

A Fact a Day about Canadafrom theDominion Bureau of StatisticsNo. 244. Tues. June 1, 1937 -- The Unknown Isles.

Off the mainland of British Columbia is a group of island about which the general public knows little. They are called the Queen Charlottes. Moresby, the second largest, is almost wholly mountainous and contains some of the most inspiring scenery on the West Coast. Graham, the largest island, is partly spruce and hemlock forest, partly muskeg and partly mountainous but is noted chiefly for the length, the breadth and the beauty of its sea-beaches. Blue, white-crested combers break on the shining sands to dissolve in curdled foam and flying spindrift; farther up the shelving beach whiter sands sparkle for fifty yards or more to high-water mark where thousands of drift logs, smooth and silvered by the weather, lie in confusion. Behind the drift logs are sand dunes and behind the sand dunes forest and muskeg where bear and deer have worn deep trails. On the muskeg, White-cheeked Geese and Sandhill Cranes build their nests and raise their young.

Strange creatures are cast on the sands; abalones, starfish, sand-dollars, corals, sponges; and a receding tide lays bare polished agates of many beautiful shades.

The beaches are a resting and feeding place for countless numbers of birds: Little wading birds of the snipe family on their journeys to and from their Arctic nesting ground swarm over the sands and follow the receding waves and tide in search for food.

Bald eagles with shining heads, sable ravens and snowy-breasted gulls patrol the shores from which they seldom are absent. Cut-throat trout and Coho salmon ascend the many rivers and are taken with fly and trolling spoon.

The census shows seventeen hundred people on these islands. Half of them are Indians living on reserves and many of the rest are Scandinavians.

This information comes to the Dominion Bureau of Statistics, from the Lands, Parks and Forest Branch of the Department of Mines and Resources.

No. 245. Wed. June 2, 1937 -- Yeast.

If we could only see with the naked eye all the minute organisms floating about in the air, we would marvel at the living force wrapped up in forms so very small, some doing good and others, great mischief. For instance, yeast, which makes bread and other things rise, is composed of tiny one-celled plants which are present in the air.

These plants belong to a class of fungi which, when growing in saccharine or

sugar solutions, changes them into alcohol and carbon dioxide. These minute vegetable cells collect together, forming a yellowish, frothy mass with a peculiar odour and usually a bitter taste. Yeast retains its vitality in a ten per cent sucrose solution for more than 20 years but a high temperature and moisture kill it. That is why the housewife does her preserving over a hot stove, keeping the jars in steaming water. A temperature as low as 130 degrees below zero is not harmful to yeast and careful drying preserves it for several years.

Industries making bread and other bakery products use about nine million pounds of yeast and yeast powders in a year. We are told that in 1858 in the city of London, England, there were 300,000 gallons of alcohol lost through the making of bread. This was probably due to the fact that the barley was used in producing malt for the making of bread instead of making beer. Some people to-day use beer in making bread and doughnuts.

Yeast is used by distillers and brewers to make their products sparkling and stimulating. It can also be bought in a food form as a medicinal agent.

During 1935, Canada produced 15,000,000 pounds of yeast and yeast food with a factory value of \$3,000,000 and imported about a million and a half pounds, according to the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 246. Thurs. June 3, 1937 -- Cost of the Mentally Sick.

The daily average number of patients treated in Canadian mental institutions in 1935 was 38,000. The total number of patients registered was 41,000. This means that one person in every 275 or 280 of the people of the Dominion had been mentally sick in that year. Quite probably there were some who were not treated at mental institutions, so that the ratio would be altered if all cases were recorded.

The total expenditures for maintenance are between eleven and twelve million dollars, so that the cost to the people for mentally sick is about one dollar per capita in the year. These costs are met mainly by government and municipal payments, for the fees paid by patients are slightly less than two millions. Gifts from benevolent people and other sources of revenue amount to a considerable sum also, running close to another two millions.

There are 56 of these institutions in Canada and they have a staff of over 7,000. There are 226 physicians who are on full time at the institutions along with 46 on part time. The graduate nurses numbered 838. Then there are over one hundred teachers and 38 dentists on full and part time. The salaries account for slightly over \$5,000,000 or nearly half of the whole cost of maintenance. Provisions cost about \$2,400,000. Almost half of the maintenance charge was in Ontario, according to the reports by the Institutional Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 247. Fri. June 4, 1937 -- Typewriters.

The first recorded plan of a typewriter was set forth in an English patent granted to Henry Mill in 1714. His machine, he said, "would impress letters, one after another, as in writing". However, there is no record showing that he

completed his machine. The list of type writing pioneers includes Progin of France, Wheatstone of England, and several Americans, but the most successful of all was Christopher Sholes, a printer and newspaper man who built his first model in 1867, when he was 48 years of age.

Sholes continued improvements to his model, assisted financially by James Densmore, a Pennsylvania business man, who became his partner. In 1873 Sholes sold his patent rights for \$12,000 to the Remington Company, which manufactured firearms, sewing machines and farm tools. Densmore also turned over his rights but on a royalty basis and in the course of years obtained royalties of more than a million dollars. Sholes died in 1890 when he was 71; he had lived to see his important invention come into general use.

The typewriter has been a great boon to business generally as well as to writers of all kinds and is an essential part of the equipment of all well appointed offices. It has provided employment for a large army of women who seem to possess in great degree the qualities that make good stenographers and typists. There are in Canada 62,000 female stenographers and typists, according to the last census.

The production of typewriters in Canada in 1935 was close to 16,000 machines. There were over 3,000 exported and nearly 5,000 imported. Among the imports were special typewriters for the use of the blind in this country.

These figures are supplied by the Manufactures Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 248. Sat. June 5, 1937 -- Mustard.

Very interesting was the story told by a Lethbridge newspaper a few days ago that two southern Alberta farmers had spiced things up by growing 30,000 pounds of mustard seed which was shipped east to a manufacturing concern, there to be processed into the ingredient which is the running mate of ham.

Mustard was employed as a condiment by the Anglo-Saxons and in Norman times was commonly used in mixture with honey, wine and vinegar, a toothsome thought.

There are several varieties of mustard, which is a hardy annual. Black and white are the species most commonly cultivated for the preparation of table mustard. The seeds are used and the flour is usually diluted with wheat flour and coloured with turmeric. The dressings from the preparation of mustard yield a non-drying fixed oil which, however, should not be confused with the true mustard oil obtained by distillation of the seeds with water. The leaves are sometimes used as a food.

Nor should the by-products be confused with the poisonous mustard gas which had such dreadful effects upon the eyes and lungs of Canadian soldiers at Ypres in June, 1917. It is a pale, yellow liquid obtained by the action of dry ethylene on sulphur monochloride. The two varieties of the troublesome wild mustard often seen in Canada are the Black Mustard and Brassica juncea.

We spend considerable money on mustard, the imports being valued at between \$300,000 and \$350,000, while the home production has a vactory value of over \$300,000.

The foregoing information comes from the Department of Agriculture and the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 249. Sun. June 6, 1937 --- An Unique Government Service.

The Trumpeter Swan is the largest waterfowl in North America. At one time this magnificent bird was common from the Pacific Coast to the Middle West but it now has disappeared from all except the most westerly part of its former range.

In early days the Trumpeter Swan was hunted for its plumage which provided the valuable swansdown of commerce.

Most of the Trumpeter Swans now in existence are found in British Columbia, both winter and summer. Some of them spend the winter months on northern rivers whose isolation offers sanctuary and where stretches of open water provide food. The seeds of the yellow pond-lily and water-shield, the tubers of sago pondweed and other kinds of water vegetation are eaten.

Sometimes in very cold winters the feeding grounds are frozen over and the Trumpeter Swans may suffer severely. In order to prevent the starvation of these birds it is necessary to supply them with barley or other grain. On one wintering ground a supply of grain is taken by pack-horse from the nearest settlement a distance of seventy-five miles.

The Dominion Government maintains a special warden service for the protection of these valuable birds and under this care their numbers have slightly increased.

A smaller relative of the Trumpeter Swan and resembling it very closely is the Whistling Swan which nests in the Arctic and is relatively abundant.

This information comes to the Dominion Bureau of Statistics from the Lands, Parks and Forests Branch of the Department of Mines and Resources.

No. 250. Mon. June 7, 1937 --- Cars and Trailers.

The trailer evidently has become a very popular mode of holiday travel, for there were 47,000 of them registered in Canada last year, which was an increase of more than seven thousand over 1935. These trailers are in great variety, from simple little cart-like affairs to furnished homes on wheels, some quite beautiful, others not quite so artistic. More than half of them were registered in Ontario.

The number of automobiles is expanding rapidly in Canada. There was an increase last year of 64,000 and the total registrations number 1,240,000. Every province showed an increase, starting with Prince Edward Island on the east where there were 600 more cars. There were 37 more in the Yukon.

The number of persons to each motor vehicle in 1936 was 8.9 and, as more than two thousand of these were buses, it does not seem an exaggeration to say that the whole population of the Dominion could be taken for a car ride at the same hour and nobody need be left at home to watch the kettle boil.

From Ontario to the Pacific Coast the ratio of cars to the population is very much greater than in the East. In Ontario there is one car for every 6.3 persons

but in Quebec it is one in every 16.9. British Columbia is the second province with one in every 7.1 persons, Alberta third with one in 7.9. Prince Edward Island is fourth with one in 8.9, according to the Transportation Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 251. Tues. June 8, 1937 -- Vanilla Beans.

Vanilla beans are the fruit of an orchid, the only orchid out of many thousands that produces an edible product. It is cultivated chiefly by Oriental labour in the Indian Ocean islands of Reunion, Mauritius and Seychelles, and to a small extent, on the eastern coast of Mexico.

The cultivation of vanilla is very exacting and is a most unhealthful occupation. It is a climbing vine and must grow in the shady and humid forests. Owing to a peculiarity of the blossom, each one must be fertilized by means of a small splinter of wood in the hand of the attendant.

The beans are gathered while green and look like green bananas in shape and colour but are only about three-quarters of an inch in diameter. The odour and flavour of the beans are developed during curing. The green fruit is alternately sunned and sweated, a type of fermentation. The value of the final product depends on the curing, therefore long experience and considerable ability are necessary for its success.

Pure vanilla is expensive. The extract which is commonly used is made by percolating the finely chopped beans with dilute alcohol in a manner similar to that used for making coffee in a percolator. Vanillin, which is an artificial vanilla flavouring, is produced from sugar by electrolysis.

The imports of vanilla beans into Canada last year amounted to 69,000 pounds valued at \$179,000, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 252. Wed. June 9, 1937 -- The Gem of the Ocean.

The Pearl is the birth gem for June. From prehistoric times it has been worshipped for its beauty. It is mentioned in the Book of Job and in the Talmud. During the height of Rome's power, pearls were the most desired possessions of her princes and women of fashion. Throughout history, in dedications, gifts and benefactions, the pearl was the predominating jewel, chosen to express human feeling at its height. The Gaekwar of Baroda has a sash of one hundred rows of pearls. The value of seven of these rows is near to a million dollars. Many old stories say that these beautiful gems were tears which the gods changed into pearls.

The pearl of the oyster is built up of layer on layer of carbonate of lime, skin on skin, similar to the layers of an onion. The trade name generally applied to all salt water pearls is the "oriental" because of the superior orient or sheen they are said to possess. Nor do fresh water pearls have the fine colours of the salt water gems. Incidentally the true or gem-quality pearls are almost never found in edible oysters.

The source of the oriental pearl is the Persian Gulf, the northern coasts of Australia, Japan, Panama, Venezuela and the South Sea Islands. Fresh water pearls are got in some North American rivers and in Scotland, while the pink Conch pearl is

found in Florida and the West Indies.

In common with their sisters of other lands the women of Canada love pearls and the importation last year of these gems, real and artificial, was upwards of \$100,000, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 253. Thurs. June 10, 1937 - Figs.

The fig tree is a native of sub-tropical countries and belongs to the same family as the bo-tree, the banyan and the indiarubber plant. The bo-tree and the banyan are venerated by the Brahmans but we of the Western World think more of the edible quality of the fig.

The tree is hardier than the orange and can be grown in sheltered places in England and in the southern United States. For many years the growing of figs was unsuccessful in California; the trees would not bear fruit. The answer to the problem was found in the absence of a certain insect which crawls into the cavity of the fig and fertilizes the many blossoms inside. This insect was brought from its native Mediterranean home and after many expensive and difficult attempts was finally acclimatized.

Turkey and Asia Minor produce the greatest quantity of figs used commercially, Smyrna being considered the leading fig market in the world. Because of the simple drying process, this fruit is an important crop along the Mediterranean from one end to the other. During the War when the Turkish supply was cut off, the region around Malaga, Spain, suddenly became an important exporting centre.

In the United States and most temperate countries, figs are used as a sweetmeat but in the Mediterranean countries it is a standard article of diet. It is so abundant in Chile that, although its nutritive value is high, it is in some localities considered food for beggars. In the Balearic Islands alcohol is distilled from figs and the residue fed to pigs.

Last year, of the five million pounds of figs imported into Canada, four million pounds came from Turkey, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 254. Fri. June 11, 1937 -- The Cacao Tree.

There are three trees with names somewhat similar but whose products are very different; the cacao from which we get beans for cocoa and chocolate, the cocoanut with the large, hard-shelled cocoanuts and the coca whose leaves are used in the preparation of the drug cocaine.

The cacao tree is a native of tropical America, growing wild in the Amazon and Orinoco River Valley forests. At the time when America was discovered by Europeans, it was grown for food from Panama to southern Mexico. The Aztecs used the dry seeds for money. The Spaniards carried the product to the Philippines and the early exportation of the beans to Spain and Portugal flourished. On a per capita basis, Spain and Portugal are said to use more cacao beans than any other European country.

The climatic conditions for growing cacao trees are exacting. Heat is necessary but the full blaze of the tropical sun is too strong, therefore the trees are planted under the shade of taller ones such as the banana. The moist, low plains which are most suitable for cultivation are unwholesome for the white man. A windy location is unfavourable because the large melon-like fruit are so close to the stiff stems that they twist off instead of swaying with the branches as do apples or peaches.

The Chinese cooks in the Philippines pound the beans in mortars and flavour them with spices to suit individual tastes. In the Western World, the beans are taken to factories where expensive machinery pulverizes them into a powder to which sugar, and sometimes milk, is added. The manufacture of chocolate is one of the ways in which Switzerland utilizes the mountain pastures through the dairy industry to the fullest extent. Cocoa differs from chocolate in that most of the nutritious fat has been removed.

Imports last year amounting to 358,000 cwt valued at two million dollars, show an increase of 118,000 cwt. over last year, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

NOTE:— For further information regarding Cocoa, see No. 80, Series II.

No. 255. Sat. June 12, 1937 -- Printing.

There stands in the middle of the square in front of the Cathedral at Mainz, the ancient German city on the Rhine, a statue of Johann Gutenberg. He was the father of printing. We are the inheritors of a measureless wealth that he gave us.

He belonged to a family which had long been prominent locally. He served his apprenticeship as a stone cutter. Studying the playing cards printed from one rough block, the little rough wood-cut pictures of saints and Bible characters and the curiously carved images which he made, it seemed to him there ought to be other ways of making books than laboriously writing them by hand.

One day he began cutting letters in wood and fixing them on a wooden block. It was the beginning of his printing press. A year or two went by and then Gutenberg printed a book from solid type — letters cut in a solid block of wood so that when that book was printed there could be no other use for the type.

Gutenberg foresaw a good deal. He remarked; "The printed book is not like any other art. A painter sketches his figures on the canvas and perfects the creation of his thought, the same with the poet, the engraver, the musician, we, on the contrary, with our presses, are only the servants of others".

The old man Gutenberg, who was born in 1400 and died in 1468, was right. The book has become everything and the printer almost nothing, yet without the printer where would the writer be and where would the whole world be now?

There are about 35,000 persons engaged in the printing trade in Canada and the average income of man, boy and girl is about \$1,300, according to the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 256. Sun. June 13, 1937 -- A Brunette Canada Goose.

A race of dark-complexioned wild geese reside in the Coastal region of British Columbia and south-eastern Alaska. They are similar in general appearance and size to their better known relative the Canada Goose, or "honker", but differ in being very much darker. They are known as the White-cheeked Goose.

Apart from the difference in coloration between these two races of geese there are differences in habit also, the most important being that of migration. The Canada Goose makes long annual journeys to and from its nesting grounds; some raise their young on James Bay and spend the winter on the Gulf of Mexico. The White-cheeked Goose, on the other hand, may spend the entire year, or even all its life time, in the same region.

Wild geese do not breed until they are at least two years old so that in every goose community there is usually a bachelor population of both sexes. These non-breeding birds remain in sociable flocks during the time the birds of an older generation are incubating eggs or caring for young.

During the moulting period, which lasts for a month or so in the summer, geese are unable to fly and for their protection must depend on hiding instead of flight. At this time they are seldom seen but at almost any other season White-cheeked Geese are conspicuous on the tide flats along many of the deep fiords which cut deeply into the shore line of British Columbia.

A sight of these magnificent geese in powerful flight and the rich chorus of their deep voices can never be forgotten, is the remark made in a note by the Lands, Parks and Forests Branch of the Department of Mines and Resources to the Dominion Bureau of Statistics.

No. 257. Mon. June 14, 1937 -- Autos Generate Their Own Gas.

Reports from Germany show that considerably more than half of the 100,000 or so large capacity automotive vehicles and several thousand automobiles are equipped with engines and carburetors for light fuels, and the use of home fuels, especially of compressed and liquefied gases, is constantly increasing.

This in itself does not perhaps mean very much to the casual listener. It sounds fantastic, but the explanation is sufficient to arouse intense interest, for it seems to bespeak a revolution in automobile fuelling.

It means that a gas generator can be and is being accommodated in a clean-cut manner in a bus and even in a small car. The commonest fuel is wood. This sounds bulky but it is not. The illustrations show the generator and its supply of wood incorporated in the stream-line bus body and there is no difference in appearance from the bodies of many of the stream-line cars we see everywhere in this country.

The idea that a farmer can use the products of his wood lot in a gas generator is enticing. But the manufacturers are not stopping at wood, they are encouraging the use of home fuels by providing engines which, by slight modifications, can be adapted to working on different fuels.

Because of the success of the use of producer-gas in Europe, the Forest

Products Laboratories of the Department of the Interior are testing its efficiency in British Columbia where considerable interest is being shown due to the high cost of gasoline and fuel oil in isolated districts.

What this will mean if it succeeds in Canada may be estimated by the fact that 624,000,000 gallons of gasoline were used in the Dominion last year.

This information comes from the Mining and Metallurgical Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

NOTE: - Since the foregoing was broadcast, a note from the United States Commercial Attache's office at Shanghai, China, has appeared in one of the publications of the Washington Bureau of Foreign and Domestic Commerce, saying, "of the 1,110 Diesel motor buses and trucks estimated in operation in China, 95 per cent are of German manufacture."

"The conversion of gasoline motor trucks and buses to charcoal burning devices has risen perceptibly, upwards of 500 and possibly 1,000 vehicles being so equipped. Despite the acknowledged loss of power on grades, and the bad effect of this fuel on both cylinders and pistons, the use of such equipment increases. Motor vehicles so equipped develop about 20 per cent less power than gasoline engines, but can be run at one-third to one-fifth the cost of gasoline operation. One of the major petroleum sales organizations estimated that charcoal burning vehicles during 1936 displaced 627,000 gallons of gasoline".

No. 258. Tues. June 15, 1937 -- Cassava.

The cassava plant is one of the tropical rivals of the sweet potato. It not only fills the local need where it is used for food but it is commercially important in temperate countries because of its dried starchy product called tapioca.

The plant grows to a height of eight feet and has large palmately divided leaves. The important part of the cassava is the root which is very much like a large parsnip and contains an acrid milky juice. There are two varieties, the Sweet and the Bitter, the latter containing a deadly poison which is expelled by heat.

In the countries where it grows the natives boil the root, grate it and dry the pulp. From the flour thus obtained, thin stiff cakes are made which, although not as light as our bread, are very nutritive. Boiled or baked cassava roots are standard articles of diet.

The condiment cassareep is made from the grated roots and the juice is sometimes extracted, fermented and prepared as a beverage known as piwarry.

But it is in the manufacture of tapioca that the cassava is of greatest importance to us. The plant is torn to pieces and the starchy substance washed out in water and allowed to settle. The starch is heated gently on iron plates until it forms granules or the familiar round lumps of tapioca.

Last year about four million pounds of tapioca were brought into Canada, nearly three million pounds of it coming from the Dutch East Indies. There were also 211,000 pounds of cassava flour imported from that country for the manufacture of

explosives, according to the Mining and Metallurgical Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 259. Wed. June 16, 1937 -- Cinchona Bark.

Quinine is a medicinal product obtained from the bark of the cinchona tree. It is so highly prized as a remedy for certain fevers and malaria that the British Government orders it to be kept on sale in every post office in India.

The tree is a native of South America where it grew wild and unattended until the Dutch cultivated it in Java less than one hundred years ago. The leaves are similar to those of the laurel and the fragrant blossoms are pink and white. The bark is not used until the trees are six years old. The early method followed by the South American Indians was to cut down the tree. Had this procedure gone on the danger of extinction was imminent, but the present way is to remove the bark in strips covering the denuded part with moss until the wound heals.

The Indians of Peru called the trees "Kina" and the name cinchona originated after the Countess of Chinchon, wife of the viceroy to Peru, brought it to Europe in 1639. The lady had been cured of an obstinate fever while in Peru and she brought the remedy back with her. The bark was also called Jesuits Bark because later the Jesuit missionaries brought it to Rome and distributed it.

Then it fell into practical disuse in Europe until again brought to public attention by an English apothecary, Robert Talbot, who cured Charles II of a fever in 1678. After other eminent persons on the Continent, including the Dauphin, had benefited from the drug, Louis XIV purchased the secret. Thus the adoption of quinine as a medicine was assured.

The plantations of cinchona trees under cultivation to-day in India and Ceylon owe their origin to Clements Markham, an Englishman who introduced the trees into India in 1860 and through man's perseverance in growing this precious bark, the price is now only one-thirtieth of that which prevailed in 1870.

Over 100,000 ounces of quinine salts were imported into Canada last year, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 260. Thurs. June 17, 1937 -- Dogs.

Most of man's work has been done by ten animals, five of them of almost world-wide distribution -- the horse, ox, ass, mule and dog -- and five of very special location -- the camel, elephant, reindeer, yak and llama. The dog is probably the least important of the draught animals and yet it rivals man in its ability to live in all climates. It goes wherever man goes and on the shores of the Arctic can live on a diet of meat and fish or beans and bananas mixed with a little meat in equatorial Africa.

The fur-trader and explorer in the northern districts depend upon dog teams for their travelling and many touching stories are told of this service to man in snow-bound areas. In France, Holland, Belgium and Germany it is not uncommon to see dogs pulling heavy carts laden with farm produce, nor unusual to find a

peasant woman on one side of the wagon tongue and a dog on the other. The dog in these countries takes the place of the horse because of the small patch of land available to a family cannot be used to feed a large work animal. In Germany pet dogs are heavily taxed but the work dog has been left untaxed. In many Eastern and most Mohammedan cities the dog acts as a scavenger.

Besides being well known as a faithful friend to man, this animal has been taught to do many things, such as guiding blind people, rescue work, acrobatics and tending sheep. Breeding for special purposes has become a business. For the improvement of stock there were 184 dogs valued at \$11,000 imported last year. Of this number 54 came from the United Kingdom, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 261. Fri. June 18, 1937 -- Cleaner Milk Bottles.

The average person does not spend much time or energy in polishing the milk bottle before placing it on the door-step for the milkman. The responsibility of making the bottles absolutely clean is left to the dairies with their huge washing machines. One of the latest cleaners used for this purpose is sodium metasilicate.

Early attempts to manufacture sodium metasilicate economically and in an acceptable form met with heart-breaking failure. The material invariably hardened in the barrel into a hard, shrunken mass, defying both chisel and sledge hammer. Finally a way was found where it could be crystallized into a hard cake which could be ground into a free flowing powder and kept dry under storage for an indefinite period of time. To-day it can be purchased as a white, granular powder which dissolves easily in hot or cold water, or in solution form.

This basic alkali has four outstanding qualities as a cleanser: 1, the wetting power of the solution is increased; 2, it separates the dirt film and breaks it up; 3, it emulsifies fatty and oily materials and 4, it rinses freely carrying the impurities with it.

This cleaner is claimed to be the safest and most generally satisfactory for the expensive tinned surfaces found in dairies, bakeries and other food-handling plants. It is also used in the preparation of textiles for level dyeing and on metals for electroplating. When used in scalding water it facilitates the removal of hair from hogs.

Figures for soda metasilicate are not shown separately but there are two firms making sodium silicates of all grades in Canada and their output is steadily increasing. Last year over seven million pounds of sodium silicate was imported, mostly from the United States, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 262. Sat. June 19, 1937 -- Carrageen.

One of Canada's Trade Commissioners in Ireland tells a very interesting story about Carrageen, or Irish moss. Carrageen is gathered on the western seaboard of Ireland and is not subjected to any manufacturing process. It is bleached by the ozone and sunlight of the Atlantic and its value as a food has long been recognized by medical science. It is sometimes as much as twelve inches long, branched by

repeated forking, tough and flexible and coloured from yellowish green to red and purple.

The principal content of Carrageen is gelatine and then there is mineral matter containing iodine, calcium, sodium, potassium, magnesium and traces of bromine, chlorine and sulphur. It makes a pleasant drink.

Carrageen has been gathered by the peasants in the Irish speaking districts, mainly Donegal and Clare, for ages. Within the past three years however, the Government has assisted the industry. There is a depot in Dublin and the main purpose of the state control is to see that the growers get a fair price and that the quality of the Carrageen is maintained.

Because of its high gelatinous content, it makes an ingredient in the manufacture of special paints and about 100 tons of it are used for that purpose by the leading manufactures in the United Kingdom. The Lancashire textile industries use about 200 tons for sizing. It is worth \$100 and upwards per ton.

This Irish Moss is highly favoured by some of our Canadian manufacturers and, if for no other reason, the romance of it has an appeal. The last shipment was about three tons, according to the External Trade Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 263. Sun. June 20, 1937 -- Leaf Collections.

We talk and write of "leafy June". It is the month of summer when the forests and hedgerows are arrayed in all their glory. This is the time, therefore, when people who are interested in foliage of trees and shrubs make little pilgrimages to collect leaves. It is a lesson-learning time.

The Division of Botany at the Central Experimental Farm tells us that now is the best time to make collections of fully grown leaves with the colour and texture still unspoilt by the attacks of insects, fungi and the elements.

These collections of leaves may be quite readily preserved if placed between two pieces of ordinary newspaper and this between some absorbent material, such as blotting-paper; the newspaper and blotting-paper thus forming the dryers. Place these dryers between two pieces of board, and upon the top a weight. The leaves will be dry in about twenty-four hours after they have been put in. They retain their natural colour almost indefinitely.

Here are some leaves which might be collected now; soft or silver maple, sugar maple, oak, grape, birch, sumach, smoke bush, elder, hawthorn, choke cherry, elm, witch-hazel and sweet viburnum. An artistic touch might be given to the spring collection by adding to them in the fall the same varieties when the colours have changed from green to warm tints of red and yellow.

Such a collection not only acts as a hobby but acquaints a person with the numerous Canadian trees. For instance very few people know that there are ten different species of maple trees, seven of birch, eleven of oak and ten of pine. Knowledge of our forest friends will make us more thoughtful of their preservation.

No. 264. Mon. June 21, 1937 -- The Ross's Goose.

Canada has many kinds of wild geese, and throughout the greater part of the Dominion they are highly migratory. One of the earliest signs of spring is the winging northward of these conspicuous birds to their nesting grounds in the far north, and a sure sign of the onset of winter is their southward flight. Their unerring instinct in travelling the skyways has intrigued man from the earliest times.

One of the least widely known of the wild geese of Canada is Ross's Goose. It is a small white goose no larger than a wild Mallard duck. It winters in California and in migration travels along a narrow line which takes it across the Rockies to Montana, northward through Alberta, and then somewhere beyond Great Slave Lake or Great Bear Lake it flies off into the unknown to nest no one knows where.

The Biological Survey of the United States has announced that one of its waterfowl observers may attempt the solution of this last waterfowl mystery of the continent, and others are known to be interested in solving the mystery. The Department of Mines and Resources, through the National Parks Bureau and the Northwest Territories administration, has helped the investigators by issuing permits, and the race is to the swiftest. Meanwhile, the nesting-place of Ross's Goose remains one of the mysteries of the Arctic.

This information comes from the Lands, Parks and Forest Branch of the Department of Mines and Resources to the Dominion Bureau of Statistics.

No. 265. Tues. June 22, 1937 -- Mining Under the Sea.

One of the most extraordinary things in Canadian industry is that much coal is mined under the sea three miles away from the shores of Cape Breton Island. This Sydney field is the most important coal deposit in Eastern Canada.

The sinking of the first shaft to work submarine coal was begun in 1868 but, owing to water trouble, it was not completed until eight years later. This shaft is of historical interest as it was the first on the American continent to use cast-iron tubbing for damming back the heavy feeders of water encountered whilst sinking. This same tubbing is still in use but, of course, it has seriously deteriorated in about 70 years and it has been reinforced recently by the modern method of pumping cement grout into all the rock fissures behind the tubbing.

When this shaft had reached one mile and a quarter under the sea in 1924 a second shaft was begun, and, apart from these two mines, the collieries now working submarine areas have passed gradually from land to submarine conditions without making any changes in practice beyond leaving 50 per cent of the coal as pillars to support the bed of the ocean.

More exacting conditions naturally have to be considered, the increasing length of transport of the men, materials and minerals, longer airways and the more distant supply of power.

Coal from under the sea comes to land at the rate of some thousands of tons a day, according to the Mining Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 266. Wed. June 23, 1937 -- Honorary Degrees.

Honorary degrees are usually doctorates of laws or divinity. University calendars do not describe the qualifications for which they are granted, but the general idea is that they are bestowed in recognition of eminent contributions to the public good by the recipients. The D.D.'s suggest outstanding theologians or pulpit preachers but the outstanding merits of the L.L.D.'s are much more varied. Soldiers and sailors have been known to win that distinction. Laws is an all embracing designation.

About one hundred of these honorary degrees are conferred per year by Canadian universities and colleges -- over 1400 in the last 15 years. Of these, only 18, or one per year, have been conferred on women.

Women do better in the doctorates won in the university course. These are the women of the younger generation. They earned 77 of the doctorates in 15 years, or five per year, while the men earned 791.

A considerable number of Canadians do post-graduate work in the United States for doctors' degrees but, even allowing for these, the doctorate in Canada remains primarily an honorary degree -- apart, of course, from the medical and dental varieties.

There is a change coming about, however, for fifteen years ago the honorary doctorates were about three times as numerous as those won by examination, but in the last few years there has not been a great deal of difference in their numbers. The graduate faculties of Canadian universities are being gradually built up, while the annual number of honorary degrees remains fairly constant, according to the Education Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 267. Thurs. June 24, 1937 -- Saint John the Baptist.

To-day is the feast of Saint John the Baptist, the patron saint of the French-Canadians. It is celebrated all over Canada wherever there is a French-Canadian group strong enough to form a branch of the Association Saint-Jean-Baptiste. Saint John the Baptist is for the French-Canadians what Saint George is for the Englishmen, Saint Andrew for the Scotsmen, Saint Patrick for the Irishmen and Saint David for the Welshmen.

The association was founded by Louis Duvernay, in Montreal, in 1834. It has ramifications in many large centres in the United States, especially in New York, most of the New England cities, Detroit and San Francisco. It has also a branch in Paris. The celebration consists generally of a street parade with allegorical floats, high mass in the open air, and a banquet flavoured with patriotic speeches.

According to the last census, the French-Canadian population of Canada was 2,927,990 of which 2,270,059 were in Quebec, 300,000 in Ontario, 137,000 in New Brunswick and 57,000 in Nova Scotia, the balance being distributed over all the other provinces. There were 15,000 in British Columbia and 51,000 in Saskatchewan. There are also over two and a half million French-Canadians living in the United States, mainly in the New England States and in Michigan and Illinois, according to the Census Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 268. Fri. June 25, 1937 -- Estimating the Population.

In the entrance hall of the Dominion Bureau of Statistics on Green Island which nestles above the Twin Falls that empty the Rideau River into Father Ottawa there is a curious little instrument upon the wall which records the estimated population of the Dominion of Canada every three or four minutes.

Coloured lights indicate the progress made from hour to hour in building up the population. They turn off and on automatically and as they appear or disappear the totals automatically accumulate.

The most joyous light is orange in colour for when it flicks on it indicates that a child has been born. On an average there are 645 babies born in this Dominion every day, that is one in every two minutes and 14 seconds.

Alongside the orange bulb is a red light which shows that a death has taken place. The average death rate in Canada is 288 each day or one every five minutes.

When the green light shows up it means that an immigrant, in all likelihood full of hope and confidence, has arrived to put up a brave battle for success in the new land. There are 124 of them every day on the average at this time, but there are 66 persons who leave the country daily, as shown by the yellow light.

By addition and subtraction, the estimated increase or decrease in population can be arrived at. At present there is an increase of one person every three minutes and 28 seconds. This is shown by a white light. To-night it is 11,228,872. At the census in 1931 it was 10,376,786, so that the population has increased by about 853,000 since then. These, of course, are only estimates. Only when the Census is taken can we be absolutely certain.

No. 269. Sat. June 26, 1937 -- Wedding Rings.

June is the month of weddings which have an economic as well as a social and sentimental interest. From the earliest times the wearing of a ring has been held to prevent the entrance of evil spirits into the body of the wearer; and in all parts of the world it has often been the custom to safeguard children from like influences by encircling their wrists with thread of cord. It used to be quite common to see sailors with plain gold rings in their ear-lobes, believing that by their benign influence the wearers would return safely home from their voyages. Even sanctity has been attached to the ring or circle, which has also been regarded as symbolic of eternity.

At the present day the efficacy of the finger-ring is still greatly believed in and many civilized people would not regard themselves as truly wedded if a ring did not figure in the marriage ceremony. There is something sacred also about an espousal ring.

In Russian marriages the bridegroom has a gold ring emblematic of the sun and the bride a silver one emblematic of the moon.

Fashions in wedding rings change. A hundred years ago they were as narrow as they are to-day, but gradually they became wider until fifty years later, no ring

was acceptable unless it was broad and heavy. The pendulum swung back to very narrow rings of to-day but already there is a tendency to revert to heavier rings.

And now for the economic aspect. Half the world's brides are said to be married with rings made in Birmingham, England, but practically all those used in Canada are made in this country. There were over 80,000 marriages in the Dominion last year, and presumably as many new wedding rings in requisition, according to the Manufactures Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 270. Sun. June 27, 1937 -- Flowerpot Island.

One of the most interesting sections of the Georgian Bay Islands National Park is Flowerpot Island, situated at the extreme northern end of Bruce peninsula, in the mouth of Georgian Bay, Ontario. This island owes its name to two rock pillars, separated from the limestone cliffs by erosion, which stand out boldly like immense flower pots. Small trees and bushes growing in the fissures of the rocks accentuate the resemblance.

On the eastern face of the island, cliffs of weathered limestone rise to a height of 300 feet above the level of the lake, in which are located a number of caves, while the rocky bluffs are covered with heavy growths of spruce, pine and balsam. Trails have been cut through the woods and up to the cliffs leading to the best known caves, and shelters equipped with camp-stoves have been constructed at different points.

Flowerpot Island was once the property of the Chippewa Indians, and is regarded with considerable superstition by the Indians of the district. An Indian legend relates that a prince and princess of different tribes, who were forbidden by their parents to marry, eloped and fled to what is now Flowerpot Island. They were never known to return, and the superstition exists to this day that the two pillars represent their effigies in stone.

Flowerpot Island is one of the thirty islands included in the Georgian Bay Islands scenic park. This park was established in 1929 and covers an area of 5.37 square miles. At this holiday time it is interesting to add that, based on information supplied by the Department of Mines and Natural Resources, there is a list of 20 National Parks with an area of 29,000 square miles listed in the Canada Year Book which is published by the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 271. Mon. June 28, 1937 -- New Fuel Mixture.

After five years of experiments with a new fuel mixture of pulverized coal and crude oil, carried out in England by a Tyneside firm in conjunction with the Cunard Steamship Company, tests have now been completed. It is said that the new colloidal fuel may be adopted as the principal method of firing ships in the British navy and the mercantile service.

It is a mixture of 60 per cent crude oil and 40 per cent pulverized coal, and technically it gives the same results as oil fuel, although it is appreciably cheaper.

The experiments have been carried out on various well-known vessels of the Cunard Line such as the Berengaria and Corinthia and it is stated that consistently good results have been obtained.

If the production of colloidal fuel in large quantities is undertaken it will mean a great deal to the coal industry of Great Britain and other countries where coal but not oil is available.

In Canada the production of crude petroleum is 52 or 53 million gallons a year whereas we import over two and three-quarter billion gallons of petroleum of all kinds, including 24 million for ships alone. Colloidal fuel, if it comes into vogue here, would therefore increase the consumption of Canadian coal by a very large amount.

These figures come from the Mining and Metallurgical Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 272. Tues. June 29, 1937 -- Industrial Production.

The statistical progress of the rise of Canada from out of the depression is now becoming clearer as the figures are being completed. We know, of course, that the lowest point of the depression was reached in 1933 and that the revival commenced in the latter part of that year. Progress upward has been fairly continuous since that time.

The total figures for 1936 are not all available but there has been recorded enough to show that the gain has been maintained. We have, however, the complete picture for 1935 and it indicates a betterment of six per cent over 1934 in the volume of productive operations. The estimated increase in population was only one per cent.

The Dominion figure of net commodity production in 1935 was \$219 per capita and only two of the provinces exceeded that average. Owing to its preeminent industrial position, Ontario had a per capita record of \$286, an improvement of \$18, principally due to advances in manufacturing, agriculture and mining. British Columbia registered \$250, an increase of \$17, largely because of forestry and manufacturing.

Alberta was third with \$203, and the rest in the following order: Quebec, Nova Scotia, Saskatchewan, Manitoba, New Brunswick and Prince Edward Island. Manitoba and Alberta alone showed recessions.

Total production was \$2,395,000,000 according to a report issued to-day by the Dominion Bureau of Statistics, Department of Trade and Commerce.

No. 273. Wed. June 30, 1937 -- Molasses.

The old fashioned open-kettle type of molasses is the finest quality made. It is prepared by boiling the cane syrup to the point where the sugars crystallize out. The entire mass is placed in barrels and the molasses allowed to drip from the sugar. It commands a high price because of its excellent flavour but relatively small amounts are produced.



Beet sugar, the kind we produce in Canada, is only edible after it has been through the machinery of a great refinery but, in contrast with beet sugar, cane juice is a prized article of food in all stages of manufacture, even when sucked directly from the cane itself. It provides for the native of the tropics a cheaper sugar supply than the grocery store yields in the land of winter frosts.

The mill that suffices for making sugar and molasses for local use in the interior of Venezuela, Guatemala or India may have two or three small rollers turned by oxen getting 50 or at most 75 per cent of the juice. This is boiled in open vats, and much of the sugar is left in the form of molasses; however, the molasses is one of the great staples in the nourishment of the masses in many tropical countries.

We consume large quantities of molasses in Canada, the dark coloured variety of which used to be known as treacle. Last year the home production was 1,727,000 gallons and we imported over 13 million gallons and exported some, so that the consumption is quite large. Much of it goes into the feeding of cattle, according to the Agricultural Branch of the Dominion Bureau of Statistics, Department of Trade and Commerce.
