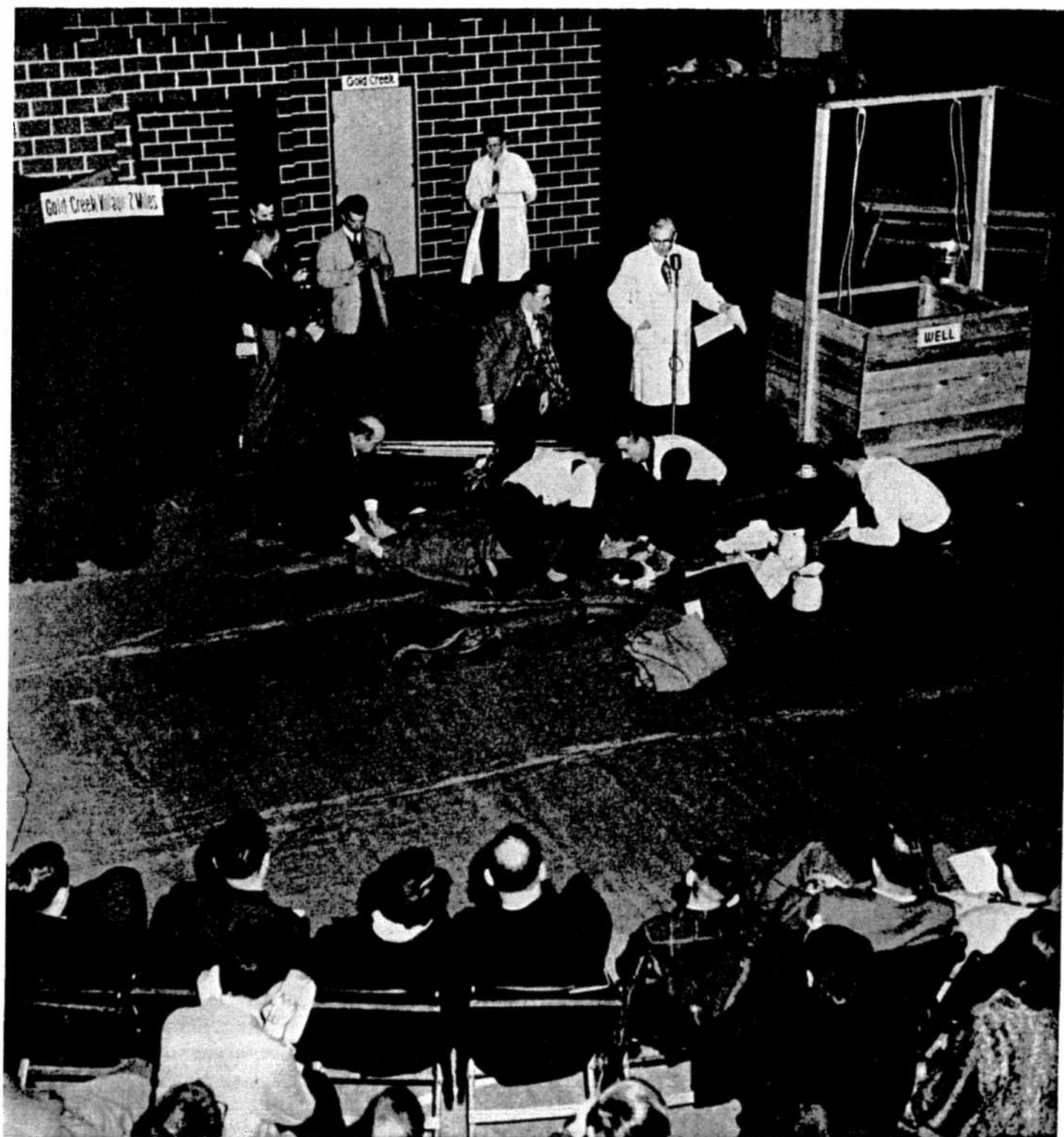


INCO TRIANGLE

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NUMBER 1



The Parker Shield Contest

(Story on Page 9)



Published for all employees of The International Nickel Company of Canada, Limited.

Don M. Dunbar, Editor.

EDITORIAL OFFICE COPPER CLIFF, ONT.

Feels Markets Can Be Created for All Metal Production

"With sufficient imagination and enough hard work, markets can be created for all of Canada's rapidly expanding metal production," Dr. John F. Thompson, chairman of the board of Inco, said in a speech before The Empire Club at Toronto on April 5.

Speaking on "Factors in Developing a Mineral Deposit," he said that a mineral deposit had no value unless the ore could be mined, refined and the resulting metal sold at a profit.

Canada is now going through one of the great stages of its metal development, with new mineral deposits being found in all parts of the country, Dr. Thompson said. He noted that many of these are deposits of metals for which the market at present is very limited and suggested that if markets are to be found not only for the additional quantities of existing metals but also for the newer ones it will be necessary to build up rounded organizations covering mining, smelting, refining, research, technical field service and, most importantly, a wide distribution system to dispose of the resulting products. He described how this was done by Inco.

"I believe that the same energy and vision which have led to the discovery of deposits will lead to the making of markets," Dr. Thompson told his listeners. "We have here, in Canada, great resources. Among the greatest of these are the energy and determination of its people. With sufficient imagination and enough hard work, I feel that markets can be created for all of Canada's rapidly expanding metal production."

Dr. Thompson said that a half-century ago the average mining company felt it had fulfilled its function when it produced finished metals in good quality and either offered them for sale on established open markets, "or put them on the shelf and waited for customers to come around." With the commercial development of new metals, there had to be a complete change of view on this matter.

Among the obligations the management of a modern mining company has is the primary one to the country in which the mines are located, Dr. Thompson said, adding that "nature has put a valuable material underground and that must be handled in a way which satisfies the national interest."

Management also has an obligation to its employees to see that they can have the opportunity to continue to work profitably in the industry throughout their lives and their children's lives, the speaker said. It has, too, an obligation to the customers to see that they receive the materials they want in the forms they want and that they can buy them in places located to suit their needs.

"Finally," Dr. Thompson said, "we have the sometimes apparently forgotten group, the stockholders who are risking their money in the enterprise and who, if the enterprise is to continue, must be satisfied with the

Held Retirement Party for Johnny Ray



Popular little Johnny Ray of the Copper Refinery mechanical department was the guest of honor at a stag held at the Caruso Club to celebrate his retirement on pension. He's seen above holding the gold watch which was presented to him from his fellow workers by Bob Rodger, mechanical superintendent, who stands opposite him. Between them is another gift he received, a 6-inch jointer-planer. Kneeling in the foreground are his sons Norman and Ronnie, also members of the mechanical department.

results of the stewardship."

He said that every time a pound of ore is mined, "you have removed something for good and all and, to the extent of that one pound, a mine or a mining district has moved towards its final extinction. But there are many people whose lives and fortunes are invested in having a continuing operation. From the local standpoint, it is vital, from the national standpoint, it is essential that the lives of mines be conserved over a long, regular period; that towns not become ghost towns; that the mines continue to pay the wages and taxes, support the schools and hospitals, and do all those things which we all regard as one of the functions of a modern mining company."

Dr. Thompson said that International Nickel preferred to locate ore deposits in Canada and had extended its search to all parts of the country. "But," he continued, "with the potentialities of the nickel market, it is necessary to extend the search further to other places where geology makes it possible that nickel deposits may be found. As a result, we must extend our exploration to all parts of the world where we feel that nickel is geologically possible and there should be a recognition that if a large, profitable nickel deposit is discovered, somewhere outside of Canada, Canadians, I feel, should be pleased with this discovery, not feeling that it is a competitor of Canadian mines, but feeling that it is an insurance that, as the world's demand for metals continues to grow, this additional source of supply only buttresses and supports the continuing life of the established Canadian deposits and of the towns and industries which are dependent on them."

PALLADIUM LEAF

The beating of precious metals into the form of leaf is an art dating back into antiquity but only recently has it been possible to secure palladium, one of the platinum group metals, in this form — a leaf less than one-two hundred-thousandth of an inch thick. This material is employed for decorating fine books, leather, picture frames, and for interior decoration where a white, non-tarnishing finish is desired.

Quick Canadian Quiz

1. Of the six Great Lakes, which has the greatest area on the Canadian side of the International Boundary?
2. In 1939 there were 51,700 new dwelling units completed in Canada. What was the 1955 total?
3. Canadian railways operate 6,328 passenger cars. How many freight cars do they operate?
4. Average wage in the Canadian manufacturing industry in 1939 was \$20 per week. What is today's average?
5. Excluding defence costs, which department of the federal government is the biggest spender?

ANSWERS: 5. Finance department, now nearly a billion dollars a year, mostly for interest on public debt. 3. 187,000 freight cars. 1. Lake Huron. 4. Slightly more than \$60 per week. 2. 127,552 new dwellings completed in 1955.

(Material prepared by the editors of Quick Canadian Facts.)



In this month's Inco Family Album roundup we have with us, above, Mr. and Mrs. Gordon Walters of Frood-Stobie with Fay, 5, Dean, 4, Gordon, 2, and Wayne, 1.



Mr. and Mrs. Pat Dinan (Creighton Mine) with Lorna, 4, and Kirk, 22 mos.



Mr. and Mrs. George Scott (Iron Ore Plant) with Anne, 11, and Robin, 13.



Mr. and Mrs. Alvin Cullis (Levack Mine) with Linde, 7, Kenneth, 2, Gordon, 12, and Lynn, 13.



Mr. and Mrs. Dan Lamarche (Garson Mine) with Roland, 16, Diane, 14, and Rene, 9.

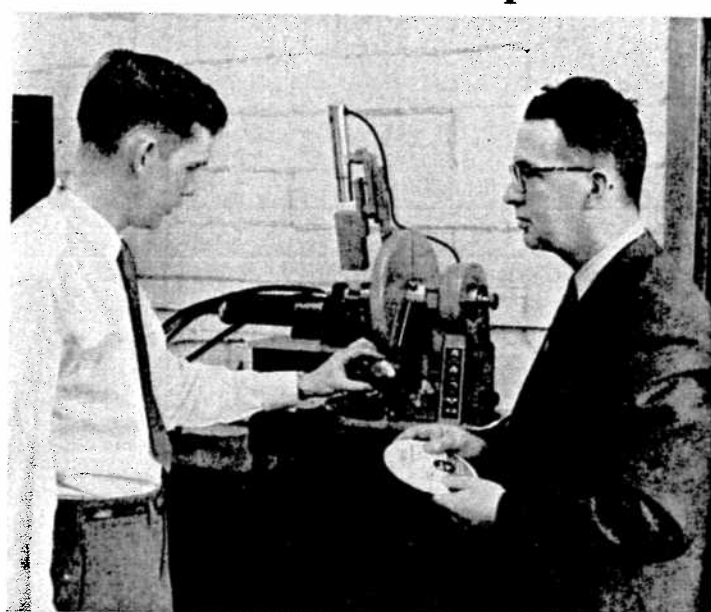
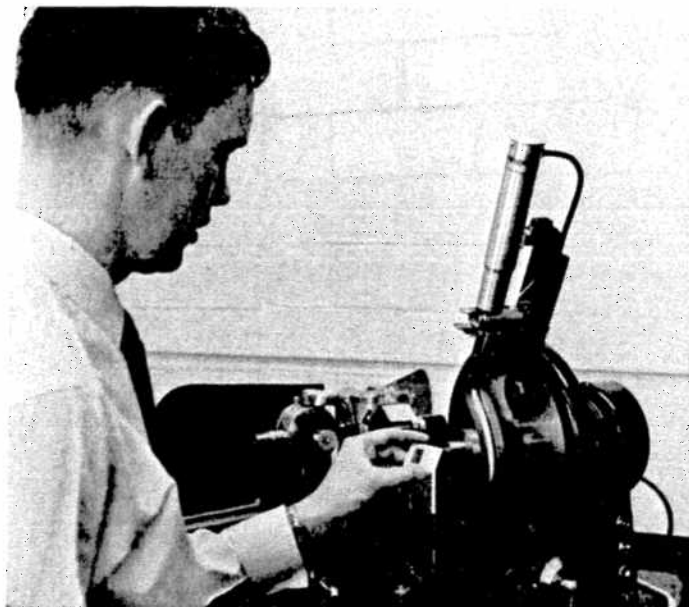


Mr. and Mrs. Cliff Buchanan (Copper Cliff pay office) with Paddy Lee, 5, and Bonnie, 4.



Mr. and Mrs. John Jamieson (Port Colborne) with Carolyn, 14, Nancy, 9, Marsha Ann, 4, and Peter, 16.

New X-Ray Analytical Equipment in Research Department



At Inco's research laboratory in Copper Cliff, Morley Grigg is about to insert a powdered sample of nickel sulphide in the department's new X-ray diffractometer for an analysis that will be recorded on both a film and a chart. At the right, making a spectroscopic analysis, he adjusts the angle at which the X-rays strike the analyzing crystal to determine the amount of nickel in a sample. With him is Cal Cupp.



Terry Podolsky of the geological research section confers with Morley on the chart recording of an X-ray diffraction analysis showing the elements present in a sample of ore.

Mystery Metals Are Identified by "Fingerprinting"

Inco's research department does not include a Criminal Investigation Branch but it takes thousands of "fingerprints" in the course of its metallurgical detective work.

By the X-ray diffraction method "fingerprints" are recorded of the unidentified minerals, chemical compounds, ores and what-have-you sent in a constant flow to the department by various other sections of the Company's operations for analysis. With all the certainty of an inspector from Scotland Yard saying "There's the culprit!" these mysterious substances are unmasked and named.

Everyone is familiar with the use of X-rays for studying broken bones, diagnosing tuberculosis, or inspecting flaws in metals. But in addition to their penetrating power, X-rays have other valuable properties: first, they are affected by solid matter in such a manner that a characteristic pattern is formed by each compound, which may thus be identified, this technique being called X-ray diffraction; second, since X-rays originate within an atom, the various atoms can be identified by the X-radiation they emit when bombarded by electrons or other X-rays.

X-ray diffraction has been used at Inco for almost 20 years, but X-ray spectroscopy has been in use for less than one year. The recent purchase of the modern and versatile X-ray analytical equipment shown in the accompanying illustrations has made available new analytical techniques.

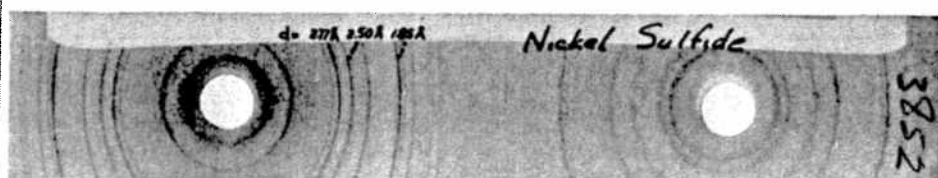
The atomic arrangement within any substance is exclusively its own, and is the "fingerprint" by which it can always be recognized. The problem is to record the "fingerprint" — to make it visible — since atoms, or the distance between them, cannot be "seen." This is done by X-rays.

In diffraction work X-rays are reflected, or diffracted, from solid crystalline matter in a systematic pattern consisting of a number of lines or arcs that can be recorded on film or by precision electronic equipment. The intensity of the lines and their spacing are directly related to the arrangements of the atoms, so that any compound may be identified by them. The recording instrument is a light-tight camera; the X-ray beam enters it through a fine pinhole and strikes the sample of material to be identified, diffracting the beam and forming a pattern, indicated by heavy marks, on the film. Patterns may also be obtained on a chart recorder.

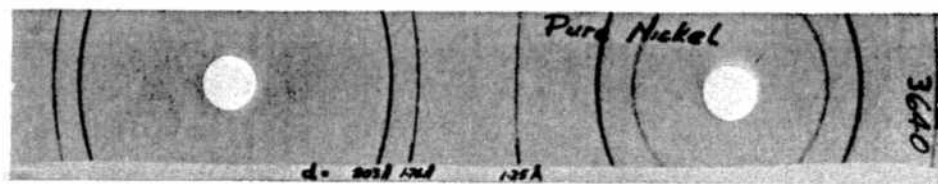
For the detection of the individual elements in a sample the principle involved is quite different. By bombarding the material with an intense X-ray beam, the new analytical equipment at the research laboratory can measure the amount of each element present.

When an element, such as nickel or copper, is irradiated by an X-ray beam it produces secondary or fluorescence X-rays which have a spectrum and wave length characteristic of the element no matter in what form it may be. For example, the copper may be in ore, in blister copper, or in refinery electrolyte.

A schematic diagram of the research lab's X-ray analytical equipment is shown on this page. Here a relatively large X-ray source (60,000 volts) is used since no focusing is involved and a high total intensity is desirable. Radiation from the X-ray tube causes the specimen to emit secondary or fluorescent X-rays in all directions, but only those rays



These strips of film show the "fingerprints" of two compounds as photographed at the research laboratory and reveal the marked difference in the atomic structure of nickel sulphide as it is found in ore and of pure nickel as it emerges from the refinery at Port Colborne.



travelling in a certain direction strike the analyzing crystal used to sort out the various wave lengths and consequently the various elements such as copper and nickel. The position of the analyzing crystal, which may be common salt or lithium fluoride, is adjusted so that only the X-rays belonging to the desired element will pass into the Geiger tube. Thus by changing the position of the analyzing crystal all the elements present in the sample may be separated, individually identified, and measured. The waves leave the crystal, pass through a collimator where they are straightened, and finally enter a Geiger tube which detects the X-ray energy and sends impulses to the strip chart recorder and electronic measuring circuit. The chart patterns identify the elements present in the sample, and from measurements reported on various meters the percentage composition of the sample is also determined.

Identifying an element by its spectrum is not new. Optical spectroscopy has been in use for many years, but the use of X-ray spectra is a new development made possible by recent advances in X-ray instruments, and is a technique that will be of considerable value in the future. At present it is limited because certain elements cannot be detected by their X-ray spectra. Two of these, sulphur and silicon, are of particular importance to Inco operations. They emit X-rays as all other elements do, but their X-rays are too "soft", or in other words their wave length is so long that they are absorbed by the air while travelling to the Geiger counter. By replacing the air with vacuum or helium it may be possible to overcome this problem, but further experimental work is necessary.

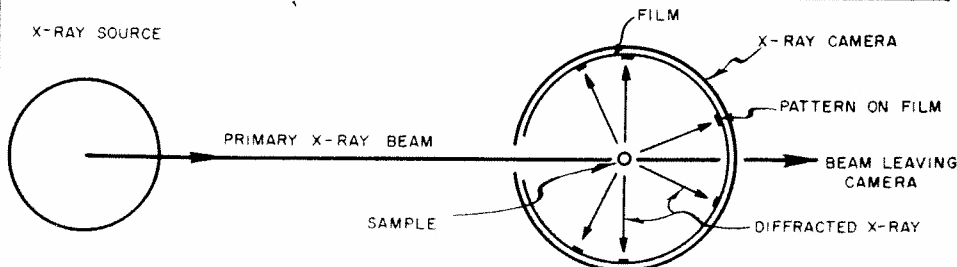
Recalls Association With Agnew, MacAskil

Early association with two men who became vice-presidents of the Company is among Gene Tancredi's many pleasant memories of half a century with the nickel industry. Away back in 1907, when he worked at Copper Cliff smelter for a time, John L. Agnew was a tapper and Donald MacAskil a helper in the same building. Each later became general manager of Inco, and Gene didn't do so badly himself, becoming maintenance mechanic foreman at Coniston, where he had completed more than 41 years of service when he retired recently on pension.

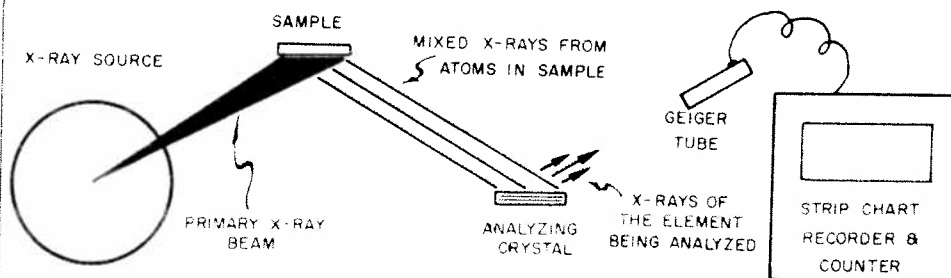
Gene came to Canada from Italy as a lad of 15 and during the next eight years held jobs at several Sudbury district mines and at Cobalt, worked on the new Copper Cliff hospital, and tried his hand in the smelter and the shops.

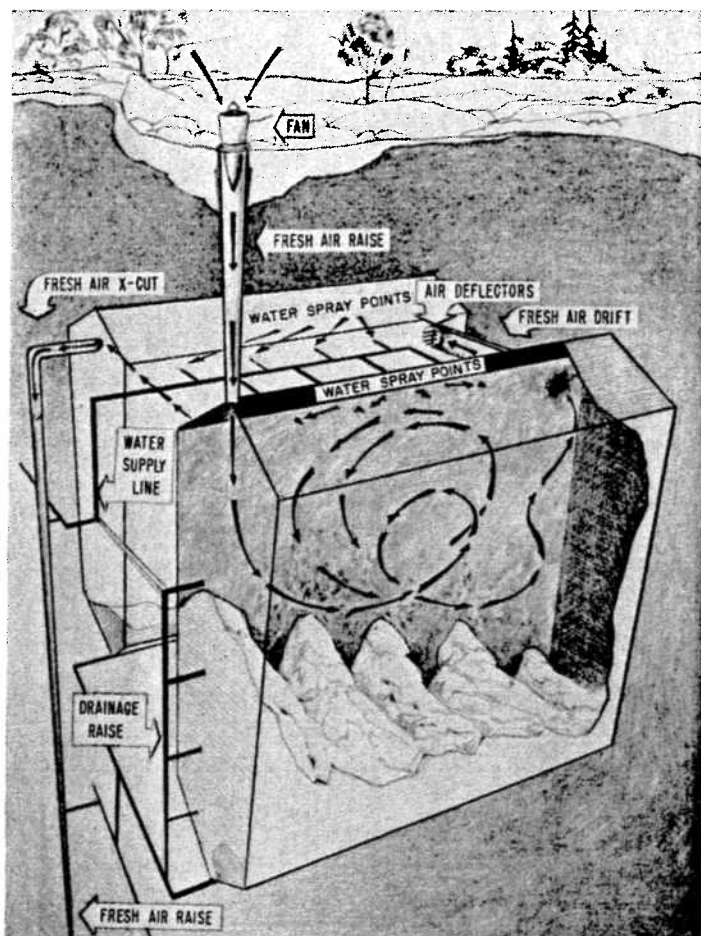
Gene's hobby is making almost anything with wood or metal and the double garage behind his Coniston home contains an unusually well-equipped workshop. Much of the equipment in this do-it-yourself-man's paradise Gene made from old auto frames and other discarded material.

While he was working at Victoria Mine in 1911 Gene married Madeline Grindatto, whose steadying influence was soon shown when he settled down for good at Coniston. They have one daughter Edith (Mrs. Whitfield) of Hamilton, and a niece residing in Florida whom they consider almost their own, having raised her from a child.



The top diagram illustrates the method of producing an X-ray diffraction pattern on film, and the one below shows how an analysis is made by spectroscopy.





Huge cones of ice seen in the above photograph were formed during the winter at the bottom of one of the two ice stopes in the unique air conditioning system at the Stobie section of Frood-Stobie Mine. The Orest Andrews drawing on the right shows how the system works: the surface fan supplies fresh air which is circulated through the great cavernous stopes on its way to the main intake. During the cold weather water is sprayed at the top of the stopes to make ice, and the latent heat of freezing is transferred to the air. In summer the warm air from surface is cooled as it passes over the ice. Water from the melting ice is drained to the mine pumping system through a raise connected to the stopes at 25-foot vertical intervals. The stopes, 80 feet wide, 200 feet long, and 200 feet high, are connected by a fresh air drift in the 70-foot pillar which separates them.

Cold Air Warmed By Making Ice Is System at Stobie

Warming cold air by using it to make ice is the unique heating system successfully demonstrated during the past winter at the main fresh air raise in the Stobie section of Frood-Stobie Mine.

Instead of stoking the furnace or turning on the oil burner when the thermometer dives below zero, they just step up the ice production to take the chill off the fresh air supplied to the workings.

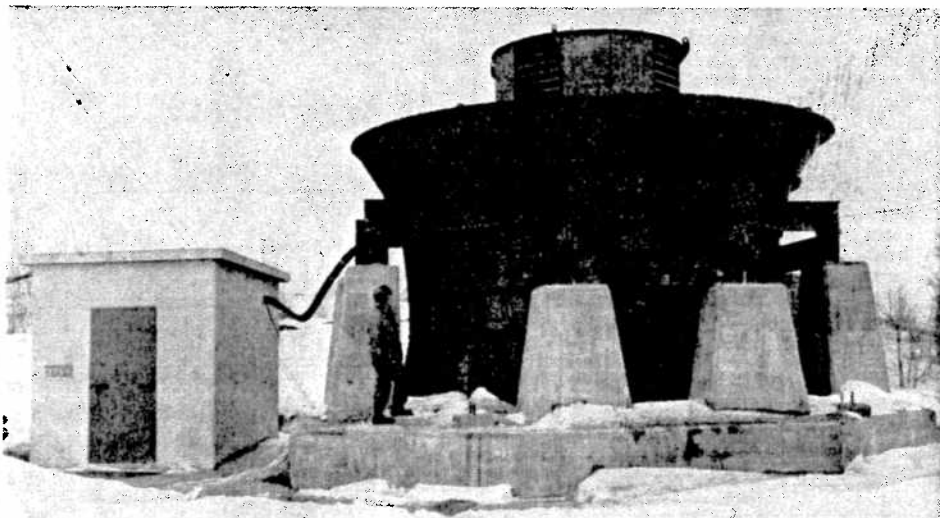
Basis of this slightly contradictory system is a very convenient little arrangement of nature whereby heat is released when ice is formed. The way it works at Stobie, a powerful fan blows cold fresh air from surface into two huge stopes mined out for the purpose between the 300 and 500-foot elevations underground. Sprayed into the air at the top of the stopes, fine particles of water turn to ice and the heat given up in this process is transferred to the air. This, along with the heat absorbed by the air from the large area of wall rock exposed in the stopes, added up during the past winter to 15 billion thermal units, or the equivalent of burning 100,000 gallons of oil or 850 tons of coal.

Consequently, although the temperature

on surface during the winter ranged to 25 degrees below, the fresh air delivered from the main intake of the mine ventilation system on 600 level varied only between 27 and 30 degrees above zero as a result of its side trip through the ice stopes.

During the winter period commencing January 12, when Stobie's new air conditioning setup first went into action, the

volume of fresh air supplied varied from 150,000 to 300,000 cubic feet per minute and some 40,000 tons of ice was formed at the bottom of the stopes. This amount will be considerably increased next winter when the system operates throughout the season. When the volume of air handled through the system ultimately reaches full capacity of 750,000 cubic feet per minute, it is ex-



One of the largest fans in the world is the 198-inch diameter vertical propeller-type fan delivering fresh air to the Stobie section of Frood-Stobie Mine. It is driven by a 650-h.p. motor. The impeller, mounted directly on the motor shaft, has 12 adjustable-pitch blades which can be set to handle up to 750,000 cubic feet of air per minute. Standing beside the fan is Bill Gaylor, assistant ventilation engineer at Frood-Stobie.

pected that upwards of 140,000 tons of ice will be formed in the stopes in a winter season.

During the summer the ice will be melted as the warm fresh air passes through the stopes, and the air will be cooled between five and 10 degrees. The humidity of the air will also be reduced as it cools below the dew point and much of its moisture drops in the stopes. This phase of air conditioning at Stobie is patterned after the practice at Creighton, where fresh air being delivered to the mine is cooled by passing it through the natural refrigeration system in the old workings where seepage water freezes during the winter months.

At other Inco mines where heating of fresh air is required during the winter, steam or oil installations are used. When the Stobie mining operation was being planned and it was noted that the logical position for the main fresh air intake lay in a low grade section of the orebody conveniently located between the two main mining areas, the feasibility of establishing ice stopes in this section presented itself. As a result, Stobie has been equipped with a remarkably efficient air conditioning system at a fraction of the cost of a heating plant and its operating expense during the life of the mine.

The ice stopes, mined by the blasthole method, are each 80 feet wide, 200 feet long, and 200 feet high, with a 70-foot pillar between. Fresh air is delivered by the surface fan through a 300-foot vertical airway 20 feet in diameter, and circulates through the two stopes in succession on its way to the main intake. Water from the mine's main pumping system is furnished at 120 pounds pressure to the four spray points in each stope. The volume of water required during the winter varies up to 200 gallons per minute.

From experience gained during the partial season the system was in operation this year, plans are being made to increase its efficiency by thermostatic control of the sprays and greater dispersal of the fine particles of water. As a result it is expected that the temperature of the fresh air delivered from the main intake in the mine will be held at about 32 degrees above zero.

Development of Inco's Iron Ore Recovery Process Is Described

The process developed and selected by Inco to recover the iron in the pyrrhotite of the Sudbury District nickel ores was described in a paper presented the 58th annual convention of the Canadian Institute of Mining and Metallurgy in Quebec City.

The paper was entitled, "Development of a Process for the Recovery of Nickel and Production of Iron Ore from Nickeliferous Pyrrhotite." It was prepared by the Inco staff and presented by Paul Queneau, assistant to the vice-president.

The paper noted that since the closing years of the 19th century numerous unsuccessful attempts have been made to utilize the iron in the large amounts of pyrrhotite in the Sudbury nickel ores. Immediately after World War II, International Nickel intensified studies on the isolation and treatment of pyrrhotite with two major objectives: to increase the effective capacity of the smelter to meet the continuing heavy demand for nickel, and to produce from the Sudbury Nickel ores a valuable ferrous by-product. The problem has been solved, the paper said, by a new process which recovers iron in the form of high-grade iron ore suitable for open hearth and electric furnace use.

The Inco process involves production of a pyrrhotite concentrate, roasting, reduction of

nickel to metal and hematite to magnetite, followed by leaching with ammoniacal solutions at atmospheric pressure to remove nickel, copper and cobalt. The magnetite is then balled and baked to produce hard one-inch hematite pellets for use by the steel industry. Another process developed by International Nickel, involving roasting, selective sulfating, and water leaching to remove nickel, copper and cobalt, was given exhaustive laboratory and pilot plant study but proved less attractive.

The first unit of the Company's iron ore recovery plant began operation at the end of 1955. The first large-scale iron ore shipments, analyzing 68 per cent iron, were made to Algoma Steel Corporation, Limited, and The Steel Company of Canada Limited early this year for use in their open hearth furnaces at Sault Ste. Marie, Ont., and Hamilton, Ont., respectively. In full operation, the first unit of the plant will treat 1,000 tons of pyrrhotite per day, corresponding to an output of 250,000 tons of iron ore per year.

Bert Stone Retired But Busy As Ever

Feeling in top shape and rarin' to go, Bert Stone recently paused long enough to retire from the coal plant at Copper Cliff smelter after 37 years of credited service, and then got busy on his plans for the future. With several job opportunities to choose from, and a new home and garden to locate, he has little time for loitering.

Bert has been on the hustle ever since he started helping his father on their farm near Kingston, where he was born in 1891. Deciding to strike out for himself in 1910 he headed for New Liskeard and during the next seven years he ran a farm, operated a store, and worked for Hill-Clark-Francis. Spotting an Inco advertisement for men in a Toronto newspaper one day, he decided to move on

and lost no time in accepting the invitation to go to Copper Cliff.

His first job with the Company was as a policeman at Creighton, after which he moved to the blast furnaces at the smelter, remaining there until the 1921 shutdown. On returning to work he became foreman of the ore bins, then, from 1930 to 1938, town foreman, and finally an operator in the coal plant, a job that suited him to a T, he says.

Bert was married at Cache Bay in 1911 to Katherine Pierce of Eganville. Of their four children Norman is a shift boss in the coal plant and Sid is foreman in the machine shop at Copper Cliff, Ray is an electrician at the Copper Refinery, and Grace is Mrs. Norm Carscadden of Sudbury. Holidays and anniversaries are always the signal for a family reunion and a chance to enjoy Mom's superb cooking once again.

Next to working and gardening, fishing is Bert's chief interest and he intends to devote himself a little more seriously to it in the future. May all his bites be big ones, is the wish of his many friends.



At a retirement presentation in their home, Mr. and Mrs. Bert Stone receive a gift from Robt. Saddington, superintendent of smelters.

A Reminder of Old Days on the Farm



Lloyd Thompson of Murray thinks mechanically minded readers of the Triangle will get a kick out of this snap taken some 40 years ago in Gaspé, Quebec, showing how they sawed wood in the good old days. The horse on the treadmill, Lloyd says, rejoiced in the name of Hector. The man indicated by the X is Lloyd's father, Douglas Thompson, who retired on Inco pension at Garson in 1947 and now at 75 is fit as a fiddle and full of pep. Another of his sons, Warren, is a member of the electrical department at Copper Cliff, and his daughter is Mrs. Bill Luke of Sudbury.



R. H. Waddington presented the championship trophy to the happy Creighton Mine first aiders, Captain Gordon Andrews, Moise Leblanc, Allan Steele, Ernie Wunsch and Karl Koop. Their coach, Billy Young, stayed away from the contest on the hunch that his presence might jinx his team.

Creighton M With Sparkli

Quick thinking, cool co-op pressure, and letter-perfect treatment for the Creighton Mine team won the Inco inter-plant first aid contest and the R. D. Parker shield in the final match at the Employers' Club in Sudbury.

For the third year in succession the Cliff sinter plant entry captain, Ratkay was the runner-up for the title.

The judges, Dr. H. F. Mowbray and H. Stanyon, said both teams showed a skilled performance in diagnosis and treatment of the three patients which was the tricky problem prepared by the safety department.

Realistic props and extensive use of the public address system added to the interest of the 400 spectators who watched the contest closely and gave the winners an enthusiastic ovation.

In the unavoidable absence of the trophy was presented to C



Here the new Inco inter-plant first aid champs are seen in action, working on two of the three patients they were required to treat in the final contest. Captain Andrews is at the right.



The Copper Cliff team is to right are Cliff Adams, Dell of the squad was J. Gauthier



Marks obtained by the team B. Sullivan, counted in the final. On the right the judges of the contest were counting their scores before announcing the results.

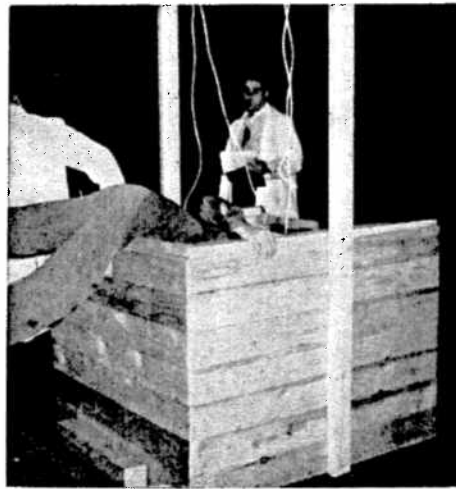
Ins Parker Shield First Aid Exhibition

Andrews and his victorious Creighton crew by R. H. Waddington, assistant to the vice-president, who heartily congratulated both teams on their knowledge and skill. As a result of the Company's long-standing emphasis on first aid instruction, he said, one out of every four employees has received St. John Ambulance training, an achievement in which the Company took special pride. A total of 155 men had taken part in the series of elimination contests for the Inco first aid championship.

Creighton had captured the Parker shield only once before — in 1940 with Jack Buchanan as captain.

As usual the problem for the final competition produced plenty of surprises to test the ability of the first aiders in a crisis. They stood up well. The first patient they were called on to assist (Bob Tupling) had fallen down a mountain and was suffering from laceration of the left forearm with arterial haemorrhage, laceration of the right lower

(Continued on Page 14)



It was just one headache after another for the first aiders. A fellow fell down a well and had to be given artificial respiration.



Another man came yelling from a shack, seriously injured by an explosion while the first aiders were still treating the ailments of a third unfortunate who had tumbled down a mountain.



the problem before swinging into action. Left Catkay, and Albert Poulton. The fifth member h Norman Meaden.



examinations on first aid, conducted by Dr. J. the left above Cliff Adams takes the test. On H. Stanyon and Dr. H. F. Mowat, complete as winner.



And the weeping and wailing wife of one of the accident victims had to be dealt with gently but firmly.

Writing Finis to Another Very Successful Curling Season



One of those gastronomical orgies of infinite variety and delight for which Red Planosi has become justly famous was a tremendously popular feature of the second annual Froid-Stoble bonspiel at the Copper Cliff curling club. Some of the boys are seen in the picture at the left, heaping their plates. Bill Hertlein skipped his rink of C. O'Hara, C. Price and J. Teahen to victory in the third event and the grand aggregate. Winning rink in the first event was composed of Ned Leore (skip), R. Tobin, G. Orbeck, and D. McLellan; the second event went to C. H. Stewart (skip), W. Johnson, C.



Moffatt, and D. Westhaver, while the consolation was won by D. Williams (skip), W. Morton, N. Anderson, and D. Simon. There were 34 entries in this very successful 'spiel. In the picture on the right are the victors in the first event of the 28-rink Copper Refinery bonspiel, also held at the Copper Cliff curling club: Joe Harrison (skip), Bill McBain, Gerald Sauve, and Murdo McKenzie. The winners of the second event were E. Rabeau (skip), G. Stesco, B. Pin, and S. McLeod, and of the third event Norm Ripley (skip), C. Mateyko, R. J. Roy, and D. Kostanza.



A handsome new permanent trophy donated by Andy Ballantyne to replace the home-made one put up for competition when the Little Brier was launched by Andy, the late Jimmy Duncan, and Frank Matte back in 1949, got its first winners this month. Victors in the 1956 staging of the Copper Cliff shift curling league classic were Johnny Cecchetto's rink. The presentation scene is shown above: left to right, Mrs. F. Wayman (the former Mrs. Duncan), Andy Ballantyne, Johnny Cecchetto, Billy Young, Red McGregor and Albert Junior.

Lauri Hellman Is A New Pensioner

Big smiling Lauri Hellman, yard foreman at Garson, finally yielded to the advice of his doctor to call it quits and head for the pasture — quite a change for a fellow who always revelled in a good day's work, but that's the way it goes sometimes.

Born in Finland in 1899, Lauri came to Canada in 1923 and hopped a train for Sudbury — just why he cannot recall although now he realizes he put his blue chips on the right horse that day. When he turned up at Creighton to look for work Charlie Lively took one quick gander at this big brawny fellow and hired him just like that.

Lauri took his turn at all the phases of mining at Creighton and eventually became a shift boss. He transferred to Garson in 1941 and worked underground there until 1951 when his health started misbehaving and he came up to surface to take the post of yard foreman.



MR. AND MRS. LAURI HELLMAN

One day in 1926 Lauri realized that the fare at his boarding house at Creighton was almost too good to be true, what with extra helpings of steak and other delicacies always coming his way. He then discovered that one of the young waitresses was prepared to provide these gastronomical goodies on a permanent basis, with the result that Jenny Meiyala became Mrs. Hellman and after 30 years is still delighting Lauri with the finest in food. They have one daughter, Kirsten (Mrs. Gegg) and, Lauri avows, the two finest grandchildren in the world.



Runners-up in the Little Brier this year also received classy prizes at the grand finale staged at the curling rink: Mrs. Wayman, Mr. Ballantyne, and John McNamara, Rudy Duffy, and Val McGauley (skip); not shown, Art Fairbairn.

Jim Ferguson in Mechanical Work Full Half Century

A full half century of working with men and machines is the impressive record completed by Jim Ferguson, Inco master mechanic of mines, whose retirement on service pension was the occasion for a largely attended complimentary dinner in his honor at the Italian Club in Copper Cliff.

It was in 1905 that this peppery Aberdonian was indentured at the R. W. Lewis Shipbuilders and Engineers in Aberdeen, Scotland, to apprentice as an engineer (which he defines as a sort of super machinist). Apprentice pay was at the rate of a few shillings a year until the five years of service was completed. Jim finished his apprenticeship in 1910 and spent the next year with a firm of shipbuilding engineers in Glasgow.

An unwavering fascination for mining that had been with him since boyhood then took over and Jim found himself working during the next three years as machinist and pump fitter at a couple of South African gold mines. Then he headed for Canada and the mining camps of the north, finding no jobs available at Sudbury but picking up a tip that landed him a berth as general machinist and outside foreman at the Dome.

Not a man to turn down a chance of improving himself, Jim lost no time getting to Thetford Mines when offered the post of Master mechanic at Consolidated Asbestos Company. The 12 years he spent in that French Canadian town, he now recalls, were among the most pleasant of his career.

In 1917, he married his childhood sweetheart from Aberdeen, Annie Cameron Ross, the ceremony being performed at Montreal. Their only son, Ross, was born at Thetford Mines.

Jim recalls with some pride that Consolidated Asbestos, during his time with them, initiated the first underground mining of asbestos, all previous operations having been by the open pit or surface method.

In 1929, amalgamations and consolidations were taking place in the asbestos industry and that spring found Jim taking over as master mechanic for Johns-Manville at Asbestos, Quebec. This move, however, was a short-lived one because that fall Jim eagerly accepted an offer from Inco to become master mechanic at its great new Frood mine. Eight years later, when Dave Butchart retired, Jim succeeded him as master mechanic of all Inco mines.

A flair for getting things done — especially big things — stood Jim in good stead hundreds of times during the past 20 years, which has been an almost continuous round of expansion, alteration or improvement at Inco's mining operations. Reflecting back over his action-packed career, Jim gets his greatest satisfaction from the part he and his department played in installing and maintaining the huge equipment in the underground hoistrooms and crusher stations. The challenge of transporting and erecting these massive machines in their deep subterranean chambers is one to fire the imagination of any mechanical engineer.

During Jim's administration as master mechanic of mines the Open Pit was born and grew to full maturity, and with it all the problems peculiar to that highly mechanized round-the-clock enterprise. The way in which the many serious emergencies that arose were taken in stride by Jim's organization was a tribute to their skill and cool-headed ingenuity.

Cage and skip hoists have always been



Mr. and Mrs. J. C. Ferguson, photographed at their handsome new home in the Beaton subdivision, Sudbury.

Jim's favorites, and he was never happier than when confronted with some problem involving one of these beautifully machined mechanical giants. For example, when it became necessary to renew the rope grooves on the skip hoist at Frood-Stobie No. 3 Shaft, a job that had previously meant sending the drum back to the factory, Jim decided it was high time this sort of thing was being done at home. So a special cutting lathe arrangement was made in the hoisthouse and the drum was regrooved without even being taken off the hoist. That was the kind of achievement in which Jim always took keen personal delight. It marked the first time in Canadian mining history a job of this type and size had been done in the field.

During the year preceding his retirement, Jim and his son Ross, under the watchful eye of Mrs. Ferguson, did much of the work themselves in their spare hours on a fine new bungalow in Sudbury's Beaton subdivision, where the family is now very comfortably installed. An extensively equipped workshop in the basement, and grounds offering ample scope for the horticultural talents of himself and his good wife, plus various other interests, indicate that in retirement Jim is going to be almost as busy as ever. Which will suit him fine.

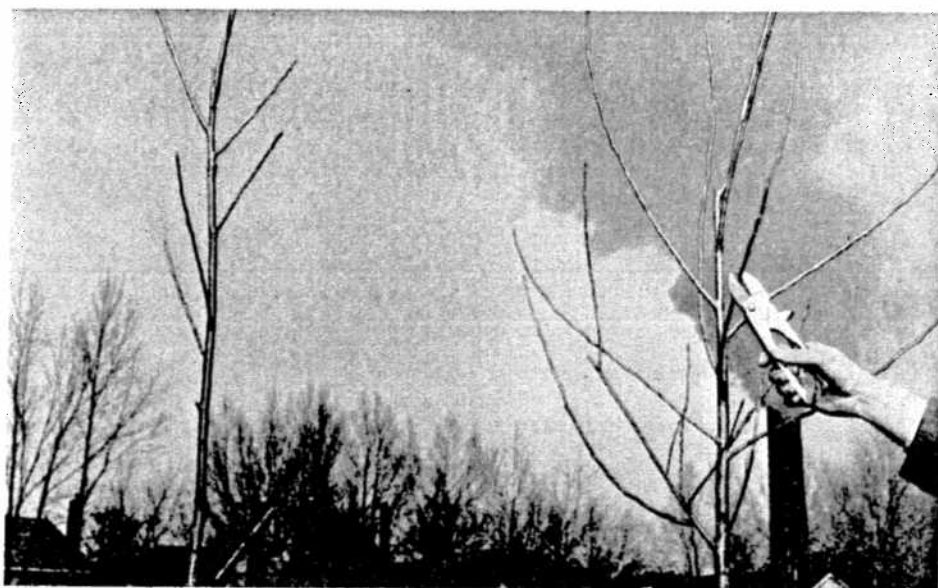
A SURE SIGN

"Our lad's growing up, Mary. I saw him walk around a puddle today."

Plenty of Presents for Bill Ripley



W. J. Ripley, retiring master mechanic of reduction plants, has just come out with some of his dry wit, judging by the broad smiles of J. C. Parlee, manager of reduction plants, W. W. Ibbotson, the new master mechanic, and R. D. Parker, vice-president and general manager of Inco's Canadian operations. The scene was the head table at the party given at the Italian Hall in Copper Cliff for Bill on his retirement. The framed cartoon he is inspecting, and, on the table in front of him, the model bulldozer, miniature hammer and bar, duck decoys and blue jay plaque, were all presented to him, each with its own little amusing story. He also received an outboard motor. There were almost 400 present.



In the early springtime all sucker growth should be removed from established trees, as is being done in the first of the above photos. The second picture shows a Carolina poplar as it would arrive from a nursery and how it should be pruned when planted.

Pruning Trees and Shrubs Important Springtime Task

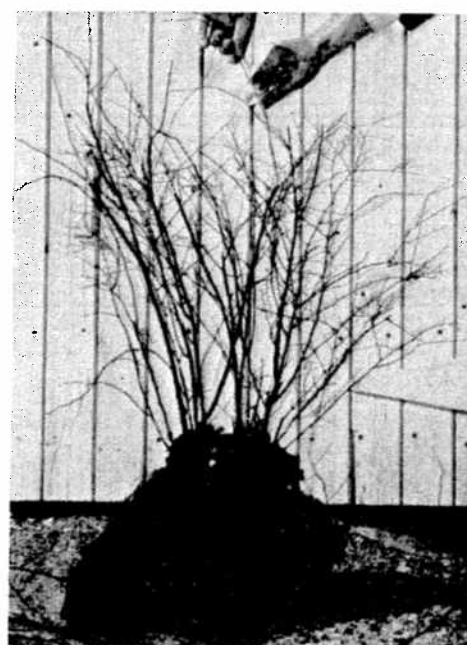
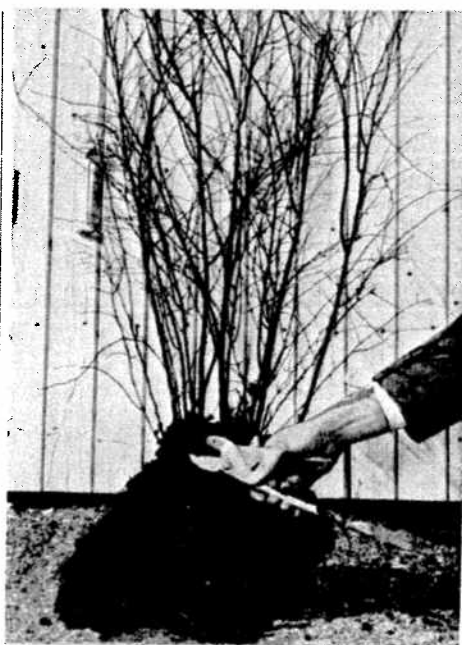
About the first outside spring activity a gardener can undertake is pruning the trees and shrubs that he has used to landscape the grounds of his residence. This is often done before the spring clean-up or as part of it. Pruning is an old subject with many facets but beneficial results can be obtained by following a few basic principles and applying them intelligently. Thoughtful well-planned pruning will improve the symmetry of a tree or shrub and, in the case of flowering shrubs, often enhance the quality of bloom. On a year-round basis the removal of dead, diseased or broken branches as they occur will be to the shrub's physical and aesthetic benefit.

The following tips on this important phase of horticulture were prepared by Inco's agricultural department.

The tools required for pruning are very simple. A sharp pocket knife will often suffice, while the gardener with a greater number of shrubs will find that the purchase price of pruning shears will be amply repaid by their ease of operation and their effectiveness. In trimming hedges, sharp wood-handled lawn shears are often sufficient while on larger branches of trees a saw, such as is found in any home handyman's tool chest, is adequate.

In pruning established trees, which is an early springtime job, all sucker growth should be removed if this was not done as the growth was noticed the previous year. Now, with branches bare, it is easy to notice any branches that cross or rub one another, and the symmetry of the tree can be improved by removing branches that make the tree appear unbalanced. Now is the time that branches which are too low, and interfere with people walking under them or with cutting the grass around the tree, can be pruned off.

Before growth starts in the spring it is advisable to prune and shape hedges, to be followed with a second pruning in the later summer to preserve the desired shape. As previously mentioned, lawn shears are often adequate for this job. In order to preserve the density of the hedge at its base, it is essential to prune in such a manner that the hedge is broader at the base than at the top.



Here's a spirea as it arrived from the nursery and how it should be pruned for planting. The hands appearing in these pictures belong to Tom Peters of the agricultural department.

Hedges that have been found to be particularly hardy in the Sudbury district are Chinese elm and honeysuckle.

In pruning of specimen or individual shrubs, some thought must be given to the flowering habit of the shrub concerned in order that it may be pruned at a time that will not interfere with flowering. Hydrangea should be pruned early in the spring, removing most of the previous year's growth on each stem down to two or three living buds. Hybrid tea roses are handled similarly. On the other hand, lilacs, honeysuckle, mock orange and spirea should be pruned immediately after blooming, and only to maintain the pleasing shape of bush as required. Lilac bloom should be removed immediately it is past to prevent the formation of seed pods which have an exhausting effect on the plant.

At the time this copy of the Triangle reaches the hands of many of its readers, shipments of nursery stock will shortly be delivered to their homes. Except in the case of the evergreen shrubs and those deciduous shrubs which arrive "balled and burlapped", where only any broken ends of branches that are occasionally found should be pruned, it

is essential to prune the tops of the tree or shrub to compensate for the loss of feeding roots when the plant was dug at the nursery. From one-third to one-half the branches should be removed to balance the above ground portion of the plant with the roots. An accompanying photograph shows unpruned Carolina poplar as it would arrive from a nursery and how it should be pruned when planted. Similar photographs show a spirea as it would arrive from the nursery and as it should be pruned when planted. The pruned branches in this case are in the foreground of the picture.

Prior to planting, any damaged roots should be removed but in any case never prune the roots to fit the size of the hole which has been dug, always enlarge the hole to fit the roots.

When pruning it is best to prune a little, then stand back, observe the effect and then prune as required to obtain the desired shape. The job should be approached with the point of view of a surgeon and not that of a butcher. Thoughtful pruning will benefit the plant, and the owner will reap his satisfaction from the appearance of his more attractive and vigorous growing shrubs.



Present Trophies To Champions of Levack League

The Nickel Belt has been called "a hockey scout's paradise", so thoroughly organized is the national game for the stars of tomorrow. Among the many fine leagues operated for the little gaffers, none is conducted in better style or with more enthusiasm than the one at Levack, which on April 7 wound up the season in the grand manner with a banquet and presentation of trophies.

Marty Callaghan, that indefatigable booster of boyhood who heads up the kids' hockey league organization for the Levack Athletic Association, was chairman of the banquet. A group of the boys' mothers, under the chairmanship of Mrs. Frank Doyle, cooked and served the delicious meal.

Among the speakers was Frank McAteer, mine superintendent, who stressed the value of the league to the community. T. M. Gaetz, Inco superintendent of mines, said the completion of the schedule in which 210 boys took part with no serious injuries was a credit to the players, coaches and managers, and referees. He warmly congratulated the committee and all others who gave of their time and talent to make the league a success. George Kormos, Sudbury recreational director, was another head table guest who emphasized the importance of young hockey players keeping in condition and obeying their coaches and referees to make the most of their athletic opportunities.

In the accompanying photographs are the league's trophy-winning teams:

TOP PICTURE: Squirts (6-8 years). Detroit Red Wings, winners of the Demarco Bros. trophy. P. Owens, coach, K. Taylor, manager. Front row: R. White, J. McLean, D. Didur, D. Purvis, T. Luoma, G. Storey, J. Piaskoski. Back row: D. Smith, D. Laidlaw, D. Bouclin, T. Benoit, R. O'Shell, M. Nadon, S. Doyle.

SECOND PICTURE: Peewees (8-10 years). Montreal Canadiens, winners of the Taylor Atlas trophy. D. Wright, coach, J. Rowlands, manager. Back row: R. Kemp, R. Rafuse, A. French, R. McCue, B. Wrixon, B. Langin, B. Frohlick. Front row: R. McGowan, T. Wright, G. Sarazin, A. Mornan, R. Hilton, J. Piaskoski. Not shown: B. MacDonald, R. Mitchell, K. Byrnes, C. Piprell.

THIRD PICTURE: Minor bantam (10-12 years). Detroit Red Wings, winners of the Piccolo Bros. trophy. F. Doyle, coach, M. Callaghan, manager. Front row: M. Senuick, J. Doyle, M. Callaghan, G. Watier, J. Winn, W. Yahnke, R. Cucksey. Back row: B. Rowley, E. Kelland, M. White, R. Picard, E. Bishop.

FOURTH PICTURE: Bantam (13-15 years). Legion Bantams, winners of the Palumbo trophy. J. Fortier, coach, J. Delorme, manager. Back row: T. Otto, K. Purvis, G. Picard, G. Piaskoski, H. Lively. Front row: T. Carvel, M. Simpson, J. McNamara, R. Ethier, D. Tulloch, R. Davis.

Levack High School's Thunderbolts were also honored, having won the honors in their league with Coniston, St. Charles, and Chelmsford. The F. McAteer award for the most valuable player on the team was presented by the donor to John Proudfoot.

CORRECTION

"Half the City Council Are Crooks," was the glaring headline.

A retraction in full was demanded of the editor under penalty of arrest.

Next afternoon the heading read: "Half the City Council Aren't Crooks."

At 71 This Happy Inco Pensioner Full of Help and Hustle



With the agility of a man half his age Bill Bradley lifts his protege, Norman Bradburn of Copper Cliff, from wheel chair to car for their weekly trip to the art class for paraplegics in Sudbury. At the right, Bill is seen at the class in the Red Cross centre, instructing Norman in the principles of perspective. This Inco pensioner calls his work with the paraplegics one of the most rewarding experiences in all his 71 years.

Bill Bradley Helps Teach Paraplegics' Special Art Class

Many an Inco pensioner favored by continuing good health turns some of his leisure time to community service. One of these, to whom "doing unto others" has always been a great deal more than just a copy book maxim, is Bill Bradley, who was painter foreman at Copper Cliff before his retirement and now resides in Gatchell.

Bill has always been aware that this wonderful world of his contains a fair percentage of people who will never enjoy such vibrant health, interests and activities as have been his happy lot these past 71 years and more, and in his own unobtrusive way he has tried to show his appreciation to Providence by lending them a hand when he could.

Recently a tailor-made opportunity for service presented itself when the Sudbury Arts and Crafts Club, of which Bill is an enthusiastic member, originated an art course for paraplegics of the district who were interested. Along with several other members, Bill immediately offered his services as an instructor.

Commencing four months ago the classes are held each Thursday afternoon for two hours at the Red Cross centre, where the staff has been most helpful and co-operative. Students of this unusual art school are transported to and from the centre by taxi, Red Cross ambulance, or private car, the last-named belonging to Bill. Each Thursday, shortly after 1.00 o'clock, finds Bill at 11B Orford St., Copper Cliff, where he both literally and figuratively picks up young Norman Bradburn, takes him to the class, teaches and encourages him there, and then taxis him back home again.

In discussing the purpose of the project, Bill pointed out that painting is not usually considered a form of occupational therapy but rather a medium by which patients may express themselves and help keep the mind and body interested and active. Instruction at the classes to date has been concerned chiefly with the basic principles of art. The encouraging part, as Bill points out, is that one can learn these quite readily and is then

on the road to capturing on canvas some of the beauties and wonders he sees in nature. Progress of the pupils is most gratifying, he says, a statement with which other instructors including Mrs. Norman Meaden and Bruno Cavallo heartily agree. It is their hope and goal that each member of the class will eventually paint a picture acceptable for framing and hanging in their own home. What a wonderfully thrilling sense of accomplishment that would give them, only those working with them can fully appreciate.

A still life assignment has already been completed by the class with very good results. The students are most enthusiastic and in several cases display ability which to the casual observer appears beyond their physical limitations. They are all obviously determined that someday they will produce a picture that will stand comparison. The way they accept the challenge of their handicap and cheerfully strive to conquer it is a never-ending source of inspiration to their teachers.

Bill Bradley's own accomplishments are rather unique in that he is both a painter and an artist, having apprenticed and qualified as a master painter before coming to Canada in 1914. Born in 1884, he started painting pictures at the tender age of 10, and it has been his favorite hobby ever since.

He established a prosperous business as a painter in England before coming to Canada to join Eaton's interior decorating department. When he was sent to handle the decorating of the new Copper Cliff Club in 1916, his careful and competent workmanship led to a contract to paint 100 Company houses at Copper Cliff and Creighton, after which he was retained as the Company's painter foreman. Except for a two-year interval when he returned to Toronto, he was an Inco man until his retirement in 1950.

Since coming to the district Bill has always been particularly active in church work, both in the administrative end and as a choir member, besides giving countless hours of dedicated work with his brush as freely and gladly as he devotes himself to the paraplegics. Working with the latter, and helping them to overcome, or at least live with, their handicap, he says, is one of the most rewarding experiences of his life.

PASS THE PANSIES, PLEASE

Diner—"I say, waiter, the flowers on this table are artificial, aren't they?"

Waiter—"Yes, sir. That's the worst of running a vegetarian restaurant—if we use real flowers, the customers eat them."

Creighton Wins

(Continued from Page 9)

leg with mixed haemorrhage, fracture of both femurs, and shock. While his injuries were being treated the situation took on additional complications when the hired man at a nearby cabin (Tom Crowther Jr.) fell down the well, from which he had to be rescued and given artificial respiration. The final calamity struck when the owner of the cabin (Andy Muir) took part in an explosion that left him with arterial haemorrhage from the palm of the left hand, laceration on the forehead with venus haemorrhage, concussion and shock, and fracture of both patellas.

When the two accident victims, swathed in bandages, were at last loaded on stretchers for the trip down the trail to the doctor at Gold Creek, and the drowning hired man was all drained out and back on his feet, the first aiders could be pardoned for heaving a mighty sigh of relief. They knew they'd been in a competition.

Two "bystanders" who were recruited by the teams to assist with treatment of the patients were Mike Malloy and Leo Legault. The timekeeper was Bert Debney, and the assistant trouble-maker who helped Tom Crowther plot the problem was another old hand at first aid contests, Joffre Perras. The weeping wife of the cabin owner was realistically played by Ray Bouchard.

Other teams besides Creighton and Copper Cliff competing in the semi-final contests for the H. J. Mutz and D. Finlayson trophies were:

Frood-Stobie, F. Black (captain), J. Janitens, M. Jefferson, G. Janitens, C. McGregor, R. Wotton (coach).

Garson, C. Tulloch (captain), N. Bauer, G. Morrison, H. Rorison, R. Fraser, L. Demers (coach).

Levack, T. Greavette (captain), T. Hamilton, D. Blake, A. St. Jacques, W. Manesto, F. Spencer (coach).

Murray, J. Martin (captain), L. Visentin, M. Miller, N. Kaleniuk, A. Rodrigue, E. Laurin (coach).

Coniston, F. Pare (captain), E. Jones, G. DeClerq, K. Rafuse, E. Beattie, R. Bouchard (coach).

Copper Refinery, L. Watkinson (captain), L. Andrews, E. Puschel, A. Wilcox, J. Abbott, L. Kasaboski (coach).

Open Pit, W. Scott (captain), G. Ruston, T. Hearty, M. Tataryn, C. Burton, B. Debney (coach).

Three Inco Mines Receive Special Recognition



T. M. Gaetz, superintendent of Inco mines, presents certificates awarded by the National Safety Council to Frood-Stobie Mine, represented at the left by Superintendent C. H. Stewart, and Levack Mine, represented at the right by Superintendent Frank McAtter.

Three Inco mines that went through the year 1955 without a lost-time accident due to falls of ground have received special recognition from the National Safety Council.

Certificates honoring the outstanding safety achievement of the three mines were presented to their superintendents in a ceremony at the annual competition for the Inco inter-plant first aid championship.

Triangle readers will recall the announcement that the National Safety Council was sponsoring a continent-wide campaign to make a 50% reduction in accidents from falls of ground in the mining industry during 1955.

Inco's mines as a group accomplished this objective, reducing their frequency of lost-time accidents from falls of ground to .35 per million hours worked in 1955 as against .72 for 1954.

In addition, each Inco mine was entered individually in the campaign, competing with its own record for the previous year. Frood-Stobie, Levack and Murray, by doing better than the 50% reduction set as a

goal, qualified for special certificates of merit. These were presented on behalf of the National Safety Council by T. M. Gaetz, superintendent of mines, who extended his congratulations to all concerned for a fine job done, and expressed the hope that there will be no letup in the Inco-wide effort to keep accidents from falls of ground — and all other causes — to a minimum.

Safety Superintendent A. E. O'Brien said amen to these remarks. "The problem now is to 'hold the ground,'" he said. "Accidents from falls of ground have always been the concern of miners, and steady progress is being made in eliminating them. A good record can only be maintained by round-the-clock vigilance. That's our objective."

NICKEL IN TURBO-PROP ENGINE

Six per cent of the total weight of the Rolls-Royce "Dart" turbo-prop airplane engines, which power the Vickers Viscount passenger transports, is accounted for by the nickel used in alloyed materials.



MR. AND MRS. NYKANEN

Jalmar Nykanen, whose retirement on pension at Garson was reported in the February issue of the Triangle, is seen with his wife in the above photo. He started with the Company in 1935, helping sink No. 5 Shaft at Creighton.



Superintendent Harry Smith receives the award for Murray Mine from Mr. Gaetz in the picture on the left. At the right the certificates are studied by the safety engineers of the three honored mines, Carl Clubb of Murray, John McCreedy of Levack, and Vern Ritzel of Frood-Stobie.

SNAPSHOTS OF LIFE WITH INCO



Bob Evans of the Copper Refinery machine shop is the smiling athlete receiving the championship trophy from Stan Mockford of Toronto, representing the Canadian Basketball Association, after Sudbury Merchants defeated Saint John Atlantics for the Eastern Canada senior "B" basketball title. When the Western Canada winners were forced to default the finals, Bob's classy team became Dominion champions, an honor they well deserve.



Bill Moses of the Open Pit plate shop receives congratulations from Mine Superintendent C. H. Stewart on winning a beautiful new Meteor as door prize at the annual Easter dance of the Frood-Stobie Athletic Association.



The gold cord, highest award in Guiding, was earned this year by no less than eight Girl Guides from Sudbury and district companies: front row, Betty Peura and Kaarina Tuusalo of 2nd Copper Cliff; Patsy Quinn, 1st Lively; and June Hutchison, 1st Levaak; back row, Dolores Bowen, 1st Garson; Sally McDonald and Susan Stickled, 2nd Copper Cliff; Merle Orendorff, 1st Coniston.



At the Red Cross blood bank at the Inco Recreation Club in Port Colborne these five Nickel Refinery workers have scored high in service to their fellow men by making blood donations more than 45 times: Herb "Corky" Eden, Ray Brown, Len Hobbs, Orley Zeigler, and Bill Roach.



When the Honorable George Prudham, federal minister of mines, toured Inco operations during a visit to Sudbury, he was photographed at the Open Pit in the above group: F. F. Todd, assistant superintendent of mines, Mr. Prudham, Vice-President R. D. Parker, Rodger Mitchell, M.P. for Sudbury, J. Leo Gauthier, M.P. for Nickel Belt, T. M. Gaetz, superintendent of mines.