INCO TRIANGLE

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The Seven Sons of Sam Mallette

(Story on Page 4)

INCO TRIANGLE

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Don M. Dunbar, Editor.
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Inco Scholarships To Aid Research

Three graduate fellowships, each valued at $6,000, will be granted yearly by the International Nickel Company to encourage research in fields serving in metal industries, it was announced by Dr. David Thomson, of McGill University, chairman of the National Conference of Canadian Universities' scholarship committee.

The fellowships are for research in geology, mining, ore dressing, metallurgy and the physics and chemistry of metals. Each fellowship provides $2,000 a year and is tenable for three years.

Applications will be considered from any Canadian University qualified to confer the master's or doctor's degree in the acceptable fields.

"The fellowships will make possible one of the best and broadest continuing research programs anywhere on the continent," Dr. Thomson commented. "The new information that is developed by the recipients of the awards should make a significant contribution to the progress of Canadian industry."

MEDICALLY SPEAKING

(By the Inco Medical Staff)

The annual Inco Chest X-Ray Survey is scheduled to get under way this month, and all employees will be X-Rayed. Arrangements have been completed with the Provincial Dept. of Health for a survey of the entire district this fall, which will allow dependents of Inco employees also to receive a chest X-Ray without charge.

* * *

With the arrival of the warm weather it will soon be "tonsil time" again. With the added hospital beds available this year in the Sudbury General Hospital we expect no great difficulty in securing accommodation.

Tonsils should not be removed indiscriminately. If your child has had acute tonsilitis in the past, discharging ears, or glands in the neck, then it is likely an operation is indicated. Please see a doctor early and have him make the decision and reservation. Each year about 10 days before school opens we are deluged with requests for operations and we are able to do only a small percentage in that time. Please, don't put it off until the last of the season.

* * *

"Telephone medicine is bad medicine." Many patients feel that if they can just talk on the telephone to a doctor they can be reassured. It is true that "after-thoughts" and follow-ups of cases can often be done well by phone with a tremendous saving of time, but except in very isolated areas the telephone should not be used for consultation service.

We receive many calls daily. They may run something like this: "My child has a rash; please leave something for him." Now, unless the doctor can see the rash he hasn't got a clue. Another very common request is: "We just want some sulfa for a bad cold." To the layman a "cold" might mean anything from a slight tickle in the throat to a severe pneumonia. The sulfa drugs are useful drugs but they are not curealls and they can cause serious trouble. They cannot be used indiscriminately and never can be prescribed over the telephone unless the physician is familiar with the case he is treating.

Vermillion River on the Rampage

Rampaging flood waters of the Vermillion River are shown here at their peak, 51 inches above normal, cutting off No. 17 highway. Extensive damage was done this spring at Espanola's K.V.P. plant and also to summer homes and resorts on Lake Penage, by what some old-timers called the worst floods in the Sudbury District in half a century.

In Port Colborne Time Office

The hard-working, long-suffering staff which is responsible for each man's time being promptly and correctly recorded at Port Colborne Refinery is seen above: Bill McDonald, Nelson Boyer, Jim Crawford, Zolton Bendes, and Bob Morrison, chief timekeeper.

INCO FAMILY ALBUM

It's time to take a whirl around the family circuit again, and this month we meet: (1) Mr. and Mrs. Leo MacDonald (Creighton) with Jo-Ann, 3, Rory, 7 mos., and Carol, 5. (2) Mr. and Mrs. Lorne Christink (Frood-Stobie) with Linda, 5, and Larry, 9. (3) Mr. and Mrs. Peter Davis (Coniston) with, seated, Verna, 15, May, 7, Stephen, 6, Shirley, 11, Mrs. Gabrielle Desloges, 19, and, standing Gerald, 24, and Joseph, 23. (4) Mr. and Mrs. J. McLennan (Employment Office) with Mrs. Joyce Fournier, 24, Carol, 8, and Donald, 11. (5) Mr. and Mrs. Johnny Pudd (Copper Cliff) with Patricia, 4½, Jackaline, 1½, Joan, 6, and Jimmy, 6 mos. (6) Mr. and Mrs. Ross Mirrlees (Port Colborne) with Bobby, 10, Frank, 9 mos., Barbara, 8, and Wayne, 5. (7) Mr. and Mrs. M. Gervais (Coniston) with Girard, 22, Annette, 16, and Simonne, 20.


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20-Game Streak Wins N.O.H.A. Midget Title

With a string of 20 consecutive victories to their credit, Copper Cliff Lynx left no doubt about who was who in Northern Ontario midget hockey society this season. After sweeping the 10-team Nickel Belt league they knocked off North Bay and the Soo in the playoffs and then hung a 6-2 decision on South Porcupine Lions in a sudden-death match for the N.O.H.A. midget crown and the Carl Palangio Trophy. They're shown above: back row, Ricky Valentini, Billy Mills, Paul Dean, Albert Rondini, Barry Wright, Manley Bennett, coach; centre row, Val McGauley, manager; Jim Holmes, Ross Webber, Jack Sutherland, Billy Vaughn, Eddie Pollesel; front row, Barry Williams, Barry Newell, Bob Mikkola, Andre Leborne, Pat Morrow, Cummie Burton (captain), Eddy Schack; foreground, Robert McGauley, stick boy. The team was one of the many sponsored by Copper Cliff Athletic Association.

Seven Sons on Levack Payroll

Certainly there aren't many other companies in Canada with the unique distinction of having seven brothers on the payroll.

At Inco's Levack Mine the seven sons of Sam Mallette are all on the job, and they're a mighty fine looking group when you get them all together, as our cover picture this month shows.

Seated in our front page photograph is Edgar, 37, of Levack Mine's electrical shop; the other brothers, from the left, are: Alf, 27, 1600 level tramming; Ray, 18, yardman; Ernie, 22, underground construction; Bert, 24, development drifting; Aimee, 29, shops; Pete, 35, 1600 tramming.

Their father worked for Mond Nickel Co. at Worthington for 10 years and then transferred to Levack in January of 1928; he was employed by Inco for some years after the merger with Mond. He died in 1947.

Their mother resides in Levack with two of her sons, Edgar and Ernie.

APPOINTMENTS ANNOUNCED

The following appointments were announced at Copper Cliff, effective May 1st:

J. C. MacKinnon, superintendent of transportation.

H. W. Tyers, assistant to purchasing agent.

SCHOLARSHIP WINNERS

Winners of the $50.00 Inco scholarships, awarded annually to the boys with the highest standing in each of the four years of the mining course at Sudbury Mining and Technical School, were: Wayne Wilson, Grade 12; Franklin Picard, Grade 11; Richard Leppinen, Grade 10; Allan Torvi, Grade 9. Presentation of the awards was made at the annual commencement exercises by I. J. Simcox, general assistant to the vice-president.

First Service Pension at Refinery

The first employee of the Copper Refinery to retire on Inco service pension, Dolph Dumontelle, is seen above receiving the congratulations of Bob Rodger, mechanical supt., as he completed his final shift last month. At the left is Supt. R. Hewgill.

Born at Papineauville, P.Q., Dolph learned the carpenter trade as a boy and when he came to Sudbury in 1926 was engaged in construction work. He started at the Refinery in 1931, and he and his son Harry helped put the finishing trim on the interior of the new office building. Another son Joseph also became a Refinery carpenter. Now they're in the construction business together, and their father, who is in the best of health, will join them as a sort of honorary foreman.

Dolph was married at Massey in 1902 to Florence Currier; they have three sons, Harry and Joe of Sudbury and Eddie of North Bay, and three daughters, Helen (Mrs. Allan Burrows) and Florence (Mrs. Paul Smith) both of Oshawa, and Marian (Mrs. R. Dooley) of Sault Ste. Marie.

The boys at the plant join in wishing Dolph many happy years of retirement.

Copper Cliff Lady Curlers Get Trophies

An outstanding season, which saw all four events closely contested with some very high class curling in evidence, concluded for Copper Cliff Ladies' Curling Club with a banquet and presentation of prizes at Cassio's Bar-B-Q.

Mrs. Jessie Browne, club president, handled the program in her usual gracious manner, and warmly congratulated the membership on the success of the season's activities. She was presented with a gift in token of the club's appreciation of her work.

Accompanying photographs show the members of the winning rinks in the various events:

1. Good old Bill Jessup, dean of the rink and donor of the trophy and prizes for the main event, poses with the team which captured his cup for this year: left to right, Mrs. M. Bregman (skip), Mrs. Betty Parlee, Mrs. Muriel Byers, and Mrs. Gwen Dunbar.

2. This is the squad which captured the Robt. Brown Trophy, presented by Doug Walker, manager of the Copper Cliff store: left to right, Mrs. Bea Forsythe (skip), Mrs. Ethel Fitzgerald, Mrs. Thelma Hiscock, and Mrs. Eleanor Flowers.

3. The Racicot-Darrach Trophy was presented by Miss Robena Doherty to: left to right, Mrs. Betty Burchell (skip), Mrs. Edith Harkins, Mrs. Muriel Byers, and Mrs. Margaret Gilbert.

4. Winners of the Canadian Legion Trophy, which was presented by "Red" Pianosi on behalf of the Copper Cliff Branch, were: Mrs. Ruth Harkins (skip), Mrs. Bea Forsythe, and Mrs. Muriel Byers; fourth member of the rink, Mrs. Jean Stoddart, was unable to attend.

Held Post-Season 'Spiel

The annual post-season bonspiel of Copper Cliff Ladies Curling Club drew 32 rinks and was a rousing success in every way. Premier honors were won by the rink skipped by Mrs. Betty Burchell, and composed of Mrs. Noreen Nelan, Mrs. Betty Parlee, and Mrs. Helen Montgomery. They staged a sensational comeback in the final match, winning 12-10 after being on the short end of a 7-0 score going into the fourth.

The second event was taken by Mrs. Jean Wright (skip), Mrs. Edith Harkins, Mrs. Claire Burchell, and Mrs. Lynn Forster. Third event laurels went to the Sudbury team of Mrs. Mary Gildner (skip), Mrs. Lynn Beaver, Mrs. Peggy Currie, and Mrs. Winnifred Whittles.


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LEVACK GETS "100 GRAND"

A pair of theatre tickets apiece for the men of Levack Mine was the top-priority order which went out from the Safety Dept. the other day.

The ducats, good at the Levack or Sudbury theatres, are a token of the Company's appreciation and congratulations for Levack Mine's completion of another 100,000 shifts worked without a lost-time accident.

The no-accident run commenced on Sept. 21, 1950, and reached a total of 100,527 shifts on the third of last month. Levack previously scored the coveted "100 grand" in 1947.

Hats are off to Safety Engineer Gordon Tulloch and all Levack personnel for their outstanding achievement. Let's hear of an encore soon!

Carbide Drill Setup

Typical setup of a long hole carbide drill, fitted with sectional rods and a tungsten carbide tipped bit. The photo was made on 1350 level at Murray Mine and the driller is Henry Perrier. More sectional rods stand against the drift wall on the right. The strings hanging from the batter boards at top left and right aid the driller in placing his machine on line. At the end of the drift in the background is the brattice blocking off a big open blasthole stope. See the story on carbide bits on the opposite page.

New T.C.T. Bit Proves Valuable Tool of Mining

Of the many improvements in rock-drilling techniques since the days of hand steel, one of the most important was the recent introduction of the tungsten carbide tipped bit. Increased drilling speed and long life of the carbide bit are advantages which can be utilized in the harder and more abrasive rocks, and the fact that it loses very little gauge during its drilling life also makes it valuable for drilling the long holes used in the blasthole method of mining.

Blasthole stoping, a major feature of Inco's program for low-grade ore recovery, is itself a comparatively new mining technique. It requires the drilling of holes to lengths of 70 feet or more.

Long hole drilling with percussion drills and sectional steel was done more than 25 years ago but did not prove very successful because the rapid gauge loss of steel bits necessitated the use of very large starter bits. Consequently the drilling of long holes has been done almost entirely by diamond drill, and much research and experimentation has gone into perfecting the diamond drill for blasthole work. Now the carbide bit has reversed the field by competing successfully in long hole drilling. Some of the important advantages it offers in harder, more abrasive ground, are low cost per foot drilled and superior drilling speed. Another advantage is that holes two inches or more in diameter can be drilled with little increase in drilling time as compared with the usual 1½-inch hole drilled with the diamond drill; the larger hole permits loading more explosive, thus reducing the footage of drilling required per ton of ore and thereby reducing the breaking cost.

Discovered by Germans

Men have long searched for a very hard metal for bits which would withstand the blows of a percussion drill. It was the Germans who were first successful, shortly before World War II, in developing a material with the required characteristics. It was described by a representative of Krupp's as "a sintered tungsten cobalt carbide." Its hardness approaches that of the diamond. The use of tungsten carbide tipped (T.C.T.) bits began on this continent soon after World War II.

The T.C.T. bit is not composed entirely of carbide metal. Inserts of tungsten carbide are brazed into the steel body of the bit, which is detachable from the drill rods.

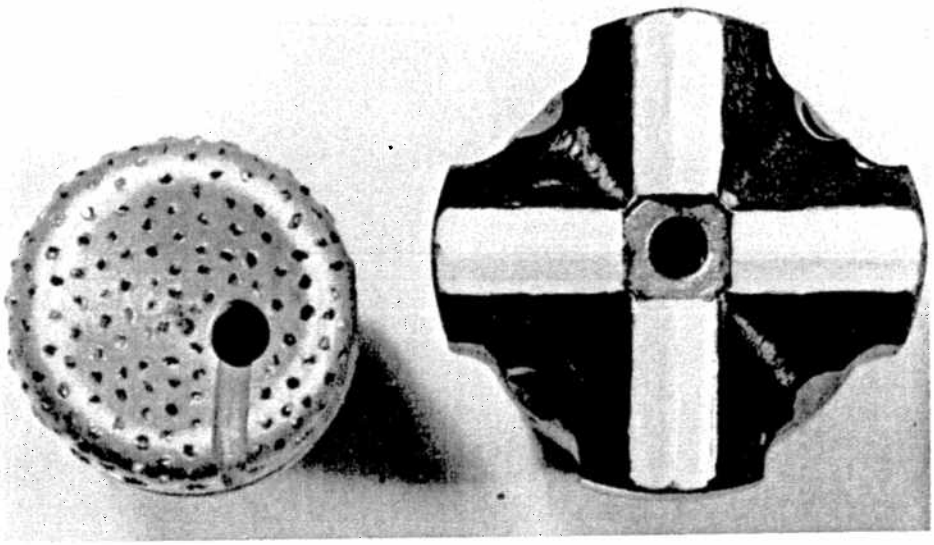
T.C.T. bits will drill a total footage of 300 feet or more. They require sharpening after 40 to 45 feet of drilling. Use of a bit which is dull results in damaged inserts. Sharpening is done by a simple grinding process.

The bit is fitted to a series of sectional rods which are joined by threaded couplings. A four-inch percussion drill drives the rods. The relatively high power of the drill is not required in the first part of the long hole, but as the length of the rods increases, much of the power delivered by the machine is dissipated at the couplings. Research is now being directed toward the development of better sectional rods and improved performance from them, as well as toward more efficient accessories. The rods in use at Inco at present are fabricated in the Mines Mechanical workshops from a nickel alloy steel.

Inco Drillers Do Well

Ultimately the success of a new method of drilling depends on the drillers who use the equipment. It is to the credit of long hole drillers at Levack, Murray, and Frood Mines that long hole carbide drilling has already been proven practical and economical. It is commonplace for an experienced long hole driller to drill an average of 100 feet per shift with carbide bits.

Long hole carbide drilling is being successfully applied elsewhere in Ontario, and in Quebec and British Columbia.



Long Hole Rivals

Long hole drilling, very much in the spotlight locally since Inco has launched an extensive blasthole mining program, has given the new tungsten carbide tipped bit a chance to prove its mettle (or metal), and it's coming through with flying colors. One of the new T.C.T. bits is shown above on the right, with its four inserts of the carbide metal which approaches the hardness of diamonds. On the left is a diamond drill bit, with which almost all long hole drilling has been done until very recently.

455.00 Bonanza To Alfie Pinaud

A happy little guy with a big grin, Alfie Pinaud of the Crushing Plant at Copper Cliff, walked off the job the other day with a cheque for $455.00 rustling in his jeans. Since he's saving to buy a home, the money will go a long way toward realizing his cherished dream.

Alfie struck his big bonanza while digging in the Suggestion Plan lode, where he'd previously uncovered a $29.00 nugget. This time he was using a different kind of pick — an idea for improving the discharge chutes on the standard crushers. Did it ever get results!

Accompanying photo was made just after Al Eldridge, secretary of the Suggestion Plan Committee, had presented Alfie with his cheque which, incidentally, is free of income tax.

Before he joined Inco 15 years ago, Alfie worked for the C.P.R. for 12 years. He was married at Sudbury in 1945 to Mary Coules, and they have three sons: Bruce, 1½; Ian, 2½; and Merton, 4½.

His hobbies are curling, hunting, fishing — and saving for that home of his own.

Frood Takes Both Titles

Anybody in the mood for a challenge team bowling match would find Frood-Stobie Mine a likely place to look for competition.

Frood won undisputed sovereignty of the Inco Club alleys in Sudbury when its teams captured both the Inter-League and Inter-Plant annual tournaments.

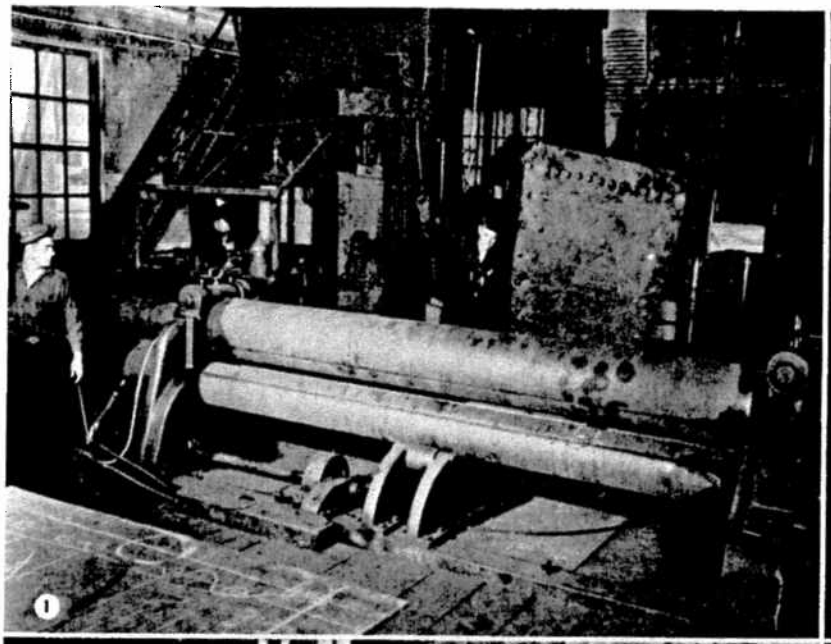
Frood Mine "A" entry of J. Kilby, M. Allen, J. Romanow, M. McNichol, and E. Dunn had to go all out to win the five-team Inter-League event, but they wound up with a 27-pin lead over Copper Cliff. The latter's Ginny Bertulli was the best bowler of the night with 1320.

Team scores were: Frood "A", 5961; Copper Cliff, 5934; Refinery, 5890; Frood "B", 5250; Ladies, 5023.

In the Inco Inter-Plant joust, however, the Frood line-up powerhoused their way to victory with a margin of more than 250 pins over the runners-up, again Copper Cliff. Members of the championship team were J. Kilby, J. Baby, A. Elliott, J. Romanow, and M. Chorney. The high scorer in this event was C. Ceppettelli of Copper Cliff, who rolled 1324.

Final team scores were: Frood, 5986; Copper Cliff, 5720; Creighton, 5649; Garson, 5490; Refinery, 5222; Murray, 4740.

Thinking separates wishes from facts, by which practice the wise obtain their wisdom.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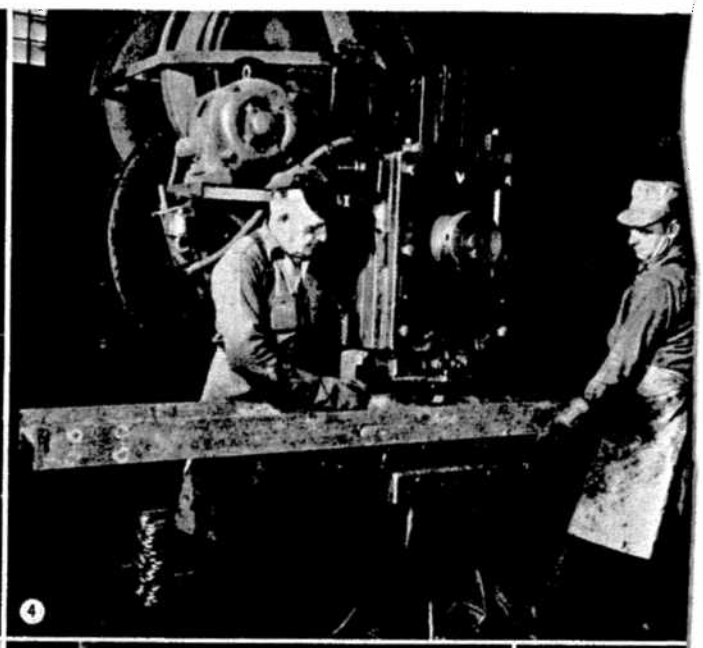
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Name It and You Can Have It, Says Copper Cliff Plate Shop

The operator from the converter building blew into the little office, reached for a scratch pad, and scribbled off a sketch.

"Now," he said, "we want a gadget something like this, see? Some kind of a lever here to work this, and I suppose there should be a band on here with a ratchet and a handle."

"It should be about this long," indicating with his hands, "and whatever width you have to make it. Mind you, it's just an idea and we may never use it, but see what you can do. And we'd like it tomorrow afternoon."

So the boys in the plate shop at Copper Cliff take it from there, and it's a safe bet that by tomorrow afternoon they'll have translated that highly improbable description into just what the doctor ordered.

Holds Plant-Wide Respect

Although of course most of its work is done from regular engineering drawings, the plate shop handles a lot of assignments calling for spot layouts from sketches, or even just straight verbal descriptions, when there isn't time to have the engineers put the job properly on paper. In this type of service, as well as in work handled in the routine manner, the plate shop along with all other Copper Cliff shops has earned plant-wide respect for creative genius, mechanical skill, and the ability to improvise or "make do" with the materials and equipment at hand. In operations like Inco's, where there is steady growth and constant search for process and mechanical improvement, a reputation like that isn't won easily.

Fabrication or repair of iron or steel equipment is the responsibility of the plate shop. They'll make a galvanized iron pipeline or they'll completely rebuild a 9-ton steel converter hood. They'll construct or repair tanks, bins, hoppers in any of the countless shapes and sizes demanded by one of the world's greatest mining enterprises. There's no end to the variety of their work and, especially since Inco's great program for conversion to all-underground mining got into high gear, they often think there's no limit to the quantity of it.

To give Triangle readers a glimpse of a typical day's activity in the plate shop, our camera moved in there the other morning and picked up these impressions:

1. This picture shows the 12-foot bending rolls for shaping steel plate. The top roll is operated by an independent motor which raises or lowers it according to the radius desired. Granville Schnare, 2nd class plateworker, is rolling a section of ¾-inch plate to be used in repairing a converter hood. At the controls of the rolls, which will bend plate up to a thickness of 1 inch, is Joe Doucette, his helper.

Riveting Crew in Action

2. A roof truss for an 80-foot addition to Copper Cliff machine shop is under construction in this photo. The riveter on the left is Paul Hugli, and bucking is Jack Tuttle. In the background is the crew's sticker, or catcher, Buster Irvine, who with a funnel-shaped bucket catches the white-hot rivets as they are tossed over from the forge and places them in position for driving.

3. Here's the counter-sinking machine in operation on a sheet of ¾-inch plate. Harold Smith, helper, puts on the pressure to drill rivet holes in the plate while Terry Rupoli pours the coolant, a mixture of cutting oil and water, to keep the drill from getting all hot and bothered.

4. This powerful big machine punches holes in a steel I-beam as easily as a chef cuts out cookies. The regular punch operators seen in action are Paddy and Ed Howard, same name but no relation.

5. Every job that comes into the plate shop has to be reckoned in terms of man hours and material, of course, because this is just as much a business institution as any privately owned specialty shop, even if it's part of a large company's operations. Here Pat Grassi, left, shop clerk, confers with Ellwood Trezise, shop foreman, on a labor and material estimate for making rake arms for the 110-ft. tailings thickeners. Let's hope the boys keep the price low enough so we can afford a couple of those valuable items. Ellwood served as an apprentice in the plate shop and rose in the ranks to succeed the legendary Davey Small as foreman. The name of Trezise is well-known in Inco shop operations; Bill, the father, now on pension, was foreman of the machine shop, and two other brothers, Ron and George, are in the electrical and carpenter ends of the game.

He Handles The Hot Stuff

6. You'd think he was running a show all his own, with his oil forge in which rivets are cooking to white heat. Then he picks up his tongs, lifts a white-hot rivet from the furnace, and with a smooth swinging motion

(Continued on Page 11)

Inco Club Teams Win Both Badminton Titles

Inco Club teams for the first time won both "A" and "B" sections of the Nickel Belt Badminton League last season. In this picture is the Inco Club "A" squad which captured the Birks Trophy after a hotly contested schedule: left to right, Dorothy Purvis, Edna Johnston, Jerry Myers, Fritz Gauthier, Ritchie Gallagher (captain), Gordie McDonnell, Harvey Nadeau, Hattie McCrea (co-captain), Marg Coughlin; (absent, Sheila Keegan, Wilf Byron, Ev Dewey.) They're posed in front of the spread of handsome trophies and prizes presented at the league's smartly arranged annual banquet at the Ryan Club; Jerry Myers and Andy Winn drew special applause for organizing the affair.

Jonesy's Corner

From the "Safety Pilot"

I mind hearin' the story about a small town stationmaster who got a message that one train was comin' in from the east and another was comin' in from the west and BOTH were on the same track!

All of a dither he called to tell his friend, who asked what he was gonna do about it. The stationmaster said it was too late to do anythin' but he was gonna drive out for a front seat view to the "gol-darndest accident that ever hit town."

Yep, it was too late then to do anythin' to stop the accident. Somewhere down the line someone had slipped up; wrong instructions had been given; orders had been gummed up; switch signals had been ignored; the engineer asleep at the throttle. One thing sure! Both engineers thought they had a clear track and both were rushing straight into disaster.

A lotta fellas get the idea that they're Safety-minded. Yuh know the type; "I can take care of myself — let the other fella take care of himself." Sure it's a good idea if you can be sure the guy next to you can take care of himself. But supposin' he can't! You might be on the right track but if he isn't you're apt to get your signals crossed and both of yuh end up in a "gol-darndest accident" too.

Jonesy.

A man who lives right and is right, has more power in his silence than another has by his words. —Phillips Brooks.

Won DeMarco Trophy

The "B" team, which completed Inco Club's sweep of the Nickel Belt Badminton League schedules by copping the DeMarco Trophy, is seen here: front row, Grace Young, Irene Ranta, Marion Vanderburg (co-captain), Margie Pawson, Eileen Van Allen; back row, Gordon Merriam, Bill McAlpine, Bill Young (captain), Jim Kuznar, Jim Harrower, Stan Dutchburn; (absent, Nora Keeney, Lionel Roy.)

2,000 No-Accident Days

A hazardous occupation, in which they handle strong acids and hot solutions, has probably made the men of the Acid Plant at the Copper Refinery even more safety-conscious than some of their fellow employees. At any rate on April 13 they completed the splendid total of 2,000 days without a lost-time accident. Picture shows Warren Koth, left, tankhouse supt., extending his hearty congratulations to Reg Hiscock, acid plant foreman, and his crew. Left to right from Reg are Sam Budzak, Pat Wabegijig, Tony Huska, Chester Wood, Francis Cook, Charlie Aelick, Albert Chenier, Archie Pilon, Alex Polkownikow, John Helin. Not shown are D. Basic, Tony Fera, E. Landry, John Tallevi, J. Carr, and Paul Petahtegoose.

Broad Service In Plate Shop

(Continued from Page 9)

tosses it maybe 25 or 30 feet across the shop to the catcher of the riveting crew which is making that truss we talked about with Picture No. 2. The man in the photo is Rolly Charron, and the camera has caught the white rivet as it leaves his swinging tongs. A rivet heater learns his tricky art by practising tossing rivets to a bucket on a post; after a couple of days at that he can hit the bull's eye every time.

7. No, not a man from Mars — not even Orson Welles. This is Ilio Tramontini, all dolled up in his working mask. He's welding a joint on a 10-inch I-beam, and in the eerie light of the welding arc he's enough to scare a tired old writer out of a couple of weeks' growth.

8. A steady hand and equipment in good repair, plus plenty of experience, make this job look easy. Al Abbott is burning a patch plate for a converter shell. The cut is being made from ¾-inch plate.

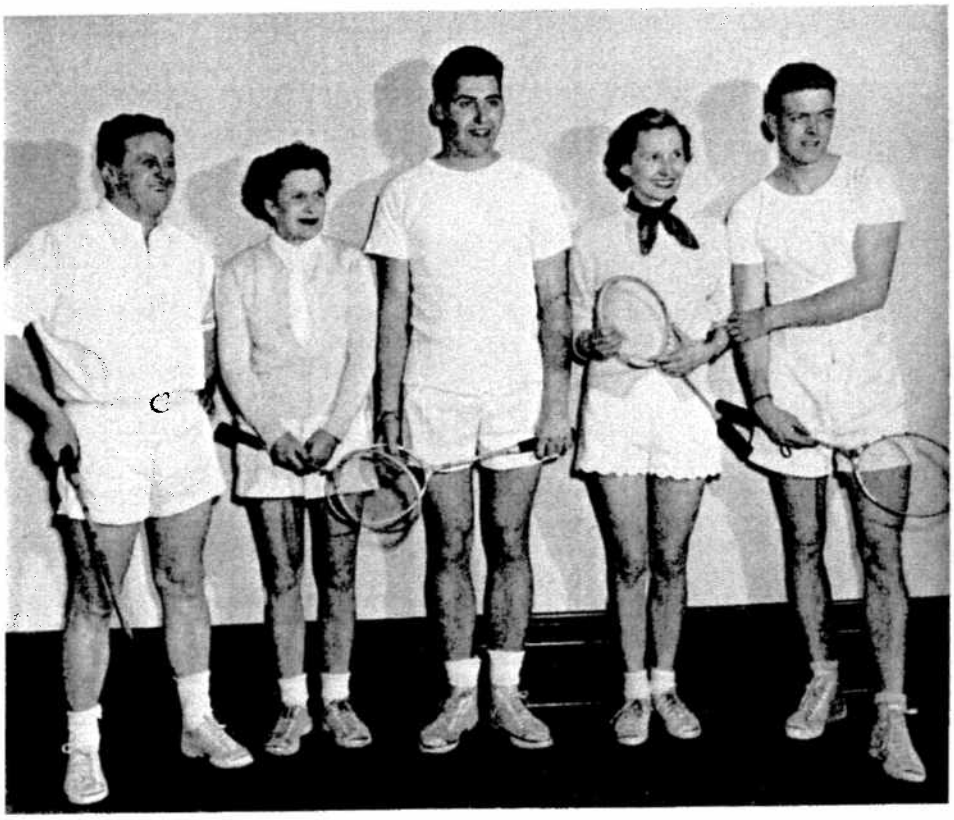
9. Fred Lampkie is cutting a 33-inch flange beam of the type being laid out by Rod Gunning in the next picture.

10. First step in fabrication of a steel column to be used in building the extension to the machine shop is laying it out on a 30-inch wide flange beam, the job that's being performed here by Rod Gunning (right) 1st class plateworker, and his helper, Jack Anonby.

11. One of the regular fabricating jobs for the plate shop is making cyclones for the dust-gathering systems in the plant. In this picture the boys are setting up an inlet for a 34-inch cyclone for the Crushing Plant dust system. The welder, P. Couture, is on loan as usual from the welding shop; in the centre is Johnny Tkachuk, 1st class plateworker; the helper at the right is picturesque Abe Peacock.

12. All new boilers for Inco operations are tested on arrival from the manufacturer in case of damage in transit, and all boilers in service (there are about 24 of them, including those at the hospital and the various employees clubs) are serviced regularly by the plate shop. Picture shows Bob Kelly signalling to his helper to shut off the water as the test pressure is reached on a new boiler for a Brown hoist.

13. Here's a 600 series hood from one of the converter furnaces in the smelter which has been completely rebuilt except for driving a few rivets. Releasing the fitting-up bolts which held the plate ring in place for welding is Winston Gillen who, our readers will remember, split a $1,000 award with Euclid Dupuis for suggesting cast iron liners on the 1000 series converter hoods.



A Clean Sweep

These are the members of the Inco Club badminton team at Port Colborne which swept all titles in the 1951 Niagara District tournament: Elery Neff, Mrs. Phyllis Nixon, Ron Siddall, Mrs. Bella Laki, and Rod Nixon. Mrs. Laki won the ladies' singles championship, teamed with Mrs. Nixon for the ladies' doubles title, and then joined Elery Neff to cop the mixed doubles. Rod Nixon won the men's singles and teamed with Ron Siddall to win the men's doubles.

Big Season for "Roarin Game"

"Mummy, who's that strange man that just came in?"

The curlers have had their annual powwow, the swag has been shared by the victors, Cam Shortts is away to run his tourist camp at French River, Bill Jessup is taking the wrinkles out of the ball diamond, and there will now be a brief pause for fishing, golf, etc., before the ice is pebbled and the boys go at it again.

It could hardly have been a better season, any way you look at it, at Copper Cliff Curling Club. The opportunity to extend the hospitality of the club to the temporarily homeless Granite stanemen from Sudbury sent soaring to a new high the spirit of goodfellowship which only curling can inspire.

And now for our picture gallery of the winners in the season's regular club events:

1. This is the crew that won the Waterbury Trophy for shift curling: Arn Boyd (skip), Chuck Bronson, G. Godin, and Ray Forth.

2. Skip Ralph Boyter holds the trophy his team won in the Inter-Rink event. With him is J. Carter, his lead; absent are Jack Turnbull and H. M. Sawyer.

3. The Collins Cup, one of the most coveted prizes in the club's treasure chest, was won by Skip Hughie Munro and Joe Bell, Al Rodin, Cliff Stewart, and Frank McAteer. His victory again this year gave the redoubtable Hughie 25 consecutive match wins in Collins Cup competition.

Life Can Be Beautiful

4. "His finest hour" could be the title of this picture of J. R. Gordon, holding the trophy he and his men won in the Single Rink event. With him are Bill Harrington, "Cappy" Capstick, and Don Munn.

5. Honors in the Colts event went to Skip Mel Whittles and Bob McLeod, Mickey Fletcher, and Pete Bregman.

6. Fred "Curly" Rinaldi entered the Hall of Fame when he skipped his crew to triumph in the J. R. Gordon competition. Other members of the rink are Joe Sartor, M. E. Coulter, and E. Camilucci.

7. The C. W. Nute Memorial Trophy has been a conspicuous success in stimulating interest among junior curlers. Here are the 1951 winners: Don Brooks (skip), Doug Norman, Ross McGauley, and Karl Sarlin.

Unfortunately we've no picture of the winners of the Junior Event, which is played by all curlers not competing for the Collins Cup. Andy Ballantyne was the victorious skip, and his men were B. McDonough, E. Camilucci, and K. Fletcher.

Canadian Jet **This photograph, released March 26 by A. V. Roe Canada Ltd., is the first photograph taken of the Avro Canada CF-100 long-range all-weather fighter with its wing-tip tanks installed. Craft like this are powered by engines similar to the one now on display in Inco's Sudbury showroom. "Nickel is the most important single element in Avro Canada jet engines," company metallurgists have said.**

Nickel of Vital Importance to Jet Production

The Avro Chinook jet engine on display at the Inco showroom in the new Loblaw Building, Sudbury, has been the object of a great deal of public interest. Here's a little inside information on the part nickel has played in Canada's outstanding achievements in the field of aviation:

Canadian nickel is playing a starring role in Canada's dramatic bid for jet leadership

Since World War II, this country has produced a jet transport, a jet fighter and a turbojet engine — all milestones in the progress of the Jet Age. All three are achievements of A. V. Roe (Canada) Limited, Malton, Ontario.

The Avro Orenda engine, designed and built in Canada, will be the power plant of the RCAF's all-purpose CF-100 fighter, now going into mass production at Avro Canada. It may also be installed in the F-86 Sabre interceptor, the RCAF's new standard day fighter. First tested in March, 1949, the Orenda is the successor to the Avro Chinook, the first jet engine designed and built in Canada. The Chinook was primarily a development engine used for improvement of design.

With development of the turbojet engine, new materials had to be found which were capable of withstanding the intense heat conditions generated by hot combustion gases. Today, after years of exhaustive research, several high-nickel alloys and chromium-nickel steels answer these exacting requirements.

Nickel is the most important single element in Avro Canada jet engines, according to company metallurgists.

The principle of a turbojet's operation is comparatively simple. Air is drawn into the engine, compressed, then fuel is injected and burned, and the hot gases jetted rearward to provide thrust power. A turbine wheel is spun by the escaping gases, turning the compressor shaft. In this way, once the compressor is started by an electric motor, the engine virtually runs itself.

Some idea of the energy generated by a jet engine can be gained by the fact that one of the Chinook's combustion chambers (each about the size of a wastebasket) could comfortably heat 70 seven-room homes with the temperature outdoors at 10 degrees below zero. The Orenda's performance is a closely-guarded secret, but Avro officials admit it is much more powerful than the Chinook, so the heat it generates would be even greater.

It's not hard to see why the toughest of tough metals are required for the vital parts of a turbojet engine. They must be able to withstand the combined destructiveness of hot gases and terrific stresses, holding their strength hour after hour under these punishing conditions.

Inco research scientists developed two special alloys for jet engine applications — Inconel "X" and Nimonic 80. These, with other high-nickel alloys, are used in the hottest spots of the Avro Orenda to ensure faultless performance of the jet fighters which constitute Canada's first line of defence.

DISGRACEFUL!

A merry party was going on in one of the rooms of a hotel when the festivities were interrupted by an attendant, who said:

Attendant — Gentlemen, I've been sent to ask you to make less noise. The guest in the next room says he can't read.

Host — Can't read? Well, tell him he ought to be ashamed of himself. Why, I could read when I was five!

Mac MacLeod Has Retired

It's hard to imagine the mine without him, and it's even harder to imagine him without the mine, but Mac MacLeod of Murray has retired on pension after 20 years of fine Inco service.

What's he going to do? Start a tortoise farm, he says. His job will be to take the tortoises for their morning stroll.

Roderick MacLeod was born at Stornoway, Scotland, in 1885, but by the time he was 12 he was an apprentice fitter in a machine shop in Yorkshire. In 1907 he joined the Royal Navy and for the next 12 years his home was the rolling deep. He saw action in two wars before becoming a landlubber again. He worked as a fitter in the naval dockyards at Portsmouth for two or three

MRS. MacLEOD AND MAC

years, then headed back to Scotland. But he found he couldn't speak Gaelic any more, so after six weeks he fled to Canada. He landed at an East Coast port with only a nickel in his pocket, but that was no very serious situation for one of his ready wit and unquenchable optimism.

Mac's first job in Canada was on an Ontario farm; not knowing a radish from a cabbage he soon got into difficulties with his employer and was on his way. In Winnipeg he worked for Manitoba Bridge and Iron Works. In Saskatchewan he went harvesting, but the job petered out when he somehow got the tails of his bundle team mixed up with the separator.

So in 1929 he came to Sudbury, after travels and experiences which, the way he tells them, would make a best-seller. He signed on with Inco and went to Levack as a fitter for Paddy Serpell. In 1930 he was at Frood under Jim Ferguson, and since that time has worked at all Inco mines, including Lawson Quarry, with the lone exception of Creighton. He was sent to Murray to instal the sinking hoist for the new shaft there, and remained as master mechanic to watch the mine develop and swing into production.

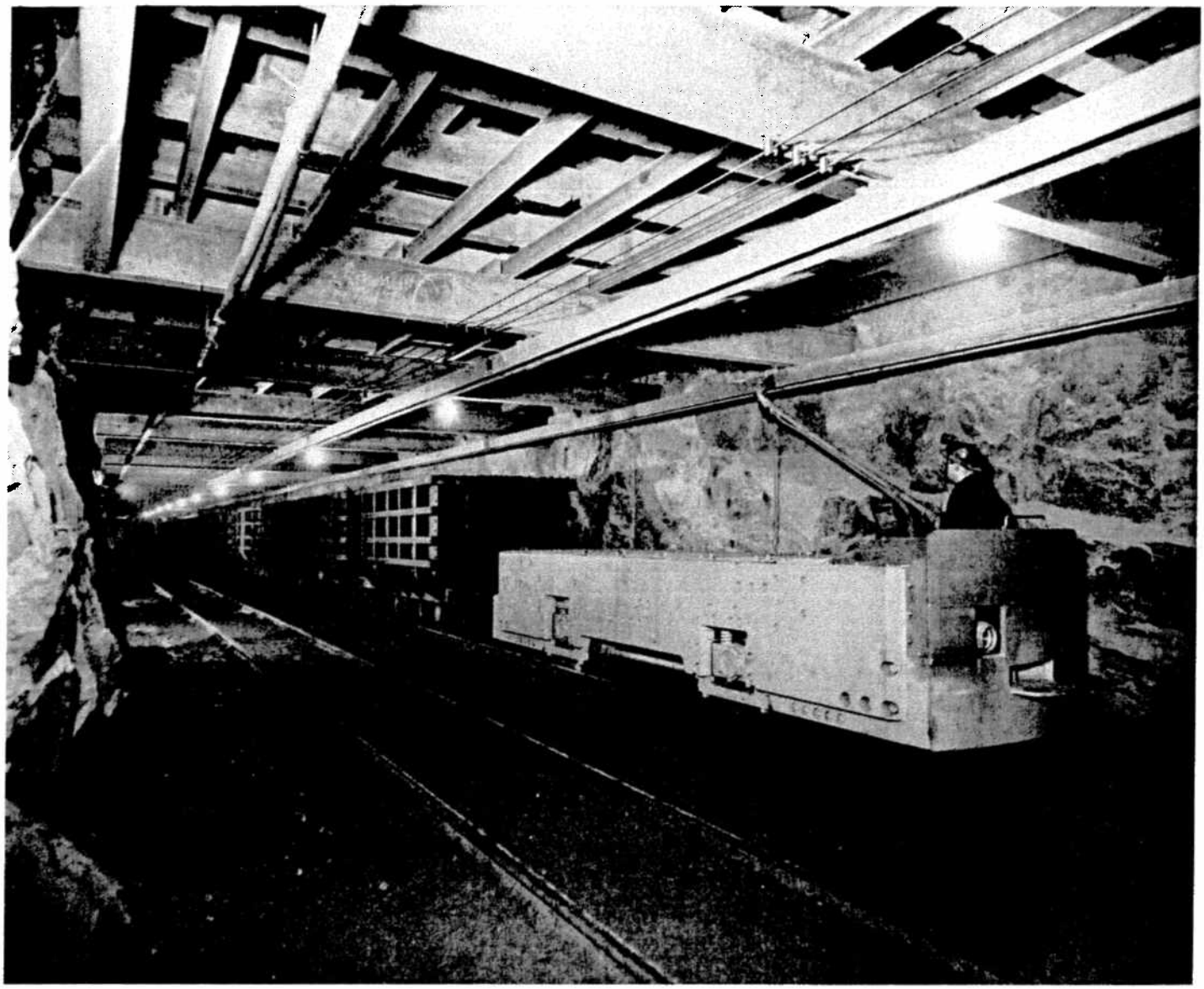
Mac was married at Sudbury in 1929 to Clara Tredaway; for 10 years she was nurse and boys' supervisor at the Chapleau Indian School, where for a short time Mac was engineer. Their home has always been open to a host of friends from all over the district, and it will be the same wherever this popular couple settles down in well-earned retirement.

BROAD-MINDED

She: I can't marry you, honey, I'm anemic.

He: That's all right, dear, you go to your church and I'll go to mine.

The "New Look" on 1000 Level at Frood-Stobie



Here's the "new look" on 1000 level of No. 3 Shaft, Frood-Stobie Mine. Part of Inco's great program of conversion to all-underground mining is massive equipment such as this for handling large tonnages of lower grade ore which will replace the production from the open pits, scheduled for completion in 1953. The 20-ton trolley locomotive pulls 260-cu.-ft. ore cars which are 6 ft. 7½ in. in height from top of rail, 14 ft. 6 in. long from centre to centre of couplings, and 7 ft. wide.

Inco's Position Is Reviewed by President at Annual Meeting

International Nickel has spent some $100,000,000 to date on its Canadian plant major program of expansion of underground mining capacity and an accompanying program of metallurgical process changes, $30,000,000 more has been authorized, and it is expected that still further important capital expenditures will have to be made, Dr. John F. Thompson, chairman and president of Inco, told shareholders at the Company's annual meeting held at Toronto on April 25.

Of the capital expenditures to be made in 1951, $17,000,000 will be spent on this program in Ontario.

Installation of emergency facilities by Inco to increase nickel production by about 1,000,000 pounds per month, beginning before the year-end, was also disclosed by Dr. Thompson. Present production is at capacity of 20,000,000 pounds per month.

Reviewing the world nickel situation, Dr. Thompson said "the defence requirements of Canada, the United Kingdom and the United States are supported by a supply of Canadian nickel which far exceeds the supply believed available to countries behind the Iron Curtain. In fact it can be said that as a result of what the Canadian nickel industry has done in developing its mines and processes, the free world has overwhelming nickel superiority." Although all military requirements of the Western Nations are being met and deliveries are being made to national stockpiles, he said, the abnormal over-all demand has exceeded the current nickel supply.

Moreover, he added, the "current inflated demand for nickel has come when we have no new surface deposits such as the Frood-Stobie open pits which can be called upon for additional output." Accordingly, the Company's emergency program will provide increased production of five per cent, while its long-term program of conversion from surface and underground mining to all-underground mining will double the amount of underground ore hoisted annually in the past, so as to preserve the current rate of production of nickel. By 1953 the Company, in capacity operation, will be able to hoist about 13,000,000 tons of underground ore annually, which, Dr. Thompson noted, is equal to three-quarters of the total amount of copper ore hoisted from underground operations in 1949 by all mines within the United States.

Referring to work in process or recently completed in connection with the program of underground mining expansion, he said that, to date, some $100,000,000 has been spent, chiefly on this program. To handle lower-grade ores at Creighton Mine, a new shaft is being completed and a 10,000-ton

mill has been erected from which the concentrates are pumped 7½ miles to the Copper Cliff reduction plant. The Murray Mine was brought into production in 1950, and a new and major portion of the Frood-Stobie underground mine — the Stobie section — will be brought into production as the program progresses. Shafts at the Levack, Garson and Murray Mines are being deepened. A 300-ton-per-day oxygen generating unit and a new copper concentrate smelting furnace should be completed before the end of this year.

Exploration for New Sources

"Notwithstanding the fact that ore-reserve tonnages have to date been fully maintained, the realization that mines are a wasting asset keeps the Company actively engaged in exploration for new sources of nickel," Dr. Thompson continued.

"This involves, as a primary measure, continuous geological work on our known deposits together with intensive studies of the geology of the Sudbury Basin, supplanted by drilling campaigns wherever it is considered that the effort is justified by the possibility of finding ore, or in some instances, by the objective of adding to our knowledge concerning geological structures which are related to nickel deposits.

"Starting from the Sudbury District, we have extended this work to other parts of Canada and have examined, or are actively prospecting, a number of localities. In connection with this work our Company was recently granted exploration rights in a large area of the Ferguson Lake District of the Northwest Territories. Extensive exploration of the area will commence during the coming summer.

"An important feature of our exploration program in the Sudbury area is at our Crean Hill Mine, which has been shut down since 1919. The mine is being de-watered and the shaft reconditioned, after which comprehensive exploration will be carried out to determine its ore possibilities.

"In addition to this exploration in Canada we are continuing our geological studies in other parts of the world. As part of this campaign we have done considerable work in Africa over the past three years.

"Ore reserves at the year-end stood at 252,859,725 short tons compared with 251,805,157 short tons at the end of 1949. The nickel-copper content stood at 7,669,219 short tons compared with 7,630,009 at the end of 1949.

"Steady improvement in our mining and metallurgical methods over the past 20 years has made it economically possible to use ores of lower-grade than could have been considered in the past.

New Housing for Employees

"A very important feature of the program of your Company in Canada is the provision of new housing for employees. Since 1941 the Company has spent over $4,300,000 for the construction of new housing at its Copper Cliff and adjacent properties. An additional $2,700,000 has been authorized and is now being expended. Near Creighton, where extensive new plant additions are being installed, a new town site, 'Lively,' is being developed, named in honour of Charles E. Lively, an Inco veteran of 35 years of service.

U.S. and U.K. Plants

"Our primary contributions to the rearmament of the free world are nickel and other metals produced by the Company's plants in Canada. Our rolling mills and foundry in the United States and the United Kingdom are likewise heavily engaged in defence production, their contributions consisting of special nickel alloys whose peace-time usefulness translates readily into military applications."

In respect to production at the Company's rolling mills in the United States, England and Scotland, he said that whereas during World War II many of their products went into ships for a two-ocean navy, "emphasis has now been directed to jet plane production." This has produced a corresponding shift in the types of alloys coming from its three rolling mills in the direction of the unique high temperature resisting alloys presently required. Current jet engine models need two or three times the nickel ordinarily found in reciprocating engines, Dr. Thompson continued; and part of this nickel is contained in the Inconel and Nimonic alloys which the the Company's rolling mills are producing in increasing quantity, while part of it forms an important element of the heat-resisting stainless steels and other alloys produced by "our customers' mills for vital components of jet planes."

Dr. Thompson continued: "Our rolling mills are established at locations which enable us properly to serve the widely differing needs of thousands of United States and United Kingdom customers and thereby to exploit most effectively the opportunities for Canadian nickel in the field of high nickel alloys. The location of these plants is of the utmost importance, in fact fundamental to their success. Unless they were located so as to permit the closest of communication with and of deliveries to their customers, they could not operate under modern conditions, when a mill or foundry must be immediately responsive to a customer's need for small but essential changes of any product and for the most rapid delivery."

Blacksmiths Win Shift League

There was no loitering under the spreading chestnut tree for Johnny Svec's Blacksmiths when it came to a showdown for the championship of the 1950-1951 Shift Hockey League staged by Copper Cliff Athletic Association. The mighty smiths hammered out a tough 7-6 victory over McNeil's Shift in the sudden-death playoff. The champs are seen above: back row, Albert Prete, Lucio DeLuca, Jiggs Gacomin, Fiddler Floreani, Art Grottoli, Ernie Kallio, Chick McDonald, Aces Miccilutti; front row, Norm Flowerday, R. DeLuca, Johnny Robson, Gibby Gibson, Mitch DeCarlo.

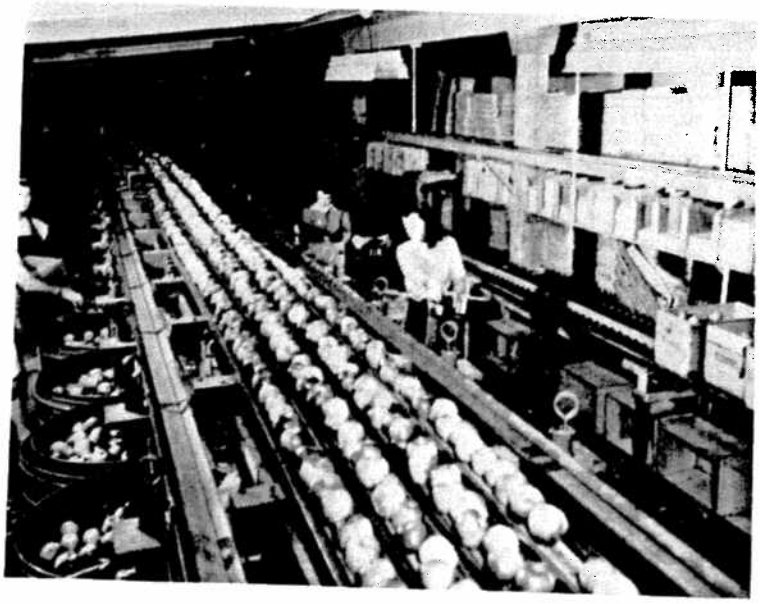
Runners-up for the Shift League laurels were McNeil's Shift from the Reverbs: back row, C. Rouselle, C. Basso, L. Lalonde, R. Ruddy, J. Davis, V. Villeneuve, F. Schmidt; front row, X. Lalonde, P. Mazzei, A. J. Rouselle, F. Prentis.

This Canada of Ours

Look at that luscious beauty! Who could help drool at the sight of that spring salmon being landed on a commercial troller off Vancouver Island?

Timber-r-r!!! A mighty Douglas Fir, for which British Columbia is world famous, topples earthward on Vancouver Island.

Mt. Rocher Deboule and Bulkley Canyon, near Hazelton, typical of the breath-taking beauty of British Columbia scenery.



In British Columbia snow-capped mountains stand guard over semi-tropical fruit farms. Here they are packing apples at Penticton.

BRITISH COLUMBIA

By JOHNNY HOPE, Creighton Mine

Kipling called it superb — the climate that the Japanese current carries to balmy British Columbia; that pushes Douglas firs 300 feet into clear skies, and ripens to perfection the semi-tropical fruits of the province's fertile valleys.

On our west coast you can stand among sub-tropical flowers and look across bright blue bays to fir-cloaked slopes capped with snow — Canadian scenery at its grandest.

The capital of my native province, Victoria, is the most charming city I've seen anywhere. And across the Straits of Georgia, cosmopolitan Vancouver throbs with the pulse of Pacific trade and commerce. According to many, its future is brighter than any other port on America's west coast.

Half of British Columbia's million people live within 100 miles of Vancouver. Outside this perimeter is some of the world's best big game country, and big fish country, too. But the rushing streams in which trout and salmon frolic also harbor inexhaustible power for the province's mushrooming industries. The mountains and forests where cariboo and cougar roam hold huge reserves of timber and both base and precious metals. Where could you beat a combination like that?

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