. J. Davis & Co. 163. Lake & Bailey 164. Thomas & Son 165. Wilson Mrg. Co. 166. Central Ironworks 167. Hurd & Roberts 168. Euntin, Gillies & Co. 169. J. Mayhew 170. Hamilton Mica Roofing Co. 171. Dominion Brewery 172. H. & G. Cooper Co. 173. Dominion Stained Glass 174. Hamilton Lunter Co. 175. Burdett Brushes Co.

DITERPTORY F

79 York St. 125 John St. S. 23 Jackson St. E. 493 York St. 369-373 Bay St. N. 24 James St. S. rear 46 Jackson St. E. 83-93 MacNab St. N. 91 James St. S. 91 Hunter St. E. 72 Wellington St. N. Queen St. N. 14 George St. foot of Victoria Ave. N. 158-160 Ming St. D. 143-145 Barton St. E. 19 Hughson St. S. 75-83 Hughson St. N. 226-234 Rebecca St. 74-78 Nachab St. N. 48-52 Catheart St. 204 Cannon St. E. 190 Catharine St. N. 258-266 Catharine St. N. 24-28 Park St. N. 92 King St. W. 426 Cannon St. E. 38 Relecca St. 108 Merrick St. 62 King St. E. 168 King St. W. 101 Rebecca St. 17 Bay St. N. 18 Park St. S. 163 James St. N. 118 Jackson St. E. 131-133 MacNab St. N.

furniture carriages beer canned fruit sails and awnings printers carriages foundry carriages brooms crass founder tobacco shirts soap tinsmith sewind pachines boots and shoes iron founders pork packers Wooden ware timuare filon iron founders iron ware millors bianos. actal goods hardware marble paper goods hosiery, shirts roofing materials LCCL carilages glass doors, etc. brushes

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### APPENDIX III

## MANUFACTURING ESTABLISIMENTS IN MANILTON - 1921

Burlington St. East 1. Abrasive Co. of Canada 65-75 Earl St. 2. Ace Chain Co. 3. Acae Tool & Stamping Works 34 Sydney St. 116 MacNab St. N. 4. Acme Welding Co. 48 Ferguson Ave. S. 5. Adamite Wheel & Mfg. Co. (Radigan) 6. Bastien, H. L. 425 Day St. N. 88-98 Main St. W. 7. Aitchison Lusber & Planing Mill 8. Bulldog Lacer Co. of Canada 85 Cannon St. W. 9. Allith Mfg. Co. 34 Sydney St. 10. Aluminum Ware Nfg. Co. 13 Ferguson Ave. N. 11. American Can Co. Eserald c. Shaw 12. Canada Sidecar & Welding Co. 65 York St. 13. Aylaer Canning Co. 399 Mary St. 14. Banwell-Hoxie Wire Fence 227 Lottridge St. 15. Bell Thread Co. Huron c. Minto 16. H. Barnard Stamp & Stencil Co. 24 Gore St. 17. Barnes, Wallace Co. Main St. West 18. Barton Lumber & Supply Co. 986 Barton St. East 19. Beaver Lumber Co. Ottawa St. N. 20. Canadian Maniclip Co. 37 King William St. 21. Bird & Son Ltd. 70 Beach Road 22. Noston Insulated Wire & Cable Co. 118 Shaw St. 23. Peter Cheesman 668 King St. W. 24. Canadian Emery Wheel Co. 46 Ferguson Ave. S. 25. Canadian Iron Foundry Stuart St. W. 26. Canadian Westinghouse Co. Westinghouse Ave. 27. Connercial Engravers Ltd. 135 Rebecca St. 28. Propis Oil Co. 347 Sherman Ave. N. 29. Consumers Lunder Co. Ltd. 203 Wentworth St. S. 20. Purlington Steel Co. Sherman Ave. N. 31. F. Furdett 131 MacNab St. N. 32. Electrical Appliances Ltd. 40 Ferguson Ave. S. 33. Surrow, Stewart & Milne Cannon c. Ferguson 34. Purton & Baldwin Mfg. Co. 24-34 Sanford Ave. N. 35. R. Duncan & Co. 17 James St. N.

boats

lacing pachines hardware, ladders

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springs

wallboard & building paper

bricks

brushes

scales, stoves, furnaces interior woodwork printers 36. Canada Metal Co. 37. Canadian Preserving Co. 38. Canada Carbonated Gases 39. Canada Steel Goods Co. 40. Canadian Tack & Nail Co. 41. Canadian Transfer Co. 42. Canada Chadwick Metal Co. 43. Canadian Color Type Ltd. 44. Hall & Quick 45. Canada Cottons Ltd. 46. Chipman-Holton Mill 47. Canadian Drawn Steel 48. Canadian Fasteners Ltd. 49. Hamilton Armature Works 50. Buffalo Brake Beab Co. 51. Buntin, Gillies & Co. 52. Bain & Son 53. R. Raw & Co. 54. Canadian Hart Products 55. Canadian Horseshoe Co. 56. Canadian Knitting Co. 57. Canadian Littey-Owens 53. Reid Press 59. Canadian Meter Co. 60. Canadian Metlskin Co. 61. Canadian Nathian Co. 62. Canada Oil Co. 63. Canadian Polishes Ltd. 64. Canadian Porcelain Co. 65. Canadian Toledo Scales 66. Canadian Shovel & Tool 67. Canada Soda Water Co. 68. Canada Steel & Wire 69. Times Job Printing 70. Canadian Toys 71. Canadian Tungsten Lamp Co. 72. Canadian Westinghouse 73. Davies Printing Co. 74. Canada Woollen Co. 75. Carroll Brass Co.

solders, ingots 34 Jackson St. E. 2-12 Pine St. chemicals Since St. W. Gerrard St. 200 Catharine St. N. metal Hughson c. Hunter electric fixtures Catharine N. c. Surlington 290 York St. sheet metal signs die makers 39 Wentworth St. N. 352 MacNab St. N. Glendale Ave. textiles Gerrard St. Sherman Ave. N. c. Biggar zip fasteners 279 Kensington Ave. N. Kenilworth Ave. N. John c. Jackson paper bags -156-96 Mary Street cachinists 45 John St. N. printers 800 Eurlington St. E. abrasives Biggar Ave. 562 Catharine St. Kenilworth Ave. N. sheet glass 29-35 MacNath St. S. 88-90 Caroline St. N. 80 Murray St. W. Catherine N. c. Surlington setal electrical fixtures Terra Cotta Ave. 52-58 Catharine St. N. Paradise Road electric insulators 278 King St. West Imperial St. 233 Catharine St. N. Lottridge St. 27-31 Hughson St. N. 50 John St. N. 428 Cannon E., c. Ashley Sanford Ave. c. Hyler 28 MacNab St. S. 41 Stuart St. W. 120-122 MacNab St. N.

Gage Ave. S. 76. Crown Oil Mfg. Co. 122-146 Mary St. N. 77. Chipman-Holton Knitting Co. Gage Ave. N. c. Beach Road 78. Carr Fastener Co. 79. Carr Pattern & Tool Co. 108 Merrick St. Eurton c. Clark 80. Climax Good Road Machinery 80 Park St. N. 81. Coffield Washer Co. of Canada 82. Climax Daler Co. Eurton c. Clark Macklin Street 83. Crawford Bricks 55 Vine Street 84. Coca Cola Co. 35. Coppley, Noyes & Randall 56 Nerrick St. 136 Cannon St. W. 36. Crescent Oil Co. of Canada 231 Young Street barrels 37. NeVittie 88. Dalley, F. F. Sanford Ave. S. foot of Wentworth St. Locis 89. J. Weir 90. Dominion Belting Co. Sherman Ave. N. 91, Dominion Brewery Co. 189 Rebecca St. 92. Dominion Canners 44-56 Hughson St. S. 93. Dominion Flour Mills 16-28 Park St. N. 94. Dominion Foundries & Steel Co. Depew St. 95. Dominion Glass Co. Chappel St. 96. Dominion Pattern Works Clinton St. c. Ruth 97. International Business Machine Co. 185 James St. N. 1322 Purlington St. E. 98. International Sheet Netal Corp. 99. International Vinegar Works 41 Stuart St. W. cider. 100. Globe Engineering Co. 125 Mary St. churns 101. Semmens & Evel Florence St. caskets 102. Dowswell-Lees Elgin c. Barton 103. Delorme & Son 78-83 Cathcart St. 104. Duff, J. & Son Brant Street 105. Duncan Lithographic Co. 106-114 Bay St. N. cartons 106. Commercial Oil Co. Jackson St. W. 107. Malone & Morley 292 York St. cones 108. Duro Alusiano Ltd. 80 Park St. N. 109. Eagle Knitting Co. Main, c. MacNab 110. Eagle Spinning Co. Sanford c. Wilson 111. Eaton, T. & Co. 71-91 John St. N. 112. Eggo Baking Powder 196-200 Gage Ave. S. 113. Electrical Material & Products Ltd. 286 York St. 10.15 114. Eley Bros. 80 Park St. N. 115. Epurce Tools & Nfg. Co. Euron c. Minto

baking powder

cheese cutters washers and wringers carriages pork packers

knitted goods

underwear

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519 King St. E. 116. Evel Casket Co. 367 Cannon St. E. 117. Farmar Carriages pork packer 226-234 Rebecca St. 118. Fearman, F. F. Beach Road 119. Firestone Tire & Rubber Co. clothes 120. Firth, Ramsay & Danby 144 James St. N. cigars 87-89 Cannon St. W. 121. Flynn Bros. 97 Main St. W. 122. Dunn & Co. Spice Mills Cumberland Ave. jaws. 123. Furnival-New Main St. West 124. Foster Pottery Cavell Ave. near Barton 125. Ford-Smith Machine Co. fertilizers Hunter, c. Ferguson Ave. 126. Freeman, W. A. Main St. W. 127. Frid, G., Brick Co. bricks Macklin St. 128. Frid Bros. 129. Frost Steel & Wire Co. Sherman Ave. N. 130. Garlock Packing Co. gaskets 200 Queen St. N. 131. Gibb Paper Box 151-153 King William St. 132. Gartshore-Thompson Pipe & Foundry Co. Stuart W. c. Caroline 133. Howell Lithographic Co. 14-18 Vine St. 134. Glendale Spinning Mills Glendale c. Earton 135. Wentworth Cycle Works 176 James St. N. 136. Grant's Spring Brewery 167 Bay St. N. 137. Grasselli Chemicals Eurlington St. E. c. Ottawa 138. Greening Wire Co. 55 Queen St. N. 2-6 Colbourne St. 139. Gurney Scale Co. 140. Hamilton Aluminum Ware Co. 13 Ferguson Ave. N. 141. Empire Wool Stock Co. Stuart St. W. 142. Hamilton Art Glass Co. 11-13 Ferguson Ave. N. 145. Hamilton Bakeries 166 Rebecca St. biscuits 144. Hamilton Bridge Works Caroline c. Barton 145. Zenoleum Products Co. Stuart St. W. 146. Hamilton Cotton Co. 304 Mary St. 147. Hamilton Boiler Works 925-927 King St. W. 148. Habilton Glass Co. 77 Park St. N. 149. Hamilton Brewing Association 21-29 Bay St. N. 150. Hamilton Engine Packing Co. 54-56 Alanson St. gaskets 151. Hamilton Facing Hills Hess St. N. c. Barton 152. Hamilton Foundry Co. Clinton c. Ruth 153. Hamilton Wheel Works Elgin St. 154. Hamilton Granite Works 348 York St. 155. Malcolm & Souter 121-145 Barton St. E. furniture

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156. Hamilton Lamp Co. 157. Fox Chain Co. 158. Hamilton Washer Co. 159. Hamilton Uniform Cap Co. 160. Hendershot Corrugated Paper 161. Hamilton Mica Roofing 162, Hamilton Mirror Plate Co. 163. E. T. Wright & Co. 164. Hamilton Paper Box Co. 165. Hamilton Pattern & Foundry Co. 166. Campbell Pottery 167. Hamilton Pressed Brick Co. 166. Jersey Cream Co. 169. Hamilton Soap Co. (Judd) 170. Hower & Wilson 171. Stand Coconut Mills 172. Hamilton Wood Products 173. Hamilton Stamp & Stencil Works 174. Hamilton Stove & Heater Co. 175. Hamilton Tar Products 176. Hamilton Tool Co. 177. Hamilton & Toronto Sewer Pipe 178. Hamilton Wool Stock Mills 179. Hammant Steel Car & Engine Works 180. Hand Firework Co. 181. Harper-Presnail Cigar Co. 182. Harvest Co. 183. Pearlstein. D. 184. Moover Sweeper Co. 185. Pattison, J. D. 186. Hamilton Coffee & Spice Mills 187. Hamilton Dridge Co. 188. Imperial Glove Co. 189. Imperial Cotton Co. 190. Imperial Vinegar & Pickling Co.

146-150 York St. Princess c. Earl 292 East Ave. N. 214 King William St. 304 King St. E. 101 Rebecca St. 77 Park St. N. Cathcart St. 196-204 King St. W. 258 Catharine St. N. 98-116 Locke St. S. Kensington Ave. S. 84-88 MacNab St. N. 101-103 Ray St. N. 3-5 Lancaster St. 82 MacNab St. N. rear 50 Alanson St. 53-57 John St. N. 32-58 John St. N. Caroline c. Mulberry 258 Catharine St. N. Wentworth c. Terra Cotta 268-286 Bay St. N. Kenilworth Ave. N. 611 King St. W. 21-29 Harriet St. 980-984 Barton St. E. 67 Cannon St. E. 209-221 Gage Ave. N. 17-25 Park St. N. 25-27 MacNab St. S. Depew St. 140-144 Jackson St. E. Sherman Ave. N. 137-139 James St. S.

baking powder tool makers boxes

roofing paper baling machines clay

canners cigars

carriages

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191. Industrial Varnish Works 192. International Harvester Co. 193. Oliver Chilled Plow Works 194. Brown & Boggs 195. Irwin, I. 196. Kerr & Coombes 197. International Pattern Works 198. J. Jolley & Son 199. Kartzmark & Son 200. Kilgour Mfg. Co. 201. Kuntz Brewery 202. Laidlaw Bale Tie Co. 203. Leather Products of Canada 204. NcLary Mfg. Co. 205. Dominion Eag Co. 206. McCornick Mfg. Co. 207. McGregor Shirt Co. 208. Brown & Boggs 209. Kingdom-Smith 210. McPherson, J. 211. Maple Leaf Milling Co. 212. Grange Crush Co. 213. Mercury Mills 214. Meriden Britannia 215. Metal Studios Ltd. 216. Middleton Marble & Granite 217. Newbigging Cabinet Co. 218. Meakins & Sons 219. Norton Co. 220. Monarch Metal Co. 221. D. Moore & Co. 222. D. Morton & Sons 223. Spectator Printing Col 224. National Machine & Supply Co. 225. National Paper Goods 226. National Steel Car Co. 227. Swift Canning Co. 228. Chapman-Dixon 229. Ohio Varnish Co. 230. Oliman Bros.

1.11

Biggar Ave. Sherman Ave. N. Eurlington St. E. Burlington St. E. 22 MacNab St. S. 67 Bay St. N. 195-199 King William St. 51-53 John St. S. 196-198 Grant Ave. 25-27 Aurora St. 247-249 Young St. Birninghan St. 182 Mary St. 112-120 York, c. Bay 26 MacNab St. S. 29 John St. S. 36-38 Margaret St. Sherman Ave. N. 39 Wellington St. N. Jackson c. John Hunter c. Ferguson 5 Wellington St. N. Cumberland Ave. 146-164 Wellington St. N. 21 Walnut St. N. 234-238 King St. E. 64-68 King St. W. 382 King St. E. Beach Road Main St. W. 178-208 Catharine St. N. 77 Emerald St. S. 114 King St. E. 76 Wellington St. N. 144-150 Queen St. N. Kenilworth Ave. N. Jarvis St. 18-22 Ferguson Ave. N. Eiggar Ave. Macklin St.

roofing, galv.iron work iron foundry

saddlers gunsmith wooden boxes

nails valves electric cookers paper biscuits

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fireproof doors shoes

hosicry silverware brass electrical fixtures

furniture brushes abrasives bearings stoves Soap and glycerine

paper bags steel railroad cars bacon clgars

Uxicles

231. Olastead Iron Works 232. Ontario Paper Box 233. Smith Stacker & Feeder Co. 234. Ontario Plate Glass 235. Ctis-Fensor Elevator Co. 236. Paper Boxes of Canada 237. Parson & Parson Ltd. 238. Patterson & Crosthwaite 239. Peerless Fence Co. 240. Quaker City Chemical Co. 241. Imperial Oil Co. 242. Peerless Underwear 243. Petric Mfg. Co. 244. Ostler File Co. 245. Permanent Ink Co. 246. Peterson Core Oil & Mfg. Co. 247. Pocock Nfg. Co. 248. Porritts & Spencer 249. Procter & Gamble 250. J. Radigan 251. R. Ralston 252. Regai Shirt Co. 253. Reid & Co. 254. Riddell & Co. 255. Royal Brush Co. 256. Canada Clay Products 257. Canada Cartridge Co. 258. D. Sweet & Co. 259. Sanford & Co. 260. Sapon Soaps 261. Sawyer & Massey 262. Servos & Bateman 263. E. C. Atkins 264. Hamilton Tool & Forge Co. 265. N. Slater Co. 266. Smart-Turner 267. R. Soper 268. Standard Electro-Plating 269. Standard Pattern Works 270. Eurlington Products

157 Rebecca St. 106-120 Main St. E. 138 Jackson St. D. 112 King St. W. Victoria Ave. N. 14-16 Walmut St. Dundurn c. Honewood Ave. Robert c. Cathcart 227 Lottridge St. Tisdale St. Victoria Ave. N. King E. c. Sanford Ave. Lottridge St. 280 Ferguson Ave. N. 302 Cumberland Ave. Harmony Ave. 135 Wallace Lottridge St. Eurlington St. E. 46 Ferguson Ave. S. 33 Sanford Ave. S. 206-208 King St. W. 16-18 Steven St. 12-14 Ferguson Ave. N. 43 Main St. E. Terra Cotta Ave. Sherman Ave. N. 16-18 Merrick St. 90-98 King St. D. 164 Strachan St. E. Wellington St.N. 138-140 Perguson Ave. N. Sherman Ave. N. 80 Earl St. N. 34 Sydney St. 191-195 Barton St. E. 325 James St. N. 18-24 Ferguson Ave. N. Eurton & Clark Sherman Ave. N.

self-feeders windshields collars lumber will cream separators polish curtain sods wool blankets soap furnaces, elevator buckets baking powder paper boxes coal chutes

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wige fence

cigars clothing

agricultural machinery wire Savis

hardware machinery, pumps sails, tents

fences

271. Standard Underground Cable of Canada 272. Stanley Steel Co. 273. Steel Co. of Canada 274. Ontario Works (Stelco) 275. Canada Works (Stelco) 276. Sutherlands 277. Tallman Brass & Metal 278. Thornton & Douglas 279. Tho: son-Gordon 280. Tresidder Bros. 281. Tuckett Tobacco Co. 282. Upton & Co. 285. United Drawn Steel 284. Ontario Tube & Pipe Co. 285. E.B.Ratcliffe Cement Block 286. Universal Products 287. Hamilton Cooperage Co. 288. Van Allen 289. Venator, G. 290. Franklin Steel Works 291. Appleford Counter Check Book 292. Wallace & Lawton 293. Wallace Supply Co. 294. Wentworth Mfg. Co. 295. Wentworth Mineral Water Co. 296. Notor Meter Co. 297. Wing & Son 298. Wires of Canada 299. Wise Lumber 300. Walter Woods 301. P.B. Yates Machine Co. 302. Zimmerman Reliance Co. 303. Adamson Mfg. Co. 304. Wagstaffe Ltd. 305. McCoy

Sherman Ave. N. 59 Gerrard St. Harvey Lane 242 Queen St. N. 343-359 Wellington St. N. 12-14 Jarvis St. Sanford Ave. c. Wilson 120 Cannon E. c. Mary 85 Cannon St. W. 15 Wellington St. N. Gugen St. N. 19-37 Delaware Ave. 2 Webber Ave. Wentworth St. N. Kenilworth Ave. N. Sherman Ave. N. 365 Wilson St. 14 George St. 115-117 Jackson St. E. Adams St. Stirton St. 11-13 Ferguson Ave. N. 211 Wentworth St. N. Oak Ave. & Earton St. 542 Main St. E. 56 Alanson St. 32-34 Bay St. N. Lorilla St. Stuart St. c. Hess 74-78 MacNab St. N. Cavell Ave. 330 Dundurn St. S. 67 Bay St. N. 224 Maple Ave. 50 John St. N.

clothing abrasives paper boxes

shirts wood turning

boilers butter brass

machinists

doors, sashes brooms woodworking machinery underwear auto accessories fruit preserving auto locks

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306.	Neubery & Sons
307.	Robinson's
308.	McGrath
309.	Imperial Cocoa & Spice Mills
310.	Young & Wingfield
311.	Schultz Mfg. Co.
312.	Hamilton Leather Goods

5

29-31 Severn St. 145 MacNab St. N. 149 MacNab St. N. 83-93 MacNab St. N. 89 Cannon St. W. 154-158 York St. 156 King St. E. eattresses ice cream cones wagons

spice wills

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View from Bay Street looking west along Barton Street. The descent from the James Street bluff is seen in the foreground and the Iroquois Bar in the far distance. This area, once occupied by several small valleys, was reclaimed after 1854 and used by industries wishing to locate near the Great Western Railroad yards.



View looking east from Locke Street. The James Street bluff which originally formed the main avenue of traffic to the bay from the city centre is seen in the background. The low land along the bay in the foreground was reclaimed by the Great Western Railroad Co. in 1854 to make room for the railroad to enter from the west and for stock yards and workshops.

1



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Looking west from Bay Street at the C.N.R. tracks. In the background can be seen part of the industrial complex that grew up near the railroad yards after 1864.



The site of the original Great Western Railroad Rolling Mill built in 1864 at the foot of Queen Street. In 1879 it became the Ontario Rolling Mills and is now part of the Steel Company of Canada. The lack of space for expansion in this area can be seen in the way the buildings are pushed close to the side of the hill.

3



5

View looking south from Barton Street along the Ferguson Avenue Railroad. Built in 1871, the railroad passes through the central part of the city. The remains of several old manufacturing establishments can be seen along the tracks.



Looking north along MacNab Street from the C.N.R. tracks. In the foreground is a section of the cutting that carries the railroad through the James Street bluff. The building in the background was built originally in 1854 as a steam engine works but was later enlarged to become the Ontario Cotton Mills. This was one of the several large textile mills located near the city centre.



The Firth Bros. clothing factory on Hughson Street. The original factory was built before 1921 and the multi-storey building was one way in which to overcome the lack of space for expansion near the city centre.



This old factory on Main Street, located within three blocks of James Street, is now used as an automobile garage.



An old factory on Hughson and Jackson Streets, renoved and now used as an office building.



This small factory building on Bay Street North is typical of the many establishments of the rudimentary manufacturing group located in the central manufacturing region between 1861 and 1921.

10



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View of old factory on John Street South. The four storeys again illustrate how expansion was necessarily upward and not outward, because of the densely built-up nature of the area near the city centre.

On this site on Bay Street North was a brewery that was in operation throughout the period 1861 to 1921.



11


Wellington Street looking north from Ferrie Street, showing the contrast between the east and west sides. The land on the west side was built up by 1891 but the land on the east side was at that time occupied by No.1 Inlet. This area was reclaimed by 1921 and used mainly for industrial development.



14

The C.N.R. tracks at Wellington Street. The factory in the foreground was originally built in 1854 and is typical of the plants located near the railroad tracks about this time.

13



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View looking east along the railroad tracks at Lottridge Street, showing some of the many factories built near the tracks during the period 1891 to 1921.



Factory built about 1900 on Lottridge Street. This concern occupied a large site and required storage space for raw materials and finished products, in contrast with the rudimentary concerns located near the city centre.

15



Part of the bay shore looking west from Burlington Beach. Much of the land used by the industrial plants in the picture is new land created by the reclaining of marsh and inlet and by the filling in of sections of the bay after 1895.



View of Steel Co. of Canada's plant sited on reclaimed land along the bay shore. The original blast furnace was built here in 1895.

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View of the International Harvester Company's plant. Part of the original plant, built in 1903, is on the left and its extensive nature can be compared with the small factories found near the city centre.



View of the extensive buildings of the National Steel Car Company's plant on Kenilworth Avenue. The company sited their original plant here in 1910 to make use of the large acreages available on the 'low' lake plain.

19

20.



View looking south from the new bridge over the Chedoke Valley. The plant of the Canadian Westinghouse Co. can be seen in the background, together with other small factories located along the side of the valley. This area was little used for urban or industry development until the T.H. & B. railroad was built near here in 1895.