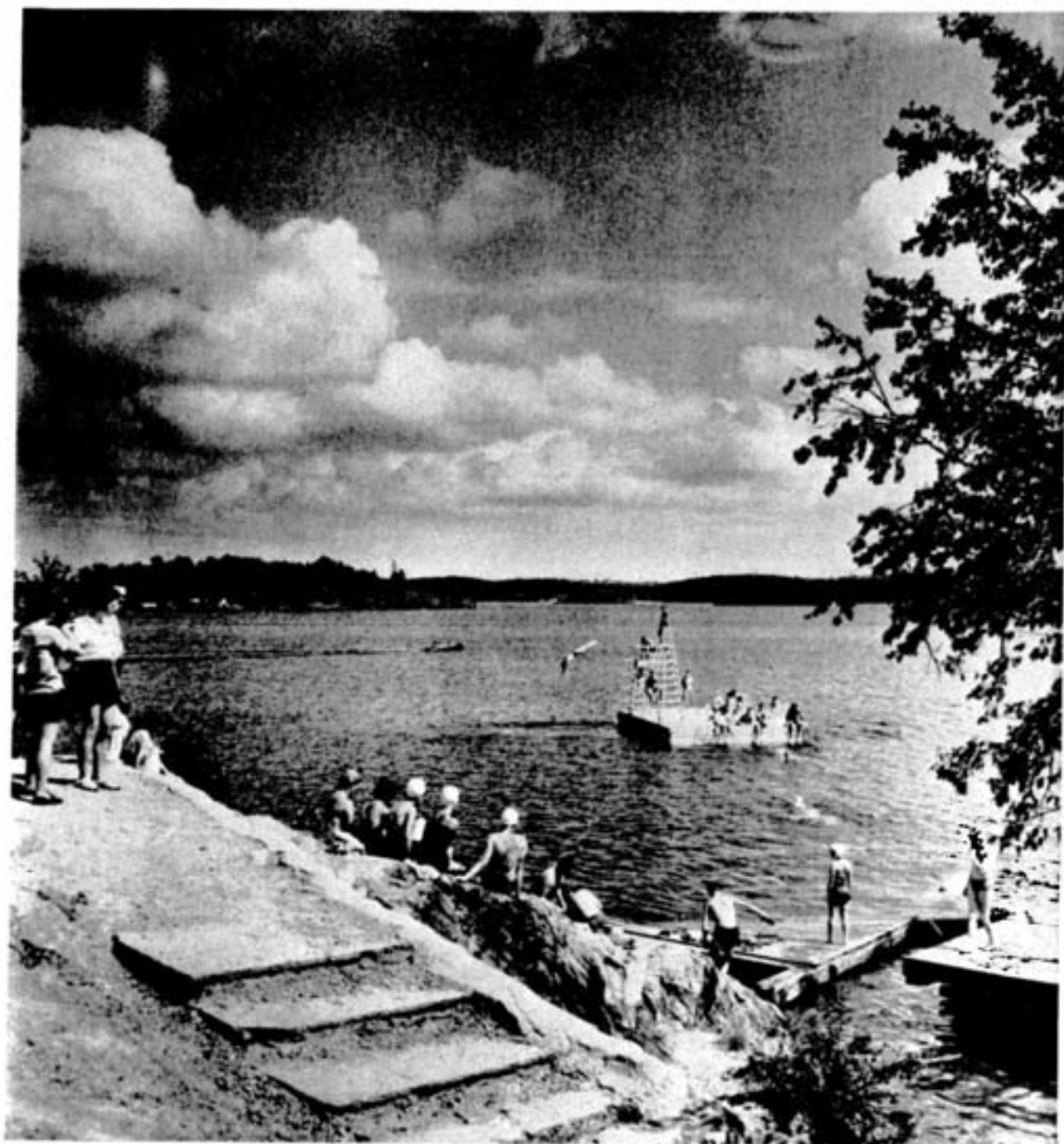


INCO TRIANGLE

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Published for all employees of The International Nickel Company of Canada, Limited.
Don M. Dunbar, Editor

EDITORIAL OFFICE COPPER CLIFF, ONT.

No Other Metal Offers Nickel's Property Range

To the average man in the street, nickel long has been associated primarily with plating and coinage. However, production men in many industries consider it essentially an alloying element that confers unique and valuable properties on the alloys of which it is a component in percentages that run from a fraction of 1 per cent to over 90 per cent.

Actually, approximately 84 per cent of all nickel produced is used for alloying purposes. Plating, especially as an undercoating for chromium, is an important use, but amounts to only about 12 per cent of the annual nickel sales, while coinage consumes considerably less.

While relatively low in tonnage used, malleable nickel in its commercially pure form — 99.4 per cent pure — and wrought or cast is unique and important. Among all of the elements, no other metal offers nickel's combination of so many different useful properties.

It combines excellent mechanical properties with corrosion-resistance that is good generally, and outstanding under many conditions of exposure. It responds readily to all commercial fabricating practices and is not affected adversely by cold working, welding, casting or heating. Its mechanical properties are similar to those of structural steel. It retains its strength to an excellent degree at high temperatures, and its ductility and toughness, as well as strength, at sub-zero temperatures.

Corrosion-resistance, of course, is always a controlling factor that dictates the use of nickel since it is highly resistant to corrosives that destroy many other metals — alkalies, many acids, salts, organic compounds, fumes, and the like. It is used to protect purity of sensitive foods, beverages, and pharmaceuticals against contamination, directly or indirectly, caused by corrosion or products of corrosion.

Another special property which, combined with corrosion-resistance, makes nickel so highly useful in so many industries is its rate of heat transfer. Nickel often provides a faster rate of transfer than do other metals with equal heat conductivity because of its clean, smooth surface.

Nickel's electronic and electrical properties are such that it is highly important in television and radar, and for other applications like the telephone, telegraph, radio and other means of communication. Thus it is no stranger to the home where it has long been useful in all sorts of domestic electrical appliances.

It is a standard material for the cladding of steel, and heavy items of equipment made of nickel-clad steel serve many purposes throughout industry where it is desirable to provide nickel's resistance to corrosion and other properties with the economy of steel. For jewelry items, eyeglass frames, tableware, and the like, it is used as a base for platinum, gold, and silver-clad products.



An Old Homestead, Manitoulin Island

HOW IS YOUR BRAIN-POWER?

Maybe it was the heat, and maybe it was the humidity, and maybe it was both, but the puzzle fans failed to come up for roll call on last month's forehead wrinkler about the distance by rail between Dorminster and Emery.

"Thanks for an interesting problem; it was certainly harder than last month's," wrote Ed Payne of the winding shop at Copper Cliff Electrical Dept. His answer of 27 miles was correct. James Medvea of Port Colborne Refinery and our old friend Rex Edmunds of Frood-Stobie Machine Shop were the other two readers who came in on the beam. Imagine! — only three right replies; the guys and gals of the Triangle brain-power brigade are really slipping!

But we won't take this little lapse too seriously. Surely the gang will fight right back on the following riddle, which is in season because it has to do with water:

It is said that in a certain pond in Central America there is a perfect circle 20 ft. in diameter. Every year a magnificent water lily appears in the exact center of the pond. The lily grows with remarkable rapidity, doubling its area every day; at the end of exactly 21 days, the lily fills the entire area of the pond. Then it dies away and for 12 months no more is seen of it.

At the end of how many days from its first appearance does the lily occupy half the area of the pond?

NATURALLY

Two miners sat down to eat their lunch. One began to unwrap a package some 18 inches long.

"What's that?" asked the other.

"My wife's away," said the first, "so I made myself a pie."

"A bit long, ain't it?" his friend asked.

"Long? Sure, it's long; it's rhubarb."

Henry Dunn Wins Inco Club Tourney



Besides being a handy fellow with a bowling league, a ball club, or a prize fight, Henry Dunn of Inco Club is something of a Willie Hoppe around the green baize. In the final match of the Russian Billiards tournament at the club last month he took the measure of the Open Pit ace, Doug Dickson. They're seen in action above. Henry on the left. The tourney's other semi-finalists were Morris Cayen of Murray and Jimmie Trahen of Frood-Stobie.

WRONG-WAY CORRIGAN

A Scotsman running after a tram panted to the conductor: "How much is it from here to the terminus?"

"Two pence," replied the conductor.

The man continued to run, and, having covered another stretch, inquired breathlessly of the conductor: "How much now?"

"Threepence," retorted the trammie. "You're running the wrong way."

INCO FAMILY ALBUM

Families large and families small — we photograph 'em all. In this month's collection for the good old album we have: (1) Mr. and Mrs. Bill Long (Levack) with Ivan, 5, and Royce, 2. (2) Mr. and Mrs. Charlie Withers (Lawson Quarry) with Bob, 5, and Wayne, 6. (3) Mr. and Mrs. John Tyreman (Creighton) with Eddie, 6, and Bob, 10. (4) Mr. and Mrs. Walter Ursacki (Port Colborne) with Theresa, 9, Peter, 5, and David, 3. (5) Mr. and Mrs. Bill Silvestri (Copper Cliff Electrical) with their daughters Daisy and Ruby. (6) Mr. and Mrs. J. Peller (Frood-Stobie) with (front row) Jeanine 3, Joseph Jr., 5, Rose, 10, and (back) Georgette, 9, Norman, 6, Leo, 12, Henry, 15, Claude, 17 and Eva, 18; missing are Jerry, who is in the Army, and Donald, who is in Ottawa. (7) Mr. and Mrs. Walter Dydyk (Garson Engineering) with Barbara, 3, and Barry, 6.



Modern Cafeteria Speeds Service at Levack



New streamlined dining room service has been provided for Inco men living in the Levack hotels, and the innovation has proven very popular. When those boys want grub they want plenty of it and they want it right away, so the Company has installed a modern cafeteria finished in gleaming Monel, the natural nickel-copper alloy, and it's certainly the answer to the problem of getting food to hungry miners with the least possible delay. Similar service will probably be provided at the Creighton Hotel.



Magnesium Is Nickel's Friend

One of the most effective team-mates of nickel in the fascinating game of custom-building alloys to meet the demands of modern industry is magnesium. In hundreds of cases this highly co-operative metal has joined forces with nickel to ring up another metallurgical triumph and quicken the pulse of progress.

In most respects, magnesium is like any other metal in everyday use. It is cast and wrought, welded and riveted, formed and machined. It is strong and sound, but unusual in many of its characteristics. Of all the metals suitable for manufacturing, magnesium is the lightest; it is one-third lighter than aluminum and one-fourth the weight of cast-iron. It is the easiest of all structural metals to machine and its source of supply — a vital factor in view of world conditions — is unlimited because the metal is taken from the inexhaustible waters of the ocean by a chemical process.

Produced From Sea Water

The story of this modern metal really starts at Midland, Michigan, hundreds of miles from the ocean, where a large chemical concern poured its first magnesium ingot back in July, 1916. That first lump of metal came from sea water, but it was the brine of a pre-historic salt sea deep underground in Michigan, pumped from wells. Magnesium, one of the commonest of elements, is present nearly everywhere on earth, but always combined with other elements. Isolating the pure metal is chemistry's job.

While most of America's early magnesium development work and production were done with the output of the Michigan brine wells, scientists knew that ocean water contained all of the same elements, although in a much weaker solution. When World War II broke out, it was to the ocean that they turned for a virtually unlimited source of magnesium to meet the tremendously increased demands for war purposes.

In 1940, work was begun on a new magnesium plant at Freeport, Texas. The Gulf of Mexico site of this project was a strategic one because all necessary raw materials — sea water, oyster shells, salt, fresh water, sulphur and natural gas — were available in unlimited quantities.

The process used at the Freeport plant has been termed by experts a chemical engineering triumph. Huge quantities of raw sea water are drawn into the plant through an intake, where debris, fish and vegetation are screened out. The sea water is then treated with chlorine and carried through a flume to the units where the actual chemical process begins. There the clean sea water is treated with lime from oyster shells to produce magnesium hydroxide. A precise operation, this phase requires extremely close control. The limed sea water is poured into four huge settling basins, each 200 ft. in diameter, where the thickened magnesium hydroxide is drawn from the bottom and

sent to the next station, where it is filtered.

Electrolytic Cell Does Trick

Next, magnesium chloride, obtained in the course of the process, is mixed with the magnesium hydroxide. An acid stream then converts this mixture into a dilute solution of magnesium chloride. Additional precise stages, including evaporation, prepare the magnesium chloride for the device that is actually the heart of the magnesium process.

The device is the electrolytic cell, devised through 28 years of continuous development

and experimentation. In 1942, known as magnesium's "critical year" because of the extraordinary demand for it as a substitute for metals not available, the cell produced 91% of the entire magnesium output of this country. At Freeport, the electrolytic plant consists of four buildings, each containing 27 cells. The cells, which look like huge bathtubs, liberate the pure magnesium metal by an electro-chemical process. Molten magnesium rises to the surface of the fluid in the cells and is molded into ingots.

Popular Smelter Worker Retires



MR. AND MRS. JOHN POWELSLAND

Skimmers Had to Hustle in Old Days

John Powelsland, who retired on July 1 after almost 35 years of credited service with Inco, was born in South Totton, Devon, England, in 1884, and was a butcher in Bristol when he decided in 1912 to strike out for Canada, the land of opportunity.

For a short period after his arrival in Sudbury he worked at his trade, and then joined the force at Copper Cliff Smelter, starting on the reverberatory furnaces. He graduated to the cranes and then transferred to the converters. By 1915 he had become foreman of the O'Donnell roast yard, but after 11 months in the billowing sulphur smoke which day and night bedevilled that assignment he was glad to return to the smelter. During the remainder of his service he was a skimmer on both nickel and copper converters.

Times Have Changed

The skimmer's job nowadays, John says, is a cinch compared to the old times when the man in charge of the converter had to chip out the brick breast every time he wanted to cast matte and then replace it when he was through casting, chip the stack with a piece of rail, keep the hood clamped up to hold the flame in, and handle a dozen other chores which kept him on the hop throughout his shift. It was not until 1929, when the new converters were installed, that the skimmer's work lightened.

John was married in England in 1905 to

Lucy Jefferies, who died in 1926. They had two sons, Frank, of Detroit and Bernard, employed in the coal plant at the Smelter, and one daughter Doris, whose husband, Jack Cogan, is a skimmer on the nickel converters. John remarried in 1929, his bride being Clara Beatrice Jefferies, a sister of his first wife.

A hearty and happy fellow who doesn't look a day over 30, John has bought a cosy little home on Copper St. and has gone in for gardening and raising chickens as hobbies. All his old cronies in the converter building join in wishing him a long and pleasant retirement.

TIGHT SPOT

It happened not far from Piccadilly Circus, in one of those men's barber shops which have the accent on glamor.

The customer was the West-end playboy type, and his manicurist was extremely pretty. Followed the usual bandinage . . . and then the young man said: "Will you have supper with me tonight—and then maybe a night club?"

"I don't think I should," said the girl. "I'm married, you see."

But the playboy was the self-confident, high-humored, marriage - mustn't - mean shackles type.

"Nonsense! Ask your husband. I'm sure he won't mind."

"Ask him yourself," said the girl. "He's shaving you."

There are more than 550,000 miles of highways in Canada.

Eddie is Maestro Of Close Harmony



A singsong without a good solid piano accompaniment is like a ship without a rudder, but when Eddie Saville is at the ivories the boys really give out with the close harmony.

More than 3,000 times since he came to the Sudbury district from Port Colborne in 1929 to work for Fraser Brace on Inco construction, Eddie has presided at the piano at gatherings of one kind and another. He has become so well-known as a maestro of melody that as soon as he sits down to the keyboard and strikes a couple of preliminary chords, the stags raise their heads like war-horses smelling battle smoke, and prepare to give of their best.

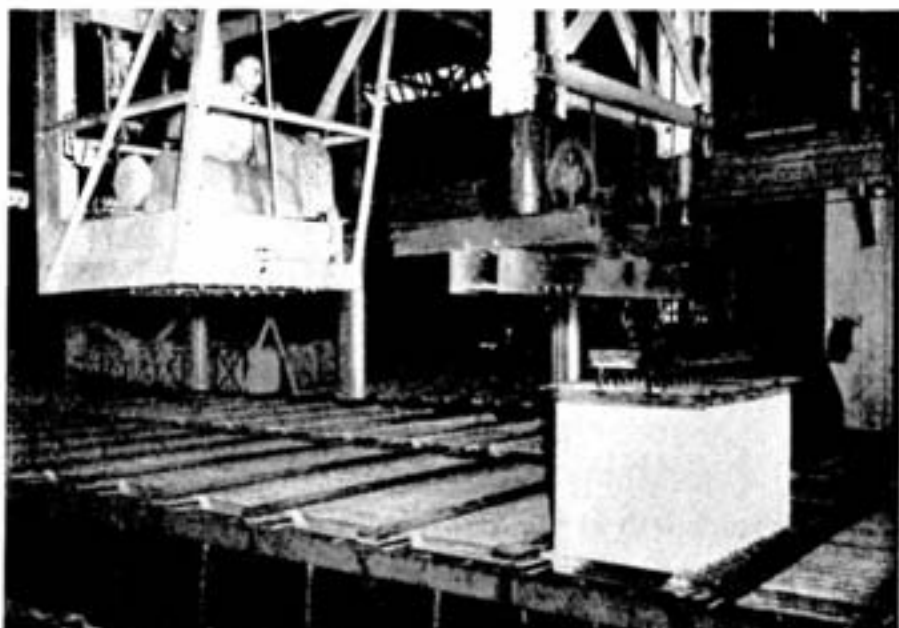
Somebody once said, "Let me write the songs of the people and I care not who makes their laws." Eddie Saville's creed is, "Let me make the fellows sing those songs and I don't care who writes them." And countless cares and troubles have been forgotten in the singing he has inspired. This is community service of a high order.

In addition to playing at the regular weekly meetings of the Lions Club since 1934, and the Rotary Club since 1939, Eddie has performed at so many banquets he has indigestion, at so many dances he can play almost any tune with his eyes shut.

Most requested number at singsongs, he says, is still that good old favorite, "Roamin' in the Gloamin'", with "A Wee Doch an' Doris" a close second. "Roll Out the Barrel," he says with a sigh of relief, is fading out of the picture. "When Irish Eyes Are Smiling" is another old-timer which continues to rate high on the request list.

Eddie has been with Inco since 1933 and is a scale mechanic at Copper Cliff, but that has nothing to do with his music; it's weigh scales he works on, not do-re-mi scales. He was married at Sudbury in 1931 to Miss Gladys Swezey, and they have two sons, Donald, 17, and Wayne, 15, and one daughter Vicki (for Victoria), who is 6 and runs her father like he runs a singsong.

Eddie's father, Thos. Saville, is an Inco pensioner, retired from Port Colborne Refinery after 22 years of service. His brother Archie is a member of the accounting department at Port Colborne and is a well-known Niagara District badminton and tennis star. Another brother, Len, who was on the lab staff at Port, was killed overseas in the Second Great War.



Production of Starting Sheets At the Refinery

"Yes, but where does it all start? Do they just commence growing out of thin air?"

That's a fair question from the visitor at the Copper Refinery who sees the cathodes of copper growing in the electrolytic tanks and naturally wonders where they got their beginning.

The answer is "starting sheets".

An important phase of the electrolytic copper refining operations at Copper Cliff is the production of smooth, pure copper starting sheets which form the basis for deposit of the electro-copper cathode.

Heavy gauge, cold rolled, polished copper blanks covered with a thin coating of mineral oil serve as the positive electrodes in a section of tanks reserved for starting sheet deposition. The anodes, or negative electrodes, are of "blister" copper and while similar in composition to those in regular tanks, are cast to heavier weight. Electrolyte is copper sulphate solution plus free sulphuric acid. Deposition proceeds for a period of 24 hours, during which time pure copper to a thickness of about .030 inches is plated on the blanks.

Photo No. 1 illustrates a load of blanks being removed from one of the deposition tanks. The blanks are covered with the smooth copper deposit which when stripped will form the starting sheets. J. Katulich is the crane-man. Removal of surface electrolyte is effected by immersion of the load in hot water and transfer is then made to racks so that the sheets may be stripped and the blanks cleaned and oiled for another cycle.

In Photo No. 2 the "stripper gang" have taken over. To the left M. Sawdon is seen swabbing a lift of blanks with mineral oil dissolved in gasoline. He is assisted by B. Domazar (partially hidden in left background). In the center foreground J. Mraz, with L. Fahner, opposite, prepares to strip the thin copper starting sheets from the blanks. A. Krajcy removes sheets at the right and piles them for transfer to the next operation.

Suspension loops must be attached for hanging the sheets in the regular deposition tanks, and also as a means of providing electrical contact with the cross-rods. The loops are prepared beforehand by cutting some of the copper sheets to size on a slitting machine. Photo No. 3 shows W. Solomon at the left and J. Hegot, right foreground, performing the loop-fastening or "punching" operation. In the background, J. Larocque can be seen straightening sheets. He also inserts the cross-rods and places the sheets in the storage and transfer racks.

When suspended in the regular deposition tanks, the 11-lb. sheets are built up to a weight of 265 lbs. in 14 days, to form full size electrolytic copper cathodes.

A BILLION DOLLARS

We hear much talk these days about a billion dollars, but few people realize how much money that represents. At \$1 per hour and working 40 hours per week, it would take a man or woman 500,000 years to earn a billion dollars. In terms of dollar bills, a billion dollars is a single stack 60 miles high.

TURN ON THE TAP!

"And this baby's name?" queried the minister at baptismal services.

"John Peter Charles Robert Wilberforce Tenningswell," replied the proud father.

The minister whispered quickly to an assistant, "More water, please."



Coniston Bleak? Well How About These Spots?



While it must be admitted that the countryside immediately surrounding Coniston wouldn't cop any beauty contests, the Company and the citizens have joined forces as in all Inco centres to produce many lovely spots in the little smelter town.

In the first of the above pictures is a view of the Inco Community Club at Coniston, an attractive building with beautifully landscaped grounds. In the second picture is seen one of Coniston's older homes, in a verdant setting of trees and lawns bordered

by colorful flower beds.

Most Coniston people take pride in their home grounds, and work hard to keep them neat and attractive during the summer months. It's a hobby that pays big dividends.

A Mark of

Citizenship finds expression in the way a man acknowledges his obligations to his community. One of the best ways to live up to them is to plant and care for the land around his home. Not only does this give pleasure and satisfaction to the family but also have their influence on the morale of his community.

Despite the difficulties which have been experienced in the country, people are steadily beautifying their home grounds. It is taken here and there in Inco Triangle around which landscaping has been done. Homes where plantings are well cared for have proven their citizenship by the beauty of lawns, trees, and flowers.



Copple Cliff



Copple Cliff



Creighton



Citizenship

in various deeds by which a
to his community and does
important outlet of citizen-
of home grounds, which not
action to the citizen and his
fluence on the appearance and

beset them in this section
gaining in their efforts to
On these pages are pictures
towns, showing new homes
already commenced, and older
established. The Company
providing the homes, and its
surrounding them with the
This is to the credit of all.





How a Drawing For an Inco Ad Is Produced

Following up an article in last month's Triangle describing the extraordinary diligence with which details of the illustrations for Inco's advertising are hunted down, we think our readers would be interested in a story on the actual production of those illustrations.

The majority will have seen Inco advertising in newspapers and national magazines, and will have admired the distinctive, clean-cut style of the drawings. Among Canadian commercial artists the commission of doing the artwork for Inco's advertising is regarded as a prize plum, not only for the prestige it carries with it but also for its recognition of a man's ability to handle a highly specialized and difficult type of work. There is nothing new about "scratchboard" drawing, but the talent for doing it well is something else again.

Sometime in September, in the Sudbury Daily Star as well as in many other Canadian newspapers and periodicals, will appear another in the series of advertisements signalling the diamond jubilee of the smelting of nickel-copper ores. A good old-fashioned washday is the nostalgic scene selected for this particular layout, and the Triangle is pleased to be able to give its readers a progress story of its production.

Composition Carefully Studied

Previously Harry Caverhill, the creative man at Cockfield, Brown & Company, the advertising agency handling the Inco account, has decided on the idea for the advertisement and how it will be illustrated. Painstaking research work is done to ensure accuracy in the details of the drawing, after which the artist makes a number of rough pencil layouts. When a satisfactory composition has been arrived at, he proceeds to make the complete layout in pencil. This is submitted to Inco officials, who scrutinize it very carefully and either okay it or ask for changes to be made. Then the layout is ready for finished art, as shown in the accompanying photographs:

1. The artist, Russ Taber, first makes a photostat of the layout, and over this he places a piece of tracing paper. Then with a hard sharp pencil he proceeds to trace the outline of the drawing on the tracing paper. At hand for quick reference he keeps photo-

static copies of material gathered from a dozen different sources to guide him in faithfully depicting the scene of 60 years ago.

2. Since it is very difficult to make changes in a finished scratchboard drawing, it is extremely desirable that every detail be accurate before the drawing is made. This photo shows, from left to right, Russ Taber, the artist, C. B. Stenning, the account executive for the advertising agency, and Harry Caverhill, the creative man, going over the tracing and checking every detail with reference material.

3. This picture shows all the material and tools which will be used for making the finished drawing. Ranged around the top of the ad are various pieces of reference material. At the bottom are the necessary tools — the air brush which will be used for spraying India ink on the drawing board, a few brushes, and the scratchboard tools. These are pieces of tempered steel enclosed in wood like a lead pencil; they are of various shapes, some round, some square, some flat, and they can be ground down to any desired point on the stone which appears with them.

Drawing Paper Has Chalk Surface

4. Here we have the artist preparing the board on which he makes the scratchboard drawing. He uses a special heavy paper which has a fairly thick chalk or plaster surface. The area in which the drawing will be made is first carefully enclosed in masking tape. He then puts India ink in the little pan on his air brush, which is connected by a rubber tube to a tank of compressed air. By pressing the lever on the pencil part of the brush the India ink is sprayed on the board, much more evenly than if applied with a hand brush. When it dries the masking tape is removed, leaving a straight square edge all around.

5. With his India-inked chalk-surfaced paper on his drawing board ready for action, the artist now takes his tracing and rubs the back of it with a soft graphite pencil, and then places it carefully in position over the black paper and traces down all the details with a tracing point. Note that the artist is left-handed, which makes it a lot easier for us to see what he's doing.

Works at High Nervous Tension

6. Transfer of the tracing to the black paper completed, the artist has begun the actual scratching of the drawing. With his sharp-pointed steel tools he scratches lines of various shapes and thicknesses to develop all the details. Different tools are used to obtain different effects. Step by step the black surface is transformed into a beautiful black and white drawing, the sharp tools

(Continued on Page 12)



F. P. Bernhard Completes 50 Years Service

One of the most respected officers of Inco retired on August 1 with the longest service of any active employee of the Company. Frederick P. Bernhard, who got his start as a stenographer at Copper Cliff at a salary of \$50.00 per month and rose to be comptroller at the New York office, on July 31 completed 50 years of consecutive service with the Company.

Born at Stratford, Ont., on March 11, 1878, Fred Bernhard at a tender age showed the hustle which carried him to high rank in Inco. When he was 13 he forsook High School, where he was in his second year, to take a job as delivery boy for a local dry-goods store. Five years and sundry jobs later he completed a shorthand course at the local business college and then obtained a post as stenographer and clerk at the Stratford Mill Building Co., where after three months on probation he qualified for a salary of \$5.00 per week. From there he moved to his first job away from home, order clerk at the Watrous Engine Works in Brantford.

On August 1, 1899, as a result of answering a blind advertisement in the Toronto Globe, he went to Copper Cliff as stenographer with the Canadian Copper Company, the corporate forerunner of Inco. He did not fully appreciate how "blind" the proposition was until he stepped off the stage in dense clouds of sulphur smoke. Some of his recollections of those early days in a struggling young enterprise now international in scope he has set down in the accompanying article, "Copper Cliff Fifty Years Ago".

Became Comptroller In 1933

On April 1, 1903, after having served in various office positions, he was placed in charge of the accounting department, and in January, 1904, was transferred to a similar position at the nickel refinery of the Orford Copper Company at Bayonne, New Jersey. Four years later he returned to Copper Cliff, and remained there as works auditor until November of 1918 when he took charge of the accounting department in the Company's newly opened office in Toronto. When that office closed in December of 1921 he went to New York as auditor, and became deputy comptroller in 1929. In 1933 he was appointed comptroller. Later he also became a director and comptroller of Whitehead



F. P. BERNHARD



"The Merry-go-round"

As his mind's eye looks back over the changing scene at Copper Cliff Smelter during the half-century he served with the Company, F. P. Bernhard will recall the picturesque equipment shown above. The "merry-go-round", as it was called, stood in the smelter yard and was used for cooling converter slag before it was sent to the blast furnaces. The little engine drew from the smelter a string of sectional cast-iron pots of slag which were dumped by hand into the moulds of the "merry-go-round". The cooled slag was taken to the blast furnaces by the conveyor on the left. The system was abandoned about 1912, and is a refreshing contrast with the present routine in which great pots of converter slag are whisked across the converter aisle and dumped into the reverberatory furnaces by powerful cranes.

Metal Products, a United States subsidiary of Inco.

He was married on November 28, 1900, to Miss George Thompson of Sudbury. They have two sons, two daughters, and four grandchildren, all of whom live in the United States with the exception of one son, who resides in Toronto.

When he went to Copper Cliff half a century ago, Fred Bernhard had plenty of the stuff it took to build a mining industry from the grass roots up. He accepted the privations and hardships of the little camp with understanding and good humour, pitched enthusiastically into community life, and quickly caught the vision of nickel's future. In those rugged days he probably had to make many a spirited defence of the so-called "white collar" side of the business, which even now is not fully appreciated except when the pay checks are being passed out.

Throughout the years he was a very capable and devoted servant of the Company, and filled his position of high trust with distinction. Inco has been his life's work, and he can well be proud of the part he has played in its growth and development. Personally he is held in the highest esteem and affection by all with whom he has been in contact.

IT'S THE HUMIDITY

First little pig: "My, my, I never sausage heat."

Second little pig: "Ain't it the truth. I'm nearly bacon."

Scratchboard Art

(Continued from Page 11)

cutting into the chalk surface on the paper to give clear, sharp lines. The artist works at high nervous tension because one serious slip may ruin all his work.

7. The drawing is completed, and in this picture it is getting a close inspection by C. E. Macdonald, Inco's Canadian sales manager, and C. B. Stenning, the account executive. Mr. Macdonald has a suspicion that the wringer is placed backwards on the tub, and this turns out to be true. The picture from which the artist had taken this wringer was from a very old advertisement which showed the wringer alone, and the artist, with no 1889 washdays in his experience, had put it on the tub the wrong way.

8. The drawing returns to the artist. Another search is made for proper reference material for the wringer and finally a copy of the first Eaton's catalogue ever published, dated 1899, is obtained and shows several views of a wringer. To make the correction the artist paints the wringer in black again with India ink and then proceeds to scratch the drawing in correctly. There is still sufficient chalk surface left on the paper to do this but if he scratches down through the chalk surface it is almost impossible to make further corrections.

In 1948 the value of Canada's field crops set an all-time record of \$1,585,000,000.

Copper Cliff Fifty Years Ago

Some Recollections of F. P. Bernhard

The natural resources of International Nickel have always been in the Sudbury District. That is where I joined the organization. My first post was at Copper Cliff, where I was fortunate enough to get the job of stenographer. My salary was \$50.00 month and I paid \$17.00 for board and lodging at the staff-house. I found my job to be only a part-time job. There was only one typewriting machine and therefore only one stenographer. Letter writing took up only part of my time. I also typed the lists which were sent to various firms asking for quotations on various materials. I typed the purchase orders. I checked the invoices against the orders and listed them for payment by the head office, which was then in Cleveland, Ohio. I copied all of the letters and all of the orders in a tissue book with a damp cloth and a letter press. I personally attended to the mailing and the filing. I did the filing alphabetically. During my remaining time I participated in various lines of clerical work.

The general office staff comprised five individuals. This included the office manager, who, by the way, did not have that title. Our regular office hours were from 7.45 in the morning to 6.15 in the evening, six days a week. We frequently had to work in the evenings. We were allowed two statutory holidays, Christmas Day and Dominion Day. There was one time-keeper at the smelter and one at each of the mines.

While it is true that our Canadian nickel operations were started in January of 1896, and that I did not join until August of 1899, or over 13 years later, I believe that the following facts warrant my feeling that I participated in at least some of the rough and tumble days, although not in the initial stages of the pioneering.

Fifty years ago there were very few sidewalks in Copper Cliff. There were no electric lights. There was no sewage and no piped water supply to the houses. There were no bathrooms and no indoor toilets. There were no furnaces in the houses. In the long cold winter nights one kept from freezing by keeping a coal stove or a wood stove burning all night. The latter required feeding during the night. If the water in the pitcher in your bedroom had a coat of ice in the morning, that was just hard luck. Such incidents were not considered a hardship. They were accepted as a matter of course.

Fifty years ago cows and pigs were allowed to run at large in Copper Cliff at all hours of the day and night. The cows wore bells. When the bells interfered with our sleep some of us would get out of bed and go out and remove the bells.

Personal transportation between Copper Cliff and Sudbury 50 years ago was by stage coach, run on wheels in the summer and on runners in the winter. In the winter the stage coaches were heated by stove. The trip took the best part of an hour each way. The fare was a quarter for the round trip. The roads were very dusty in the summer and many people preferred to hoof it along the railroad track. I was one of the many.

For social life there were occasional dances in a fraternity hall. We carried lanterns to guide us and wore rubber knee boots, carrying our dancing shoes by hand. The square dances were called off by an announcer who was not called an announcer. Generally a good time was had by all.

There was no Bell telephone system in Copper Cliff 50 years ago. The Canadian

Copper Company had a private line connecting the general office with the mine offices, the smelter and the doctor in Sudbury. Calls were distinguished by a series of long rings and short rings. When a call was made on the line the rings were heard wherever there was a telephone.

There was no hospital and no qualified resident doctor in Copper Cliff 50 years ago, nor at any of the outlying mines. A Sudbury doctor was the Company's chief physician and surgeon. He also carried on his private practice in Sudbury. He generally arranged to have a medical student stationed at Copper Cliff during the University holiday month, but not at the mines. The medical-surgical chief was subject to call at all hours of the day and night.

Copper Cliff was not a railroad station stop 50 years ago. There was a small shed, along the Canadian Pacific Railway at the east end of Copper Cliff, which was run by a one-armed telegraph operator for the purpose of clearing the Company's ore trains hauling the output of the Stobie and the Frood mines over the Canadian Railway to the smelter at Copper Cliff.

Copper Cliff was not an organized municipality 50 years ago. It was merely part of the Township of McKim. Because of the number of the population, though, Copper Cliff usually dominated in the township council. The post office was in a general store.

All of the Company's employees were paid in cash 50 years ago. The cash was taken to the outlying mines in an open buggy in the summer, and in an open cutter in the winter, by the man who had charge of the general office. What a harvest that would have been for highwaymen if the community had not been isolated. There was no way to get to a hide-out except by train.

Fifty years ago there was no direct railway line from Toronto to Copper Cliff. One went by Grand Trunk from Toronto to North Bay, then by Canadian Pacific to Sudbury, then by stage coach to Copper Cliff. The trip took up the best part of 24 hours.

Green ore was not delivered to the smelter 50 years ago. It was delivered to the roast yards, right in the heart of Copper Cliff; there it was piled in heaps on top of large quantities of cordwood, then it was roasted for about three months; and then sent to the blast furnaces as roast ore. Whenever there were unfavorable winds the sulphur smoke was most annoying. One could actually see it in one's room. When the sulphur smoke was accompanied by fog, one could not see more than a few feet ahead outdoors.

All of the blast furnace charges were made by man-power 50 years ago. All of the blast furnace matte which was produced was hauled away from the furnaces in small pots by man-power. The Company's final product was blast furnace matte. This was shipped to The Orford Copper Company at Bayonne, New Jersey, for refining. What a contrast to the magnificent plants of the present time, where the amount of actual manual labor is kept down to a minimum.

In 1898 Inco mines in Sudbury produced 138,000 tons of copper-nickel ore. Fifty years later this tonnage had risen to nearly 11,000,000.

Winners at Annual Refinery Picnic



The two proudest and most excited youngsters at the Copper Refinery Athletic Association's annual picnic at Morrison's Farm were the winners of the draw in which all kiddies were given a free chance on a wagon and a doll buggy. Terrance Stesco, son of George Stesco of the Shops, won the wagon and little Carol Ann, daughter of E. Buda of Tankhouse, wheeled away the doll carriage. Winners of the big picnic raffle were: Percy Iles, Casting, radio; R. G. Snider, Office, electric kettle and steam iron; I. Geldart, Casting, \$25.00 merchandise at Demarco's. As usual the Refinery picnic was a well-organized, outstanding success, giving a happy afternoon's outing to hundreds of employees and their families.



Another Great Summer's Fun At Scout Camp

Splendidly situated on Windy Lake, with fine permanent buildings and sports facilities, Sudbury District Boy Scout Camp is seeing another summer of humming activity as hundreds of happy lads enjoy the thrills of invigorating camp life.

Sleeping under canvas, packing away enormous quantities of good grub in the big mess hall, exploring the bush to put their Scouting lore to work, and making the most of every moment in the carefully planned camp routine, the boys are having a wonderful time. And through discipline, responsibility, and the broadening influence of Scouting, they are preparing themselves for citizenship.

First of the accompanying pictures shows most of the gang of 65 boys at the camp



for the two-week period ending August 6. In attendance were:

1st Sudbury Troop: Herbie Lindsay, Eddie Flander, Dick Dow, Leo Cushing, Robert Panko.

2nd Sudbury Troop: Bobby Geddes, Ronald Moles, Donald Cumming, Murray Lemay, William Castonguay, Roy Ransom, Allen Johnston, Billy Stevenson, Ronald Chappelle, Michael Hickey, Murray Frances, Henry Ransom, Leo Cushing.

3rd Sudbury Troop: Mitchell Woolrich, Ken Roberts, Hugh McKinnon, Ruddy Mullock, Stuart Armitage, George Smith, Freddy Wharton.

8th Sudbury Troop: Bill Osborne, Don Mitchell.

1st Lockerby Troop: Bobby Marttila.

2nd Minnow Lake Troop: Ronald Lambert, Melvin Laidlaw, Ronny Graves, William Adolphe, Robert Bryan, Edward Dickson, Ray Francis, Brian Biggings.

1st Coniston Troop: Ken Glibbery, Noel Price, Calvin Price, Michael Bracken, Robert Hood, Alvin Chiswell, Stan Yoskowski, Lloyd Squires.

2nd Coniston Troop: Claude Paradis, Harley Gagnon, Joseph Barbe, Victor Gauthier, Donald Blake, Ronald Denny, Leo Gauthier, Enso Floreani, Desmond Chabot, Garry Creswell, Donald Orindorff, Paul McDonald, Bernard Langlois, Donald Spencer, Jimmy Fitzgerald, Bernard Forestal, Camille Demarchi.

1st Copper Cliff: John Sutherland, Garry Fletcher, Wayne Saville, Richard Ogilvie.

Typical Scouting Scene

A typical Scouting scene is pictured in the second photo as the Owl Patrol of 1st Coniston Troop prepare a meal at the open-air fireplace by their tent. Construction of the fireplace was part of the training, as also, perhaps, was the vigorous exhibition of face-washing staged by the young Scout in the centre background.

In the third picture are some of the men who freely give of their time, counsel, and Scouting experience to make the annual camp the outstanding success it is. Standing are Len Shore (Copper Cliff Smelter), camp chief; Art Cummings (Open Pit Electrical), district Scoutmaster; Don Saville and Albert Dunn, Copper Cliff, junior leaders; in the front row are Bill Poirier (Coniston Mechanical), Pete Peterson (Smelter Research), and Alex Blanchard (Copper Cliff Concentrator). Other leaders who attended this particular camp were Harold Madison (Research), and Doug McKechnie (Sudbury).

Separate Boy Scout camps were held this summer by 1st Creighton, 11 boys, under Scouter Don Wright, and 9th and 7th Sudbury, 45 boys, under Scouters Laberge and Charette. Three successive four-day camps for Wolf Cubs were also on the agenda, each camp to include 90 boys.

THAT'S DIFFERENT

The conscientious father was dispensing advice to his son who was about to be married.

"Co-operation is the foundation of successful marriage," pop said solemnly. "You must do things together. For instance, if your wife wants to go for a walk, go for a walk with her. If she wants to go to the movies, go to the movies with her. If she wants to do the dishes, do the dishes with her."

The son listened dutifully, then asked, "Suppose she wants to mop the floor?"

HELL CO-OPERATE

At a party the host noticed that one of the feminine guests was only nibbling at the refreshments. "What's the matter, honey?" he asked her. "Why don't you eat this wonderful cake?"

"I have to watch my figure," the guest explained.

"You eat the cake," the host smiled. "I'll watch your figure."



Olympic Stars Someday?

In this happy group are some of the embryo Barbara Anns from out of the district who have been attending the annual Summer Figure Skating School at Stanley Stadium, Copper Cliff. In the front row are Jane Sinclair, Toronto; Sandra Ford, New Liskeard; Patsy Band, Toronto; Gloria Partridge, North Bay; Beulah Kauhanen, Noranda; second row, June Larwill, North Bay; Maureen Killoran, North Bay; Frances Joly, Little Current; Diane Priddle, Toronto; Lorna Cadieux, North Bay; Duffy Davey, Winnipeg; Ann Randle, North Bay; back row, Joan Cullen, Kirkland Lake; Talsie McCarthy, professional; Cynthia Sinclair, Winnipeg; Mary Lou Spencer and Claire Courchesne, North Bay. Others from out of the district at the school are Joan Bergman, Winnipeg; Laura Hall, Port Arthur; Paul Tatton and Shirley Ann Deyell, North Bay.

Summer Figure Skating School Has a Total Enrolment of 78

With a total enrolment of 78, the annual Summer Figure Skating School at Stanley Stadium, Copper Cliff, has had its most successful season yet.

To assure adequate ice time for everybody, attendance this year was restricted and the policy has worked out very satisfactorily. Local applications were given priority, and a limited number were accepted from outside the district.

Copper Cliff residents have long since learned to treat without a second glance the somewhat astonishing sight of young ladies striding purposefully up the street with skates over their arms while the thermometer boils merrily at 90 degrees in the shade.

How To Beat The Heat

Inside the stadium, from 8:00 o'clock in the morning until 8:30 in the evening and on some evenings until 10:00, all is cool, winterized action, no matter what sort of antics Old Sol is performing outside. The casual visitor, mopping his fevered brow as he ducks in to the rink to escape the scorching heat, can be pardoned for thinking he's seeing a mirage when he finds a group of girls diligently working at their skating figures on a smooth ice surface. Equally out of this summer world are the regular public skating sessions in the evenings, at which the average attendance during July and August topped 150. This easy method of switching from hot to cold and at the same time enjoying fine exercise seems to have

eating ice cream cones beaten all hollow.

Miss Talsie McCarthy, the clever young skating professional, has been assisted in instructing the 1949 class by Jerry Blair, Toronto professional. Two junior professionals, one from Port Arthur and the other from Kirkland Lake, have been polishing up their technique as advanced members of the class.

President "Duke" Jarrett of the Copper Cliff Skating Club is greatly pleased with the success of the school. "We're not running it as a commercial venture," he points out. "We're satisfied to break even as long as the young skaters get lots of chance to develop." He pays special tribute to the secretary of the school, "Ozzie" Osborne, and also to the Stadium staff for providing a high-class ice surface throughout the season.

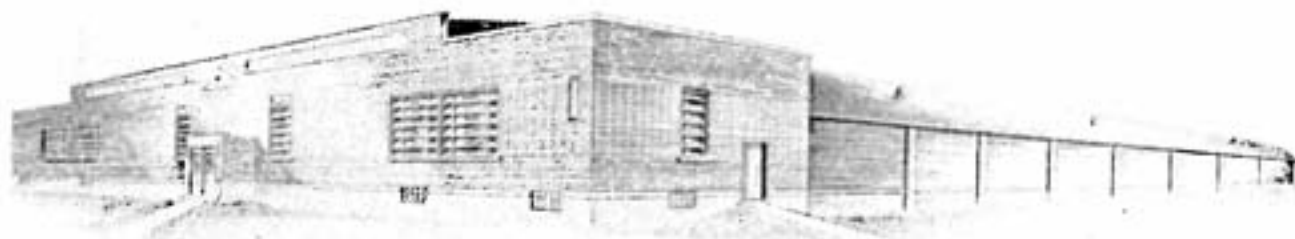
Barbara Ann Is Coming

Special event planned by the Copper Cliff Skating Club is booked for December 8 and 7 when far-famed Barbara Ann Scott and her ice show come to Stanley Stadium. Among figure-skaters and their friends, and also to a large section of the general public, this occasion will compare favorably with an official visit from Princess Elizabeth, complete with Mountbatten.

SPECIAL ATTENTION

Sign in a laundry window: "We do not tear your laundry with machinery. We do it carefully, by hand."

Build Fine New Curling Rink at Copper Cliff



Construction is well advanced on the new curling rink which Inco is building at Copper Cliff for addicts of besom an' stane. Above is an artist's drawing of the fine new winter sport centre which, barring holdups in delivery of materials, will be ready for use by November 1 and, added to present curling facilities, will place Sudbury District in a position to bid for the Dominion Curling Championships.

The rink is being erected on a site adjoining Stanley Stadium, and will have six sheets of artificial ice. The refrigeration

unit in the Stadium is being enlarged to handle both rinks, and will have thermos-tatic control.

The new curling rink will be of brick and tile construction. Bow-string wooden trusses will allow an unobstructed view of the ice; wooden trusses are being used instead of steel in an effort to avoid drip on the ice from condensation of moisture. De-humidifying equipment will be installed. Pipes of the refrigeration system will be laid cross-wise, an innovation which it is expected will give better curling ice.

In the large lobby will be a lunch counter and a spectators' gallery. The walls will have a tile dado with haydite above, and the ceiling will be of accoustical plaster. In the basement will be locker rooms for ladies and men.

Occupation of the new premises is being keenly anticipated by Copper Cliff Curling Club, whose large membership will now have the advantage of perfect ice during a much longer season, as well as comfortable surroundings in which to enjoy the traditional fellowship of the Roarin' Game.

Poupore and Dewey Learn That Golf Clouds Have Silver Lining



Strictly a family affair was the final match for the 1949 championship of Idylwyde Golf Club, with Art Silver opposing his brother Ron in a unique showdown for the Collins Cup. The two Inco mining engineers battled

to the 17th green before Ron emerged victorious for his third consecutive Idylwyde title.

It was in the semi-final matches, however, that the best golf of the tournament was

played, and both Johnny Poupore and Jim Dewey found that the dark clouds of defeat definitely had a Silver lining.

After a tight tussle in which the issue was always in doubt, Jim found himself one down to Art Silver when they came up to the 18th tee. In a great bid to square the match and force extra holes Dewey sent a beautiful iron shot to within five feet of the pin but Silver met the challenge by putting his tee shot two feet inside Dewey's for an easy birdie 2, and the game was over. It was a spectacular finish to a fine match.

The defending champ, Ron Silver, was one down to Johnny Poupore at the end of their first nine holes but he blazed around the layout on the second trip in a brilliant two-under-par 34 against which the former Northern Ontario titleholder was powerless despite the very sound game he played. Silver won 3 and 1.

Inco Tournament August 13

A record entry is expected for the annual Inco golf tourney which will be played at Idylwyde on Saturday, August 13. A powerful Port Colborne team will seek to retain the R. L. Beattie trophy, emblematic of the Inco inter-plant 4-man team championship. Strongest Northern bid is expected from the Mines Dept. lineup of H. J. Mutz, Ron and Art Silver, and Jim Dewey. Also at stake will be the E. C. Lambert trophy for the Inco handicap team championship. The eight lowest non-handicap scorers will later play a knock-out competition for the Inco individual title, as also will the eight lowest handicap scorers.

Prizes for the winning teams and medalists will be presented at a banquet in the evening in the Idylwyde clubhouse.

VIRTUE IN REVERSE

"Shay," said the drunk as he staggered up to a man on the street, "could you tell me where ish the Alcoholics Anonymous 'round here?"

"Sure," replied the man. "It's right around the corner here. Come on and I'll help you there. Do you want to join?"

"Nope," said the drunk. "I wantah to resign."