



VOLUME 6

COPPER CLIFF, ONTARIO, MARCH, 1947

NUMBER 12

First-Aiders in Annual Tests

March is a red-letter month on the Inco safety calendar.

Competitions have been under way during the past 10 days to determine the best first aid teams at the various mines and plants, leading up to the grand finale at Inco Employees' Club in Sudbury when the 1947 Inco first aid championship will be decided.

Surface plant semi-finals will be staged at the Inco Club on March 18, with Copper Cliff, Open Pit, Copper Refinery, and Consiston competing. Underground semi-finals will be held March 20 between Stobie, Levack, Murray, Frood, Garson, and Creighton.

Then on March 27, commencing at 8:00 p.m., the best surface team and the best underground team will meet in a showdown for possession of the R. D. Parker Shield, emblematic of first aid leadership in Inco.

As Triangle goes to press there is lively interest in the local eliminations at the various plants. Pat Crofton's team, coached by Billy Young, are top dogs at Stobie, and "Red" McClelland's lineup, coached by Tony Basil, has won out at Murray. The Creighton title has gone to the squad captained by Mel Davies and coached by George Currie, and at Frood the Laporte team has qualified for the semi-finals, coached by George McPhail. At least 25 teams are taking part in the local contests.

Courses in St. John Ambulance training, conducted during the past months by the Inco medical staff in co-operation with the safety department, have been well attended, and a total of 252 men have been successful in the examinations, divided as follows: Frood-Stobie, 76; Copper Cliff, 44; Copper Refinery, 24; Garson, 8; Open Pit, 30; Consiston, 9; Levack, 3; Creighton, 17; Murray, 6.

National Mining Day Observed On March 12th

The proposal to have one day set aside annually on which to pay tribute to the thousands who have pioneered in the discovery of and helped to develop the great mineral resources of Canada, was first proposed three years ago by the Prospectors' and Developers' Association, an organization national in scope which currently has a membership of about 1,500 and serves the interests of more than 10,000 prospectors and early stage mine developers.

At the 1946 Convention of the Association in Toronto the plan was formally launched, when it was decided that the day should be celebrated on the second Wednesday of March every year.

March 12, 1947, will be the first anniversary of National Mining Day, and the Canadian

"Action Stations" at Chess Club



A visitor wandering into the games room at Inco Employees' Club of a Tuesday evening might be pardoned for thinking he had entered Madame Tussaud's famous museum of wax figures. Some 25 people are seated at the tables in attitudes of complete immobility. The silence could be carved with a knife. Then the visitor realizes he is gazing upon the Chess Club "in action". The game has quite a following among Incolites. Above are two of the star players, studying their opening moves in a Tuesday evening tussle. On the left is Joe Fajer of the crushing plant at Copper Cliff, and on the right is George Hartman, former superintendent at High Falls, now retired on pension.

Broadcasting Corporation has decided to salute it on several coast-to-coast programs.

The plan has received the good wishes and support of many prominent Canadians in all walks of life, including Prime Minister Mackenzie King; D. C. Coleman, former president of the Canadian Pacific Railway; Dr. Smith, president of the University of Toronto; Dr. Wallace, the president of Queen's University; provincial ministers, provincial ministers of education, etc.

The purpose of the day is to draw to the attention of Canadians as a whole the importance of mining, how much it means to the national economy—to make citizens "mining-conscious" to some degree.

While the idea has been launched by the Prospectors' and Developers' Association, it is the hope of the executive of that organization, ultimately, to have all of those connected with mining, get behind the plan. That interest in the idea is growing—particularly that phase of it which has to do with teaching school children something of what mining in this country is all about—is indicated by the inquiries the Association is receiving this year.

In normal times, mining ranks second to agriculture in value of Canadian production.

Canada produces more nickel, asbestos and platinum than any other nation in the world.

Canada ranks second in the production of gold, zinc, radium and uranium.

Canada ranks third in the production of silver and copper, and fourth in the production of lead.

Mining products constitute the largest single freight revenue in Canada.

The metal industry in Canada pays the highest average annual wages of any industry in the Dominion.

Metal mining alone is responsible for roughly 40 per cent of the dividends annually paid by Canadian firms.

These are facts about which many Canadians are ignorant. By designating one day annually it is hoped to bring to the attention of Canadians the very great importance of this still growing industry.

WE'LL FIX HIM

Daughter: "I can't marry him, mother. He's an atheist and doesn't believe there is a hell."

Mother: "Marry him, dear, and between us we'll convince him he's wrong."



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Claire and John Did Right Nicely By Our Nickel Belt

Sudbury district in general, and the nickel industry in particular, came in for a wealth of publicity during the Winter Carnival last month. Both Claire Wallace and John Fisher, nationally known radio reporters, aired enthusiastic descriptions of the Nickel Belt over the Dominion network of the Canadian Broadcasting Corporation.

Caught Carnival Spirit

The color and excitement of Sudbury's big carnival, and the tremendous tourist potentialities of the district, were stressed by both radio stars.

Claire Wallace also gave a skilful step-by-step account of her visit to Inco plants, following the ore from the Open Pit through the Mill and Smelter, and explaining the various processes. At the Open Pit, she said, "I climbed into one of those huge trucks for a second and talked to Anthony Green,



CLAIRE WALLACE JOHN FISHER

the driver. He seemed quite nonchalant over the fact that his truckful of ore contained nickel, copper, gold, silver, platinum, and many other metals. But I was quite impressed!"

Interesting statistics Miss Wallace picked up during her visit to the Open Pit: "Since 1938, 65 million tons of ore and rock have been taken out of Frood-Stobie Open Pit. That would fill all the cars on a train 5,000 miles long, or stretching right across Canada from ocean to ocean. Trucks carrying the material out of the Pit have travelled roughly four million miles, or 175 times around the world at the equator."

The great reduction plant at Copper Cliff, spread over 250 acres, and the huge chimneys, tallest in the British Empire, came in for vivid description. "They tell me," she said, "that it's impossible to get lost in this part of Northern Ontario, because Inco's gigantic chimneys carry the sulphur smoke so high into the sky it can be seen 30 miles away, and acts as a billowy beacon to guide the wandering home."

Miss Wallace spoke of the importance of nickel: "Nowadays hospitals couldn't func-



With a walk-away triumph over the Soo to their credit, Copper Cliff Redmen confidently await their series with the winners of the northern section in their march toward junior hockey championship laurels. Few will deny that they are practically a cinch for N.O.H.A. honors, but few will also deny that they'll have their work cut out for them when they move into southern territory. They have a great following of fans.

tion without it, transportation would be crippled, we couldn't have won the war without it... it is literally true that the whole world would slow down without the use of nickel, and more uses are being developed every day."

"A City of Nations"

John Fisher's swift, vital style of radio reporting found full scope in a word picture of the Sudbury Carnival, but it was the city's democratic way of life that most appealed to him. "There was a lesson in Sudbury," he said, "which should be good for the world. No town in Canada, and, undoubtedly, in the world, is more cosmopolitan in makeup. Some 30 nationalities are represented here. The president of the Chamber of Commerce is a French Canadian; the Carnival organizer, Wally Armstrong, is of Anglo-Saxon origin. The King of the Whiskers is a Finnish Canadian; the Queen of the Snows is a French Canadian; the top skier is a Norwegian; the woman in charge of the Fashion Committee is of Ukrainian origin; the best float in the parade was from the Chinese community. It's a City of Nations. And in Sudbury they all work together. They don't ask too many questions about who you are, where you come from, but they want to know what you can do. Some day the world will be like that."

In one of his references to nickel, Fisher said, "Nickel in Cairo, Chungking and Adelaide, nickel in New York, London, and Paris, nickel to a housewife in Buenos Aires, Capetown, and Istanbul, means convenience, refinement, improved standard of living. The impact on the happiness of the world from Northern Canada is staggering."

Front row: Jack Newell (trainer); Tatter McClelland, Yacker Flynn, Sambo Bettio, Moose Vendramin (assistant trainer); middle row, Jim Dewey (coach), Terry Powell (sub-goal), Red McCarthy, Bill Organ, Paddy Rebellato, Tony Lepila, Barney Hamilton (manager); back row, Ray Caverson, Specs Telford, Tug Parri, George Armstrong, Zello Toppazzini, Durno Rondini, Vic Smuke, Absent, Tim Horton.

HOW IS YOUR BRAIN-POWER?

There was only one reply to last month's forehead-wrinkler, in contrast to the avalanche of answers which followed the Christmas conundrum. Joy Green, of the purchasing office at Port Colborne, offered the lone solution, and it was the right one: the sign, which said that a blind man was driving the car, was there because the man at the wheel was engaged in the business of making window blinds.

Frankly, we feel just a little on the sleazy side over that problem. It was sort of a sneak raid, like Pearl Harbor. So this month we offer something more genuine in the line of brain-teasers. It's a problem which was recently submitted to CIL employees by that firm's very lively employee newspaper, Contact, and at least three different and interesting solutions were sent in by CIL folk.

Let's see how many ways Inco people can suggest for working out the puzzle, which is:

"You have eight 8's. Arrange them in any way mathematically so that you obtain an answer of 1,000."

And the first reader who writes in to say that the question was so easy he simply 8 it up will get six rounds of bird-shot right square in the you-know-where.



Louise Schofield Is Prize-Winner

FROM a news point of view it's strictly out of season, but from a photographic angle it's good, come snow or rain, sunshine or stormy

weather. That's what Judge John Kurk said when he singled out Miss Louise Schofield's entry in last month's picture contest.

Snapped at Metagama last Thanksgiving, the picture has excellent composition and exposure. So said Judge Kurk, banging the gavel and ordering us to turn over to Miss Schofield the \$10.00 first prize in Triangle's "Picture of the Month" contest. (It does make you think ahead



Hope Ice Lasts All Summer



At the risk of incurring the eternal wrath of the Fish and Game Association, a quartet of air-minded Creightonites are hoping that the winter weather will last well into next December. Reason is that they have skis for their plane, but no floats. "Curly" Takala, Marcel Cayen, Bob Alemany, and Allan McMann, are seen in the above picture with the smart little Bayoma they own for pleasure flying. They bought it last summer from Carl Hotil, gave the engine a thorough going over in "Curly" Takala's garage, re-covered the wings and fuselage, and started in right after freeze-up to have more fun than anybody. As long as the ice lasts on Lac du Creighton, they're all set.



a few months, doesn't it?)

So to Louise, secretarial expert to the general superintendent at Copper Cliff general office, goes a sawbuck with best wishes.

Not without a struggle did "Moonlight at Metagama" take first money. Judge Kurk looked long and carefully at a very fine print submitted by R. Polano of the machine shop at Copper Cliff. Snapped in the vicinity of Richards Lake, the picture catches Jerry Bryant as he glides through the woods on his skis. An honorable mention prize of \$1.00 is awarded this entry.

Slag Dump Drama

The other honorable mention award goes to T. J. Kennedy of the police force for his fine snap of slag being dumped at the big heap near Gatchell subdivision. The night-time drama of this colorful and familiar scene is captured just about as well as black and white reproduction can do the job.

There was a large entry of interesting snaps in the last batch of contest entries. Frankly, we're sorry that at least one of the kiddie pictures didn't make the grade, but so it goes. Let's hope the competition is as keen this month. Judges will be the staff at Dickie's drug store, Sudbury.

Weekly Income Tax Deductions—Basis—52 Weeks per Year

WEEKLY INCOME		II. THE TOTAL OF THE EXEMPTIONS CLAIMED IS																	
		UP AND NOT TO BE DEDUCTED FROM EACH PAGE																	
		None	Under \$1,000	\$1,000 to \$1,500	\$1,500 to \$2,000	\$2,000 to \$2,500	\$2,500 to \$3,000	\$3,000 to \$3,500	\$3,500 to \$4,000	\$4,000 to \$4,500	\$4,500 to \$5,000	\$5,000 to \$5,500	\$5,500 to \$6,000	\$6,000 to \$6,500	\$6,500 to \$7,000	\$7,000 to \$7,500	\$7,500 to \$8,000	\$8,000 to \$8,500	\$8,500 to \$9,000
0-100	100-200	200-300	300-400	400-500	500-600	600-700	700-800	800-900	900-1,000	1,000-1,100	1,100-1,200	1,200-1,300	1,300-1,400	1,400-1,500	1,500-1,600	1,600-1,700	1,700-1,800	1,800-1,900	1,900-2,000
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200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	
200	300	400	500	600	700	800	900	1,000	1,100										

See instructions on page 5 for use of this table.

$$\text{NaOEt} + \text{CH}_3\text{COONa} + \text{NaO}_2\text{CCH}_3 + \text{NaOCH}_2\text{CH}_2\text{SO}_3\text{Na} + \text{NaOCH}_2\text{CH}_2\text{SO}_3\text{H}$$

5514 JOURNAL OF CLIMATE

How To Use Tax Table On Page 4

Refer to the weekly tax deduction table and select the column which shows the amount claimed by you on tax form TD-1 for exemption. Look down the weekly income column until you come to the bracket which includes your total earnings for the week. The amount for deduction from wages appears opposite this income bracket in the column which applies to your exemption. Basic rate earnings, bonuses, overtime allowance, off shift differential, are included in weekly earnings.

Example 1: Weekly earnings \$40, basic exemption \$750, married, exemption for wife \$750, one child, age 12 (family allowance applicable) exemption \$100, one child age 17 (no family allowance applicable) attending school, exemption \$300. Total exemption \$1,900, column 12, tax deduction 70 cents a week.

Example 2: Weekly earnings \$35, single, no dependents. Basic exemption as shown on TD-1 form, \$750. Column 1 on tax table, tax deduction \$5.05 a week.

Annual Income Tax Returns (Form T-1)

In most cases the tax deduction from wages amounts to about 95% of total tax. Each employee is required to make an income tax return (form T-1) to the Dominion Government, Income Tax Inspector, Ottawa for year 1946, not later than April 30, 1947. The T-4 slip attached to your check stub shows your total INCO earnings for 1946, and total tax deductions, and is a copy of slip employers are required to send to Income Tax Department.

If you worked for more than one employer in 1946 you should get a slip (T-4) from each employer.

Dependents

For a list of those whom you may claim as dependents on your income tax return see information to employees on back of form TD-1.

Refunds

If the amount deducted from wages during the year exceeds the annual tax liability the employee may claim a refund by filing an annual return (form T-1).

Forms may be obtained from time offices as soon as received from Income Tax Department. Timekeepers will answer questions in so far as they are able.

Filing TD-1 Forms With Employer

Every employee, claiming exemption of more than the \$750 allowance for single persons, is required to file TD-1 form with his employer. If there is a change in married status during the year or a change in the number of dependents a new form should be filed.

Family Allowances

Income tax is calculated on the basis that employees have applied for family allowances for children under 16 years of age. Family allowance registration forms may be obtained at any post office and should be mailed to Director of Family Allowances, Toronto.

TWO-MINUTE PUZZLE

If you can't answer this question within two minutes, turn the page upside down for the answer:

How far can a coon dog run into a woods? Answer: Half-way. Beyond that he will be in the woods.



TRACKS DOWN GREMLIN THIEF, COLLECTS \$291

A cheque for \$291 (that's two hundred and ninety-one dollars, huh) was the ripe reward turned over to Jack Beaudry of the Mechanical department for some smart sleuth work he recently pulled off in Copper Cliff Smeiter.

Replaced Electrical Device

With only a couple of slim clues to guide him, Jack tracked down and eliminated a gremlin which was robbing the efficiency of operating the dampers on the big converters. He figured out a mechanical device to replace troublesome electrical equipment, and the Suggestion Plan Committee promptly gave him full credit for the idea and boosted his bank balance to the tune of the \$291. Which, by the way, made quite a hit with John.

There are other gremlins getting in their dirty work here and there about the plant, Jack says, and from here in he's on their trail, and no fooling. It's a profitable business, not only from the money angle but also for the satisfaction a fellow gets out of seeing one of his brain waves prove to be a success.

Since he left his home in Massey as a young fellow, Jack has seen a lot of action. Joining the Canadian Bridge Co. he was employed on construction jobs all the way from Megantic, N.B. to Revelstoke, B.C. One of his most interesting assignments was on the bridge over Stoney Creek, about 45 miles west of Revelstoke, a span 318 feet above the water which is one of the highest in the British Empire. Another job he remembers particularly was installing the lift bridges on the Welland Canal. He worked on the smelters at Rouyn and Noranda and, getting closer to his present spot, helped install the C.P.R. turntable in Sudbury in 1936. In 1934, on April 9 to be exact, he joined Inco as a rigger at Copper Cliff, and that's his job now, one at which he is a real success, as that \$291 would indicate.

In 1930 Jack was married to Marg Helferty of Massey, and they have one son, Harold, who has developed a flair for collecting averages over 80% in his examinations at school. Both his father and mother are trying to be broad-minded about this, and will probably do nothing very severe to him even if it gets so serious that he goes over 90%.

Picture shows the Beaudry family, relaxing after cashing that Suggestion Plan cheque.

DISTINGUISHED GUIDES

Creighton Mine can be proud of two of its young ladies who have earned a coveted distinction in Girl Guide work, the blue and white "all-around" cord.

Glenys Thomas, 17, and her sister Gwen, 14, were presented with their "all-around" cords at a special investiture by Mrs. Duncan Fors'er, district commissioner of the Girl Guides. To win this award they had to be



GWEN AND GLENYS THOMAS

First Class Guides and also to qualify for special badges for first aid, swimming, cooking, needlework, child nursing, and two other activities of their choice, such as hiking, woodcraft, etc. They were the first Creighton Guides to receive cords, of which there are only about eight in Sudbury.

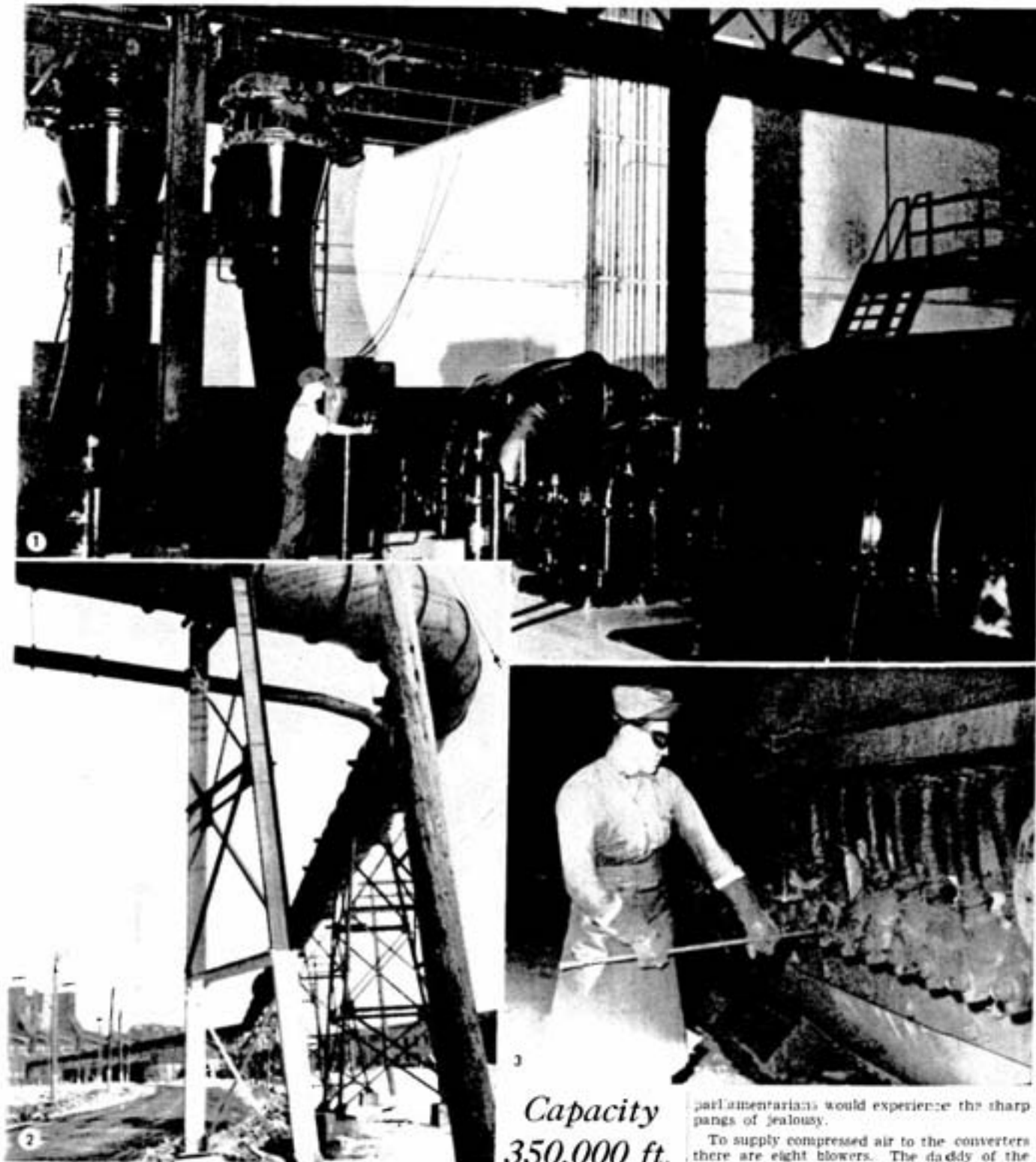
Glenys has been in the Guides for seven years and has never missed a meeting. Her sister has five years of Guiding to her credit, also unbroken. Both belonged to the Brownies for three years before graduating to the Guides. They are daughters of Mr. and Mrs. Jack Thomas.

TRADE WINDS

Wife (to husband): "I want to do some shopping tomorrow if the weather is favorable—what does the paper forecast?"

Husband: "Rain, hail, sleet, snow, thunder, lightning, and high winds with dust."

Powerful Blowers Supply Air to Converters



*Capacity
350,000 ft.*

Politicians would sigh with envy at the mighty "lungs" which produce air to keep the home fires burning in the 20 big converters in Copper Cliff Smelter.

Air at 15 lbs. pressure is forced through the charge of molten matte in a converter. The oxygen attacks the iron and sulphur impurities in the matte, and burns them at such a rate that the rest of the charge is

kept white hot. The sulphur passes off as gas; the iron is skimmed off as slag.

When a converter is "blowing", which is about 60% of the time, it uses 22,000 cubic feet of compressed air per minute, and the plant which "manufactures" this synthetic wind for the longest converter aside in the world is located in the substation adjoining the smelter. It's here that the country's

parliamentarians would experience the sharp pangs of jealousy.

To supply compressed air to the converters there are eight blowers. The daddy of the family is an Ingersoll-Rand unit with a capacity of 100,000 cubic feet per minute, driven by a 9,000-h.p. motor. Four others, each operated by a 3,200-h.p. motor, are rated at 45,000 cubic feet per minute. Two more have 25,000 capacity, and another is rated at 20,000. That's a total capacity of 350,000 cubic feet of air per minute at 15 lbs. pressure.

In the first of the accompanying photo-

graphs is seen one of the 45,000 class blowers and 3,200-h.p. motor. You'd never think a little outfit like that could kick up such a breeze, now would you? Fourth class engineer seen checking the gauges is Fred Wood, who has been with the Company since 1937.

Bill Beaver, substation superintendent, gives us this brief explanation of how a blower works: "The speed of the turbine wheel, which varies from 3,600 r.p.m. in the smaller blowers to 4,150 in the big one, creates a pressure difference which draws in the atmospheric air (everyday ozone to you). This is compressed in three stages from atmospheric pressure to the required 15 lbs. per square inch."

Each blower is hydraulically controlled so that it will automatically regulate its production of air to meet the demands of the converters, down to a minimum of one quarter of its designed capacity. At that point it is shut down.

Air is conducted from the blowers to the converter building through a pipeline, 66 inches in diameter, part of which is seen in Picture No. 2. Section of the line running through the smelter's front yard is 1,500 feet long. Another section leads from the substation to the rear of the converter building.

Tuyeres Final Conductors

Inside the building a network of smaller pipelines takes over the air supply and feeds it to the 20 converters. When the skimmer of a converter operates his valve control, the air is forced into the charge through a row of holes in the lining of the big steel shell. These 48 holes, called tuyeres, are two inches in diameter and enter the converter about a foot and a half below the surface of the charge. They are kept from "freezing over" on the inside by the simple process of inserting an iron bar to break away the crust as fast as it is formed, allowing free passage of the air. This is known as "punching" tuyeres, and the husky fellow performing this important job in the third photo is Homer Cantelon, an ex-serviceman.

You wouldn't worry about what people think of you if you knew how seldom they do.—Peggy Caroline Pears.



SWORD DANCERS

A sight to warm Sir Harry Lauder's heart would be these two little lassies in the kiltie costumes they wear to perform at school concerts and neighborhood gatherings. They are Carol Anne, 8, and Lois, 9, daughters of Mr. and Mrs. H. L. Moxam of Gatchell. Their dad has been with Inco for 15 years, and is a skimmer in the smelter. They belong to the Second Pack of Inco Brownies.

"Victoria Cross of Mining" is Presented by Governor-General



His Excellency, Viscount Alexander, the Governor-General of Canada, is seen in the above photo congratulating Leopold Dutil after presentation of the Medal for Bravery at the annual dinner of the Canadian Institute of Mining and Metallurgy, held this year in Ottawa.

Inset is Donald Finlayson, who received the same presentation at the hands of the Governor-General.

Both men won their award for heroic action under somewhat similar circumstances, in ignoring successive blasts of dynamite in a mine stope and going in to rescue fellow workmen who had been disabled by the explosions.

The names of Inco men appear on the roll of honor of the Medal for Bravery, often called "The Victoria Cross of Mining".

Typical of the deed for which the award is made was Finlayson's act, set forth in the citation which accompanied his medal:

At Hard Rock Mine

"On May 25th, 1946, in a stope of the Hard Rock Mine, two men, working on a staging, had drilled no less than forty holes in a wide, high breast, had charged each hole with eight to ten sticks of powder, and then made ready to fire. One of these men was Donald Finlayson. He stood by while his partner lit the fuses, finding one or two slow to light. When all forty were burning the two men took down the staging. Even as they were carrying away the last of the planks the first blast came.

"For a moment Finlayson was stunned but quickly he realized the deadly peril. Well did he know how few precious seconds were left to him. His every impulse must have been to flee. But he heard his partner calling for help. He searched for him in the smoke and darkness. He found him wounded. So he stayed with him.

"While yet more blasts ensued, he helped him over a hundred feet of musk, up a ladderway in an upcast full of smoke and gas, and still another hundred feet along the level to clear air and safety. But for him, assuredly, his partner must have been mutilated, crippled, or killed.

"Now, therefore, the Canadian Institute of Mining and Metallurgy, in recognition of his heroism, has conferred upon Donald Finlayson the Institute Medal for Bravery, and this citation of his valiant deed."

Signatures to the citation are those of R. J. Ennis, president of the Institute, and E. J. Carlyle, secretary.

TIGHT SPOT FOR RON

Were he not recognized both at home and abroad as the soul of integrity, Ron Silver of the Mines Dept. at Copper Cliff might have had a tough time talking himself out of a situation which descended upon his innocent head last month.

In the "Personal", or "Agony", column of a Toronto newspaper appeared the following notice:

BLANCHE—Phone OL 1697 Monday.

Feb. 24, at 11 o'clock.—Ron Silver.

When the advertisement was shown to him by a friend, Ron immediately issued a detailed statement of his movements on the night in question. Then, pale and badly shaken, as the enormity of the coincidence dawned upon him, he set out for Creighton at a full gallop to beat the rumour to his own doorstep. He made it okay, and the Silver family is still in one piece.

But he'd still like to meet this other Ron Silver, and Blanche, just for curiosity's sake.

NUTCRACKER SWEET

The traveller in the railway carriage had eaten a large pastry with gusto. A few moments later he was doubled up with pain and a sympathetic fellow-traveller asked if he could help.

"No, thanks," came the reply. "My wife put some nuts in that pastry and forgot to shell them!"

"Great Scot!" exclaimed the fellow-passenger. "And you can crack them by just bending your body?"



Sudbury Did Itself Proud at Great Carnival

Purring with pardonable pride, Sudbury looks back on a highly creditable piece of showmanship, its big Winter Carnival.

Throughout the week of Feb. 3 the city abandoned itself to the carnival spirit. Convention-holding members of the Northern Ontario Outfitters Association, visitors from Ontario and United States centres with their eyes peeled for summer holiday tips, and the citizens of the Nickel Belt themselves, suddenly brought to realize that their hub town is not only a world industrial centre but also the doorway to a tourist mecca, all pitched in wholeheartedly to make the event a great success.

It took nerve as well as ambition and imagination for Sudbury to tackle the carnival project on a major scale. There was no yardstick of experience to guide the organizers in their work but they made up with enthusiasm what they lacked in background, and the result was a credit to them and their supporters.

On this page Triangle presents a souvenir batch of carnival highlights, snapped here and there during a week teeming with special activity. Possibly the only black mark against the carnival, incidentally, was the prevailing overcast, often accompanied by snow flurries, which made things tough for the camera fans. (Note to committees for the future: Bright sunshine throughout, please).

Queen Contest Winners

1. Winners of the Carnival Queen contest are pictured here after receiving the acclaim of the crowd at Athletic Park. Left to right: Donna Smilanich, representing the Serbian Youth Club, was named Sudbury princess after the popular vote had been counted; Germaine Tessier, candidate of the St. Jean Baptiste society, the chic queen of the carnival; Theresa Egan of Garson, visiting queen, representing Garson sports association; Virginia Sbrega, visiting princess, carrying the banner of the C. N. R. employees at Capreol.

2. Sudbury merchants could well take a bow for the way they dolled up their stores to express the carnival spirit. Here's a view of the cabin which was erected in the Cochrane-Dunlop hardware store. Built of log siding and decorated with heads and skins of northern game, it housed an interesting display of sportsman's equipment. The storekeepers reported no special boost in business during carnival week, but will undoubtedly cash in during the summer on increased tourist trade.

3. The annual Canadian speed-skating championships were an outstanding feature of carnival week. In this picture former Incoite Frank Stack of Winnipeg sweeps low into the tape ahead of the field as he successfully defends his senior championship. Winnipeg skaters won six of the championships, Edmonton two, Saskatoon one, and Sudbury one, as the westerners dominated the meet. Five new Canadian records were established.

4. Jackie Waller and Evelyn Ray, of the stenographic department at Davidson's Garage, have a fling at log-sawing while E. J. Connelly gets set to clock their performance. Held in front of the postoffice, the log-sawing championships drew large crowds of spectators. The whine of the saw cutting through 16-inch jackpine logs as powerful lumberjacks demonstrated their skill, was a novel sound in the public square.

(Continued on Page 10)





LEGION BRANCH IS INITIATED IN NEW ROOMS

Initiation of 40 members into the newly organized Coniston branch of the Canadian Legion marked the official opening of the Legion's clubrooms in the second storey of the community hall at Coniston on Feb. 13.

Completely renovated and redecorated as a gift to the Legion by Inco, the clubrooms will be equipped for billiards and other games, and will be furnished with lounges and easy chairs.

Officiating at the initiation of members and installation of officers were executive members of the Sudbury Branch, led by the zone commander, Dr. P. A. E. Starr. Top picture here shows President Bill Allen, of the Sudbury Branch, reading the pledge to the new Coniston members while his namesake, Bill Allen of Falconbridge, serves as sergeant-at-arms. Left to right, in the front row of the candidates, are: James Forestell, William Easton, Mrs. Charlie Bryce, the only lady member, and Ernie Bray, retiring president.

Officers were installed as follows: President, Wm. Easton; first vice, Francis Forestell; second vice, Jack Angove; secretary-treasurer, James Forestell; sergeant-at-arms, Charles Bryce; executive committee, Mrs. Charles Bryce, William McLaughlin, Sr., and A. Dubery.

In No. 2, posing for the camera after presentation of the Coniston charter, are Dr. Starr, zone commander; D. Finlayson, president of Copper Cliff Legion; President Easton, and Secretary Forestell.

In No. 3, President Easton accepts a comfortable nest-egg for the Legion, a cheque for \$400 donated by Coniston citizens to the Veterans' Welcoming Committee. J. L. Rogerson made the presentation.

Appreciation of Coniston's Legionnaires for their fine new clubrooms was expressed to Inco by President Bill Easton, who felt his branch was more fortunate than many in having such splendid facilities. Sudbury members extended their congratulations, as did Mayor Roy Smith, P. O. Murphy, Rev. G. O. Cox, "Taffy" Davis of Falcon, and I. J. Simcox and D. Finlayson of Copper Cliff.

Refreshments were served at the conclusion of the program.

Off to a good start, the Coniston Branch is already mapping an ambitious program of activities which will include a community field-day next fall. It looks as if this new organization



will make some of the older groups of the district step to match its pace.

ROD AND GUN CLUB ACTIVE

M. U. "Mike" Bates, the sage of Metagama, gave an illustrated lecture to a large gathering of Copper Cliff sportsmen on March 5 at the first program meeting of Copper Cliff's new Rod and Gun Club. Members of the club enjoyed a smoker and get-together after the open meeting, held in Memorial Community Hall.

Committee chairmen appointed by President Paul Queneau to push the club's various activities are: Educational, C. A. Young; entertainment, C. E. Michener; fishing, H. O'Connor; game, John Livingstone; skeet, Jim Lee; rifle shooting, N. Temple.

Vice-president of the club is W. J. Ripley, secretary is C. H. Buck, and treasurer, Adam Watson.

ONE IS ENOUGH

Sales Manager: "What's this big item on your expense account?"

Travelling Salesman: "Oh, that's my hotel bill."

Sales Manager: "Well, don't buy any more hotels."



COPPER CLIFF

Harold Bray (Army), Elmore Capstick (Army), Richard Dopson (R.C.A.F.), Ivan Katerynuk (Army), Addison A. Richardson (Army), Wilbert Spencer (Army), Gerard Tremblay (Army).

FROOD

Edmond Cousineau (Army), Edward Thompson (Navy).

Sudbury Carnival

(Continued from Page 9)

They Could "Take It"

5, 6. Other clever store displays were the trapper's cabin in Woolworth's window and the ice-palace exterior, gay with colored lighting, at Birks-Ellis-Ryrie. The two old trappers in the Woolworth cabin excited the admiration and envy of carnival celebrants. Day by day they sat in their cosy shack, chatting about conservation over a bottle of the best; they had a different bottle every day, and it was invariably empty, but they showed no ill effects.

7, 10. Some 70 floats were entered in the mammoth parade which passed through the city's streets on the Friday. An outstanding float was that of the City of Sudbury, featuring the heraldic emblem, replicas of the cairns which flank provincial highway entrances to the city, and business statistics. Prize-winning float, seen in No. 10, was that of the Chinese Community, a beautiful symbolism of an ancient Chinese legend, "The Goddess on the Lily," in which the Goddess of Mercy, Quan Yen, descends from heaven to bestow blessings upon all girls, and they in turn offer homage for her kindness and protection through the years. Other prize-winning floats were entered by Robin Hood Flour, Levine's, Kiwanis Club, North American Life, and New Empire Cab.

Huge Crowd at Jumping

8. It was estimated that 20,000 people saw the jumping events of the Ontario ski championships, staged near the old Garson road. Lack of parking facilities forced hundreds to abandon their cars on the highway and trudge across snow-covered fields, but thousands arrived comfortably by special C.N.R. train from the city. This picture shows part of the dense crowd watching as one of the contestants takes off from the specially constructed tower, apparently sailing through the air with the greatest of ease. In No. 11 another jumper was caught by the camera at the split second of take-off, and in No. 12 still another finds himself in an embarrassing situation as the strong cross wind whips one ski out of control.

9. Tuesday night saw the official opening of the carnival by Premier George Drew, and a torchlight procession in which thousands took part.

Among the dozens of other special features were the fashion show, the closing banquet at which northern fish and game were served, the whiskerino contest won by Wilf Salo, the hockey matches at Stanley Stadium, the tug-o-war events, the junior dog derby, and the model mine stope brought from Frood and set up in a Frontenac hotel window in connection with the special industrial exhibit.



VESA'S MEET GREAT SUCCESS

Dominion ski champions of the past, present, and future entered the highly successful seventh annual meet of the Vesa Athletic Club, held at the Finnish Lutheran Church in Copper Cliff on Feb. 16.

Lauri Huuki, who won the blue-ribbon event of the day, the 10-kilometer cross country race, five days later annexed Canadian cross-country laurels at Beauport, Que. A 42-year-old unknown, as far as Dominion competition was concerned, Huuki sped over the 13½-mile Beauport course in 1 hr., 45 min., 7 sec., although prior to the race doctors warned him of his high blood pressure.

In the first of the above photographs W. Lahti, impresario of the Vesa meet, is presenting the J. J. Franssi Trophy to Huuki, No. 7, who covered the 10 kilometers in 30 minutes. Runner-up was Leo Luopa of Beaver Lake, 50 seconds back of Huuki. Others competing in the big race were: 3, Paul Jansson, who won the Canadian cross-country title at Port William in 1941; 11, John Teravainen; 6, R. Lujanen; 4, M. Sutinen; 1, E. Impola; 2, A. Walli; 5, P. Arklander; 10, K. Halonen; 9, L. Luopa; 8, Ed. Kallio.

Lady Champions

Outstanding performances among the lady contestants were given by the smiling trio seen in the second picture. Ellen Makinen of Beaver Lake (left), won the Dr. Markkanen Trophy for the ladies' cross country, open; Mrs. E. Holopainen (centre), of Copper Cliff, holds the Kallio Trophy which was awarded for the event for ladies over 40; Lillian Peltola, Copper Cliff, received the Johnson Trophy for the ladies' cross country, closed.

Races for boys and girls of all ages filled out the long program, which was run off without a hitch.

Competitors and spectators alike repaired to the church basement for delicious food and refreshments served throughout the day by a hard-working ladies' committee, seen in the third photograph. Left to right, front row, Mrs. S. Franssi, Mrs. P. Hakala, Mrs. J. Rinta, Mrs. T. Sirikka, Mrs. J. Pyntari; middle row, Mrs. W. Lahti, Mrs. A. Vuori, Mrs. J. Maki, Mrs. E. Sorvari, Mrs. J. Kontturi, Mrs. O. Rantala; back row, Mrs. T. Kujala, Mrs. R. Oikonen, Mrs. S. Sarlin, Mrs. P. Akkanen, Mrs. N. Niemi.





DANIEL CUPID IS STILL ACES

Daniel J. Cupid is still a pretty popular sort of a guy, judging from the number of parties held in his honor on St. Valentine's Eve.

There were no less than four dances staged the night of Feb. 14 at Inco centres alone, augmented by at least two others in Sudbury. The Triangle camera took a quick trip around the circuit for a look at the fun, and got these pix.

1. At Inco Employees Club in Sudbury all the tables were taken at a snappy cabaret affair for which Johnny Juryczak and his orchestra were providing the musical menu. Here's a shot of part of the merry mob.

2. Guy Prattini and his orchestra were holding forth at Creighton Employees Club, and judging by the happy expressions on the faces of these customers, were doing a right hep job.

3. At one of the tables during the supper hour at Copper Cliff Club can be seen, left to right: Ted Shaw, Phyllis Winters, Marion Stedman, Johnny Vanderberg, Mrs. Jim McGuire, Malcolm Pinlayson, and Mrs. Bob Burford. On the orchestra platform, Alvin Nickle and his popular band were giving out.

Coke Time at Garson

4. It was time out for a coke at the hop held by the young people's organization at Garson, and among those in the lineup at the refreshment table were Katharine MacIver, Diana Kirk, Ross McNelece, Francis Gemmell, John MacIver, Carol Gemmell, Carl Kolonski, and Mary Kelly.

5. At another supper table during the Copper Cliff Club party were Mrs. Mac Forsythe, Mrs. Bill Mackay, Don Ferguson, Sheila Neil, Mac Forsythe, and Bill Mackay.

6. In one of the gay groups at the Inco Club dance in Sudbury can be seen Mr. and Mrs. Stan Bryson, Mr. and Mrs. Jim Bryson, Mr. and Mrs. Bill Mayores, Shirley Graham, Jerry Marshall, and Mrs. Aldege Lalonde, whose hubby was just out of camera range.

7. Here's a lineup of contented customers at the Garson dance: Mary Mackay, Max Flowers, Harold Harris, Ruth Mills, Barbara Jack, Pen-ton Mills, Theresa Egan, and Albino Zanatta. Music was furnished by Leo Martin's Orchestra.



Musicale Proves Popular Feature at Cliff Club



Innovation at Employees Club



LLOYD SWIFT

When the directors of Inco Employees Club went "out on the limb" and booked a full-fledged road show on March 10 and 11 to see how this type of entertainment would click with club members and their friends, they made no mistake. There's a ready market in the Nickel Belt for the legitimate stage.

It was a happy coincidence that the first booking of this nature was the Canadian Theatre Guild Players with Phillip Barry's rollicking Broadway stage success, "The Philadelphia Story".

Lampoons High Society

The sparkling comedy lampooning high society behind the scenes of Philadelphia's "main line" casts lovely Florence Whittington as Tracey Lord, whose first marriage was broken

up because she behaved "more like a moon goddess than a wife". About to be wedded a second time to a man of the people, her serenity is spoiled by the appearance of her first husband, Dexter Haven... an ideal role for Canada's most talented actor and director, Lloyd Swift. Dexter, realizing that Tracey is making a mistake, arranges a deal with Spy Magazine, a keyhole society publication, to have the wedding covered by Mike Connor, a highbrow writer forced to lowbrow magazine work to live. Through Mike, Tracey learns that it is better to be a human being than a goddess, and in the end she finds the right man in a satisfyingly romantic finish.

In the radio show, "Curtain Time", and in a long string of stage successes, gifted Lloyd Swift has already made his mark as an actor and director. Mack Inglis and Cosy Lee, who have worked at the Royal Alexandra in Toronto with such famous stage and screen personalities as Francis Lederer, Spring Byington, Elissa Landi, and Leo Carillo, are other members of the clever and well-balanced cast.

ED. AUSTIN HONORED

Coniston people held a party in the community hall on Feb. 14 in honor of the former superintendent of the plant and mayor of the town, E. T. Austin, now on the retirement list.

The popularity of the guest of honor was evinced by the large gathering of friends in attendance, and was expressed by Supt. F. G. Murphy when he made the presentation of a handsome travelling bag.

Out-of-town guests at the enjoyable affair were: Mr. and Mrs. J. R. Gordon, Mr. and Mrs. D. Finlayson, Mr. and Mrs. Jack Lilley, and Mr. and Mrs. Norman Kneeshaw, of Copper Cliff, and Mrs. and Mrs. James Davey and W. Norquay of Sudbury.

WOLVES ON THE HUNT

After taking Soo Atomica into camp with expected ease in their first match of the senior hockey playdowns at Stanley Stadium, Sudbury Wolves ran into a snag in the second game and came out on the short end of the score. The series is being completed at the Soo, with the Wolves favored to win the verdict. Red Stuart has the coaching assignment.

Copper Cliff Club members got an unusual treat the evening of Feb. 23 when a musicale was given by a massed choir from local churches directed by Mrs. E. C. Lambert, assisted by a "Little Symphony" orchestra under the leadership of Roy C. Barnes.

In the above photo are members of the choir: Front row, Shirley Cavanagh, Mrs. E. C. Lambert, Mrs. Elmer Zinkie, Mrs. James O'Neill, Mrs. Len Turner, Mrs. Bert McClellan, Lila Brownlee, Mrs. J. A. Ferras, Dorothy Sinclair, and Naomi Ferras (accompanist); second row, Aurelia Sauve, Mrs. W. Zinkie, Hazel Valey, Mrs. H. P. Mowat, Mrs. W. Orr, Mrs. C. E. Michener, Robina Doberty, Joy Meeks, Monica Keast; back row, Delmer Succo, Thos. Whitaker, Charlie Baxter, W. Bradley, Charlie Tuttle, T. J. Birney, and Rev. F. J. Bain.

Audience Appreciative

The capacity audience warmly applauded the vocal presentations of the choir, which achieved fine tonal quality and balance, and also showed its appreciation of the assisting artists: Shirley Cavanagh, soprano; Alfred Pavretto, clarinet; Rev. F. J. Bain, violin; Frank Menagh, piano.

Equally enjoyed were the numbers played by the "Little Symphony" orchestra, a group which deserves every encouragement for its efforts. Members of the orchestra: Naomi Ferras, piano; Rev. F. J. Bain, Bert Bell, Matthew Bell, Joffre Ferras, R. C. Barnes, violins; Ezra Lemke, cello; Alvin Nickle, saxophone; Morham Masecar, trumpet.

Another musicale is planned for sometime during March, at which the Creighton choir will be featured, assisted by the orchestra.

CARNIVAL SHAPING UP

Canadian Citizenship Year will be themed at Copper Cliff Skating Club's annual carnival, to be held near the middle of April, according to President Bill Armstrong. "This Canada of Ours" will be the keynote of a colorfully costumed show which is expected to be one of the best in the long and successful history of the club.

Professional artists from Ottawa and Toronto, the best in the business, will be featured.

BE REASONABLE!

Proprietor—You come into my restaurant, you order a glass of water, you drink it, and calmly walk out!

Scot—What were you expectin' me to do, mon? Stagger out?

The Romance Of Nickel

(Continued from February Issue)

When the war ended, the market created for Canadian nickel in armaments and munitions was largely wiped out. With ninety per cent of its markets gone, the nickel industry was confronted with the same problem as had faced Ritchie in 1889. Operations were completely suspended for twelve months during 1921-22 for lack of demand. The nickel industry had to start practically at the bottom and develop new uses and markets for nickel. There were no established paths to follow. Few people had experience with the use of nickel by itself or as an alloying element. After laboratory experiments had indicated mechanical or chemical advantages of the use of nickel under certain conditions, it was necessary to find fields where these conditions existed, and urge prospective customers to try the new material. In most cases, nickel was replacing other well established materials which could be obtained at lower first cost. Nickel and nickel alloys had to compete with all commercially used metals and with innumerable alloys, as well as painted and coated materials of various kinds. The prospective customer usually had to be convinced of the economic advantage of replacing his present material with a more expensive metal.

As it turned out later, there were three favorable factors during this post-war period:

1. During the war, armies and navies had demanded stronger, tougher steels. To meet their rigid specifications, manufacturers of war equipment had sought the help of metallurgists. A new interest developed in alloys. Nickel alloys were among the most important.

2. During that post-war period of increased industrial activity, there was a constant demand for better materials for the new machines, products and appliances which were invented and developed. Nickel and its alloys were among the most important of these new materials.

3. The automobile, subject in its early years to stripped gears and broken axles, gradually developed rugged dependability largely through the use of strong, tough nickel alloy steels. As more cars were sold more nickel was used. The automotive industry became the biggest single customer for nickel.

Nickel Research Intensified

In 1922 Robert C. Stanley became president of The International Nickel Company. He realized that the same qualities which had made nickel pre-eminent in the war could also make it pre-eminent in peacetime industry. Under his guidance, a broad policy of active research and development was begun. Research laboratories were built, and metallurgists with practical experience in the key industrial and engineering fields were employed.

It was believed that the uses of nickel would be increased if the Company could extend the markets for "Monel," an alloy produced direct from the ore in the Creighton Mine containing approximately two-thirds nickel and one-third copper. This had been sold in small quantities since 1905, but its use was limited by the fact that it was not readily available in the standard mill form of rod, sheet, strip and wire. Because of the rolling difficulties and the small tonnages, it was found after trial that it was impracticable to make adequate arrangements for rolling "Monel" on a toll basis.

The answer was the construction of a mill for the production and development of "Monel" and other high-nickel alloys. In 1921, as part of the development program, a refinery and rolling mill was built at Huntington, West Virginia, to produce these alloys from partly refined smelter products.

The ore from which "Monel" is produced is specially selected and treated at the Coniston

smelter, and shipped as a matte to Huntington where there is an abundance of sulphur-free natural gas for use in the final refining and the rolling operations. The finished "Monel," a silvery-white alloy with important mechanical and chemical properties, has many uses in engineering and in the food, chemical, shipbuilding and many other industries.

At the Huntington mill, modifications of "Monel" such as "K" Monel and "R" Monel, and other alloys of nickel such as "Z" Nickel and Inconel have been developed, each with its special physical and chemical characteristics. The availability of a wide range of forms of "Monel" and other nickel alloys, made possible by the Huntington mill, has not only expanded the market for these alloys, but has encouraged other producers to develop special alloys, many of which contain nickel. An example is stainless steel, which, at first a specialty, is now produced by many of the steel companies in large tonnages.

Steadily the demand for nickel increased. By 1929 more nickel was being used in the peaceful pursuits of industry than during the peak period of wartime production.



In 1928 Frood Mine Was Opened

Sudbury Properties Integrated

In the late twenties The International Nickel Company of Canada and The Mond Nickel Company, Limited, each started a mining operation in the Sudbury Basin which proved to lead to the same orebody — the Frood — the largest single nickel ore body ever discovered, and the heart of the Canadian nickel industry. If this ore body were developed through two separate operations, it was evident that a large part of the shafts and underground development to extract the ore, as well as the surface facilities to handle it, would have to be duplicated. Only under a single long-term mining plan would it be possible to develop the entire ore body properly so as to ensure the full utilization of all ore.

In 1929, The Mond Nickel Company merged with The International Nickel Company of Canada. This allowed The International Nickel Company to plan the orderly and effective development of the Frood ore body. The Mond refinery at Clydach, Wales, close to the British industrial markets, as well as rolling mills at Birmingham and Glasgow and a precious metals refinery at Acton, England, also became a part of The International Nickel Company. This bettered the position of the Company in respect to European markets, and resulted in an expanded program of research and world-wide development of demand for nickel and nickel alloys.

The Second World War

The Company's policies of constant research and development of new markets which brought about the great expansion of peacetime uses of nickel, and thus made necessary the tremendously expanded production facilities, had also brought the Canadian nickel industry to a position of preparedness when the second world war broke out. In efficiency, in capacity, and in strategic location of its plants, it was admirably equipped to support the war pro-

duction efforts of the Allied Nations. This was a mechanized war in which victories were to be won by the armies, navies and air armadas with the strongest, toughest, speediest, most powerful machines.

Soon the demand for Canadian nickel for war production made it impossible for the Company to supply the peacetime customers it had taken so long to cultivate. By a system of Government priorities, the total output of Canadian nickel was made available to essential war industries. The Company co-operated with governmental authorities and nickel users in conserving the nickel supply and in recommending substitutions for nickel in uses for which it was not available.

Because of the loss by the Falconbridge Nickel Company of the use of its refinery in Norway, the Company, as an emergency measure, undertook the refining of the entire Falconbridge output. Following the fall of France in 1940, the ores mined and smelted in New Caledonia by Societe Le Nickel were shut off from their refinery in France. To meet this situation, the International Nickel Company installed emergency refining facilities at Huntington, West Virginia, and refined these ores for the United States Government.

To supply the war requirements of the United Nations, the Allied Governments asked the International Nickel Company what could be done further to increase the production of nickel. In response, the Company further enlarged its plants in Canada, under a program which called for the expansion of practically every step in the Canadian production process. This expansion involved the expenditure of \$35,000,000 to allow for a yearly nickel production capacity of 50,000,000 pounds more than the 1940 production.



Copper Cliff Smelter

International Nickel Today

Today the Company owns 100,000 acres of mineral land near Sudbury, in which the Frood-Stobie mine and five other mines are operated. These mines with the concentrator and smelter at Copper Cliff constitute a single integrated operation laid out to develop, mine and produce a constant supply of nickel geared to the market demand. Long-range planning has brought about the most economical utilization of both low and high-grade ores and an extension of the life of the mines that would not otherwise be possible.

From the smelter at Copper Cliff the bulk of the nickel passes to the large nickel refinery at Port Colborne where pure nickel is produced. All the copper separated from the Company's ores is refined at the Company's copper refinery at Copper Cliff. Most of the power for these operations is furnished by three hydroelectric power plants owned by the Company.

The Company also has a nickel refinery in Clydach, Wales, a "Monel" refinery at Huntington, West Virginia, and a precious metals refinery at Acton, England.

The Company operates a foundry in Bayonne, New Jersey; rolling mills in Birmingham, England and Huntington, West Virginia; a tube and extrusion mill in Glasgow, Scotland; a coal mine in Wales; and research laboratories in Canada, England and the United States.

A Successful Operation

The history of The International Nickel Company is the history of a number of men whose judgment time has proved sound. Looking back, the development seems logical and natural; but to look ahead and picture a great industry where nothing had existed before required creative vision, indomitable courage and tireless energy.



Refinery at Clydach, Wales

And so the Canadian nickel industry grew step by step as each of its leaders built firmly and well on the foundations laid by those who had gone before. The prospector and the engineer, the scientist, the statesman, the salesman, the investor and the business executive — each gave his best endeavours. These men contributed their life's work, their skill, their wealth and their knowledge. By ingenuity and skill in processing and constant efforts in developing the usefulness of nickel, they converted an impurity in copper ores into a vital material for modern industry. And they established something permanent and enduring — something which contributes to the welfare and happiness of mankind, and to the prosperity of Canada.

PART TWO

How Nickel is Produced

Sudbury, a thriving city of 32,000 population, located in that region of rugged rock and crystal lakes north of Georgian Bay, is the centre of Canada's nickel industry. Four miles to the west, at Copper Cliff, are located great crushing, concentrating and smelting plants. Eight miles to the east, at Coniston, a small smelting plant is in operation. Within a radius of ten miles of Sudbury, The International Nickel Company operates five mines; a sixth is located twenty miles from Sudbury on the northwestern rim of the Sudbury Basin. Let us follow the broad, new highway northward for one mile from Sudbury between low, rocky hills, to the Frood-Stobie Mine.

Mining

A group of buildings of various shapes and sizes is clustered around the main shaft house which is 165 feet high. Down beneath the surface of the rock, in this vicinity, lies a body of ore about a mile in length, over 600 feet in width in places, and slanting downward from the surface to a depth of 4,000 feet or more.

Underground

Equipped with coveralls, helmet and miner's lamp, we enter the cage and drop down into the earth to a depth of 1,600, 2,000, or even 3,400 feet. The cage door opens and we step out into an electrically lighted room cut in the solid rock. Narrow-gauge tracks lead away into long tunnels. We walk along one of these roomy passageways for half a mile or more, then turn into a side tunnel which runs into



Men Leaving Cage Underground

the ore. Here and there cool breezes sweep along the passageway. To provide good ventilation underground, large fans force air down

one shaft. It circulates throughout the mine and comes out through another shaft.

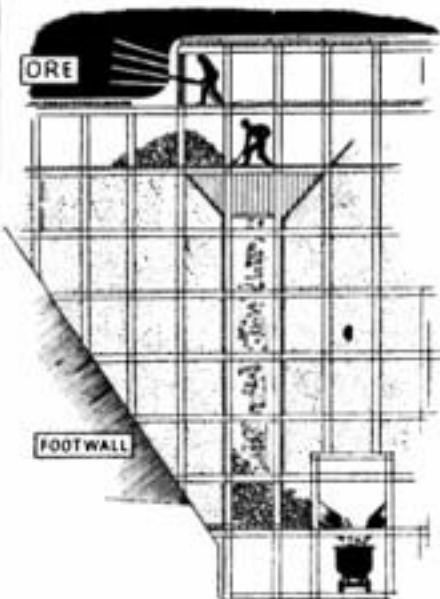
Where Drillers Are at Work

We climb up a series of ladders through a narrow opening in the rock, and finally enter a room where the only light comes from our own and the miners' lamps. This room is called a "stope." Its walls have a glittering metallic lustre. It is floored with heavy plank. Scout posts support a timbered ceiling.



Plan of a Mine Level

Over at one wall of the stope, the drillers are at work. To the rattle of compressed air machines, the long drills pierce the breast of the ore, to a depth of six or seven feet. When the wall is riddled with holes, powder is inserted, fuses made ready, and at the end of the eight-hour shift the fuses are lighted and the miners depart.



Cross Section of Mine

When the charge is fired the whole wall, to a depth of seven feet or more, crumbles and falls to the stope below. The next shift comes on the scene. They timber up the section which has just been blasted, and proceed to drill another six or seven feet into the ore. And so they advance, step by step, cutting a slice right across the ore body. They then mine the next slice higher up. Below them they fill in the mined sections with crushed rock to keep the mine safe.

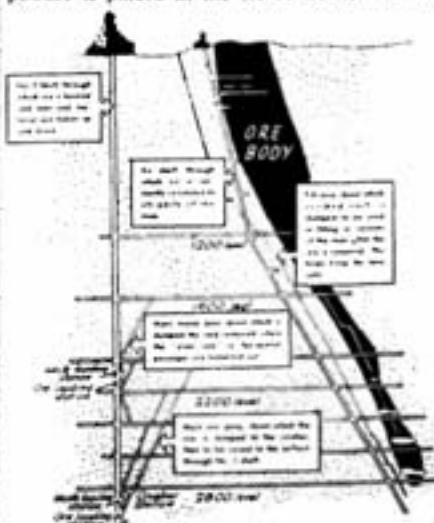
Handling the Ore

Behind and below the drillers, men known as "muckers" shovel the loose ore down a chute. It falls into ore cars which are hauled away in long trains and automatically dumped to a crusher where steel jaws break up the larger lumps of ore. Then steel buckets known as "skips" operated by cables whisk the ore to the surface in 11-ton loads at 3,000 feet a minute, where it is dumped at the shaft house into bins.

Open Pit Mining

The great Frood-Stobie ore body, being mined from the 2,800-foot level upwards, is also being mined from the top downwards. On

the surface, drilling rigs pound nine-inch holes forty-five feet down into the ore. Blasting powder is placed in the set of holes, and once



Section Through Frood No. 3 Shaft

a day, at noon, the charge is fired. About 12,000 tons of ore and rock are shattered with each blast. Then great shovels scoop up the ore into thirty-five-ton trucks, and away it goes to the crusher.

This open pit is being cut down into the rock in steps or "benches," and the pit becomes narrower as it becomes deeper, so surface mining can only be carried on until the two sides of the cone-shaped pit come together at the bottom.

Underground Train at Tipple
Crushing, Concentrating, Smelting

As we approach Copper Cliff, three huge chimneys loom up from a vast group of buildings down below. Two of these chimneys are respectively 40 and 45 feet inside diameter at the top, and rise to a height of more than 500 feet.

Formerly the sulphur fumes released in smelting the ore killed the vegetation in this district. Now a large part of the sulphur is recovered and used in sulphuric acid manufacture. The balance, carried to a great height through these chimneys, is so well diffused that lawns and gardens now thrive in the Sudbury district.

Churn Drills at Open Pit
(To Be Continued Next Month)



With Seven Wins in Seven Games, Hughie Munro is "Skip of the Year"

Although it has missed the spotlight which last year's Northern Ontario Bonspiel directed upon it, curling in the Nickel Belt is chalking up another great season. The besom an' stane boys are now well into the silverware stage; the skips are pondering with truly magnificent mein, and the leads are praying harder than ever.

At Copper Cliff last night the other night the Triangle camera caught the above group of candid shots. In No. 1 Skip Doug Walker anxiously studies the weight of his second man's rock as it approaches the house; behind him Skip John Garrow prepares to warm up the ice and take the shot clean through.

Wondrous Broom Action

In No. 2 Skip Holly Hyland (white sweater) comes up to lend a hand as the Clark brothers, Richie and Jack, really beat the ice to coax a lazy stone over the hogline. Their wives would be proud of that broom action, doubtless mastered through long hours of practice on the floors at home.

R. H. Keast calls for an in-turn in the third picture; he's a member of the Hughie Munro team which is sizzling hot as we go to press. John Weir and Dick Valentini are sooping-er-up in No. 4, Dick using one of those new glass brooms that don't bend very much. The slick character in No. 5 is Bob McIntosh of Copper Refinery, about to

lay one right on the button.

With seven wins for seven games, Hughie Munro of Frood Mine is well on his way to skip-of-the-year laurels, backed by Herman Mutz, Harold Keast, and Jim Dewey. They are the team to beat for the coveted Collins Cup. Another finalist in the Collins event is Jack Duncan's team of Clarence Beach, Mel Luck, and A. Rabreau, who can be expected to give Hughie a very stiff argument. The third Collins Cup team is not yet decided.

The veteran Jim Spaulding skipped his team of A. McNeil, D. Rowe, and W. Harrington to victory in the inter-rink event, triumphing in the final over Jesse Morrison's crew of M. Austin, Francis Clark, and J. Rennie.

The J. J. Henry Trophy for the colts' competition was won by Romando Canapini (skip), A. McGhee, Vic Rae, and H. Munro. Runners-up were Wm. Byers (skip), F. Rinaldi, S. R. Bennett, and O. Walberg.

In special curling events staged during the past six weeks, Cliff sportsmen have been in the spotlight.

In British Consols Event

A team composed of H. Hyland, Harold Hudson, and Frank Matte, with Hughie Munro skipping, won the third event in the Sudbury motors' bonspiel in Sudbury, and then defeated the Jesse Morrison and

Clarence Harrison quartets in a three-way playoff for the right to represent the Cliff club in the British Consols event in the Northern Ontario Bonspiel at the Soo. Victorious at the Soo, they went on to Kirkland Lake for another play-off in which a win would have given them an all-expense trip to Halifax, but Don Best's crack team shattered their hopes, 10-8 and 16-10.

Main event in the Sudbury Motors' Spiel was won by that canny skip, Jesse Morrison, very ably assisted by Tom Birney, "Mac" McLean, and W. Byers.

In the bonspiel sponsored jointly by Empire Coal and Hill-Clark-Francis, Romando "Mac" Canapini master-minded his team to victory in the second event. His men were "Red" Pianosi, Joe McDonald, and Keith Harkins.

Again this year the Cliff club was represented at the Ontario Bonspiel in Toronto by a team composed of Dr. H. F. Mowat, A. Godfrey, Alderman George Thompson, and Angus Harrison. They gave a good account of themselves in the big time, but had to store their prizes temporarily in Toronto owing to the boxcar shortage.

Westerner Going Good

A visiting curler who is making the old hands sit up and take notice is Jimmy Cochrane of Woodnorth, Man., who is spending the winter with his son-in-law, Jim Rae. Either as skip or as third man he is sound and steady, and has some notable wins to his credit.