

INCO TRIANGLE

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NUMBER 10



"...and ski poles... and a doll...and..."



Published for all employees of The International Nickel Company of Canada, Limited.
Don M. Dunbar, Editor
EDITORIAL OFFICE COPPER CLIFF, ONT.

Notes and Comment

TO YOU FROM US

To all our readers, to everyone who has helped in any way to put out the paper during the past year, to those who have forgiven us our sins of omission and commission and to those who have passed on a kindly comment or a helpful hint—heck, as far as that's concerned, TO THE WHOLE DOGGONE INCO FAMILY AND ITS FRIENDS, the Triangle extends best wishes for A RIGHT MERRY CHRISTMAS AND A NEW YEAR OVERFLOWING WITH HAPPINESS!

WE'D AS soon argue with Peel about mining as we would challenge Fred Bernhard on early Inco history. So when the retired chief comptroller of the Company writes as follows from Florida about the picture appearing in our November issue titled "The Copper Cliff Staff in 1897", we take it as gospel:

"Permit me to say," P.P.B. pens us, "that the photo was taken in the spring of 1900 on Fred Jordan's first visit to Copper Cliff from the Canadian Copper Co.'s head office, then in Cleveland, Ohio."

"Jordan was never on the Copper Cliff staff and five of the others in the group were not there as early as 1897. Telford came in July, 1899, I came on August 1, 1899, Turner on November 1, 1899, Lawson on December 26, 1899, and Thullen early in 1900."

"Have never heard what became of Telford or Thullen but as they would be well up in the eighties by this time it seems reasonable to assume that they have joined the great majority."

"When my wife and I were in Vancouver in August 1949, we had lunch with Mrs. George J. Oliver, whose late husband appears in the group, and with her sister, Mrs. Jack Morris, who is also a Copper Cliff oldtimer."

The Sage of the South Range says, "We all want more out of life than we are willing to give—or deserve."

In the latest bulletin of the Association of Canadian Advertisers appeared the following comment: "The Inco Triangle showed in its December issue a picture of the vice-president of the International Nickel Company welcoming one of many to the 25-year Club. The caption merely says, '25 Years of Partnership'. What a world of good industrial relations is wrapped up in that phrase!"

AT THIS Season when the ideal of universal peace and goodwill is much in the thoughts and prayers of thinking people, it is comforting to note how the common brotherhood of man has been proclaimed throughout the ages in the sacred writings of many faiths:

BUDDHISM: "Hurt not others with that which pains yourself." *Udamcaraga*, 5, 18.

CHRISTIANITY: "All things whatsoever ye would that men should do to you, do ye even so to them, for this is the law and the prophets." *Bible*, St. Matthew 7, 12.

That Fellow Is On His Way!



Riding high and waving a cheery greeting to all his young friends in the Nickel Belt, Santa Claus is "sitting on top of the world" in the special Christmas display in the Inco windows at the Sudbury Chamber of Commerce headquarters. His dashing reindeer girdle the slowly revolving globe on their eternal mission of cheer and goodwill.

CONFUCIANISM: "Do not unto others what you would not they should do unto you." *Analekts* 15, 23.

HEBRAISM: "What is hurtful to yourself do not to your fellow man. That is the whole of the Torah and the remainder is but commentary." *Talmud*.

HINDUISM: "This is the sum of duty: do naught to others which, if done to thee, would cause thee pain." *Mahabharata*, 5, 1517.

ISLAM: "No one of you is a believer until he loves for his brother what he loves for himself." *Traditions*.

TOUISM: "Regard your neighbor's gain as your own gain, and regard your neighbor's loss as your own loss." *Fai Shang Kan Ying Pien*.

ZORASTRIANISM: "That nature only is good when it shall not do unto another what-ever is not good for its own self." *Dadistan-i-dinik* 94, 5.

Look around you on Thursday, count your blessings, and realize what a won-

drous thing is Christmas. Then resolve to be on hand when they hold it again next year by practising Safety in all you do every day of 1953.

"YOUR UNSEEN FRIEND"

"When my pension cheque comes in each month," Arthur Lye of Garzon told a visitor recently, "there's a stamp on the envelope which has the Inco trademark and says 'Nickel—Your Unseen Friend'. I know this refers to the way everybody uses nickel every day in so many ways without actually seeing it, but to us pensioners those words have a very special meaning. Nickel is certainly our 'unseen friend'."

Friend Arthur's remark brings to mind that Inco's present formal Retirement System is ready for membership in the Quarter Century Club. Of course the Company's first pension plan was inaugurated almost 40 years ago, but the present system becomes 25 years old on January 1. In a letter to the employees on December 23, 1952, the late president, Robert C. Stanley, announced the adoption by the Board of Directors of a

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INCO FAMILY ALBUM

A joyous Christmas and a Healthy and Happy New Year to all Album families, past, present, and future, including: (1) Mr. and Mrs. Mel Luck (Port Colborne), with David, 13, and Jane, 3. (2) Mr. and Mrs. James Teahen (Frood-Stobie Mine), with Rickey, 2½; Judith Ann, 4, and Carol Marie and Donna Marie, 8 mos. (3) Mr. and Mrs. Joe Maltby (Copper Cliff Smelter), with Cheryl, 4, and Karen, 10. (4) Mr. and Mrs. Ross Butterworth (Levack Mine), with Grant, 4, and Jane, 5. (5) Mr. and Mrs. H. Haas (Creighton Mine), with Dianne, 10; Carol Ann, 7, and Russel, 13. (6) Mr. and Mrs. Lionel Roy (Copper Refinery), with Peter, 5; Jennifer, 9 mos., and John 7. (7) Mr. and Mrs. Doug Dinnes (Murray Mine), with Rex, 9.



Fatten Wallets with Suggestion Plan Earnings



Always particularly pleasant reading at this time of the year is news of Inco men who have fattened their wallets with substantial earnings through the Employees' Suggestion Plan. It must be pretty nice to pick off one of those tax-free awards, especially just before Christmas. Fielding Chapman of Frood-Stobie No. 3 Shaft wears a broad grin in the photo at the left as he accepts a Suggestion Plan cheque for \$287.00 from Superintendent C. H. Stewart. Fielding, an Inco man for 24 years who lives in Sudbury with his mother and sister, suggested an improved method for clearing longhole carbide drill rods. Receiving congratulations and a \$107.00 cheque from Superintendent Harry Smith at Murray Mine, in the picture on the right, is Allan Marshall, whose winning idea reduces maintenance costs on scrapers. Twelve years with the Company, seven of them at Murray, Allan is married and has two sons, Larry, 10, and Murray, 1.

Reminiscences of the Early Days

By J. E. McKenna

The Canadian Pacific Railway had reached Sudbury in 1883, and as construction proceeded westward, at a point $3\frac{1}{2}$ miles west of Sudbury on the present main line, indications of copper and nickel were found. Although the value of the find was not then realized, a few hardy prospectors were already in the heavily wooded bush in the areas of Creighton, Stobie, Frood and Evans during 1884 and 1885. Several years elapsed before the C.P.R. continued the construction of the present Soo line, with the objective "Algoma Mills," 90 miles west of Sudbury, as a lake port for a terminal.

Very soon typical mining camps sprang up around the mines and during the years 1885 to 1887 considerable progress was made at Copper Cliff, Evans and Stobie mines. The Evans mine (named after John D. Evans, one of the Canadian Copper Company's early managers) was being developed and had reached a depth of 85 feet during the summer of 1889. A large rockhouse was built, hoisting and other necessary equipment installed, also eight or 10 wooden houses, clap-boarded and plastered, to provide accommodation for the miners and their families.

The pioneers of those early days were the Hambleys, McGees, Kennedys, Websters, Lecks, C. Ade and J. Gribble. The social life at the outlying mines was not too exacting. Sunday was strictly observed, friends visited each other, and where an organ was available, particularly at Hambley's, every one sang, as the miners were mostly Cornish and naturally musical.

The Stobie Mine, $3\frac{1}{2}$ miles northeast of Sudbury, was also typical of the other mines operated by the Canadian Copper Company, and some of the original pioneers are now thriving as pensioners, namely, Wm. Zinkle and the Switch brothers.

In the meantime, Copper Cliff was a fair sized community as the mine was first opened in 1884 and had reached a depth of 435 ft. by midsummer of 1889.

Part of the village, then known as Shantytown, was centered along the present Balsam Street from the Copper Cliff Dairy area to where the monument now stands opposite the Cliff Taxi stand. This monument was the site of the first log house built for Thos. Johnson. These homes were all log cabins built from timber cut in the vicinity.

The area near the Town Hall, now Granite St. to Clarabelle Rd. and Serpentine St. at the McIntosh Block was the business section and had three large boarding houses, Seniles, Pitts, and Boyles, which accommodated the single miners and surface workers.

Two or three of the original log houses built in 1891 from logs cut on the nearby hills still remain as originally built and are still occupied.

Two general stores, Byers and Pearce and Phil Green's, served the needs of the community. That part of Granite St., including the Hospital, Community Hall, Park St. W. and Oliver St. was a large field where hay was grown to feed the Company's numerous teams of horses.

Meanwhile, as mining progressed, a small

community, known as the Old or East Smelter, was established and several small blast furnaces, with necessary square brick chimneys and flue dust settling chambers erected, together with sheds for coke, roasted ore and fluxes. The new highway under construction crosses the original slag dumping area as used from 1887 to 1901.

To facilitate the roasting of ore, a site just east of the Curling Rink was used, along with a wooden trestle about one-third of a mile in length from which the green ore from the various mines was unloaded to a lower level where cordwood had been laid to a height of three feet, then the ore pile raised until the bed reached a height of 20 feet. When sufficient coarse ore had been placed, a layer of fine ore covered the entire bed to a depth of six inches. This was necessary to prevent too fast roasting, which would result in large masses of roasted ore being partly smelted, thereby entailing extra hard work to break up and load. All work in handling these ores was by shovel and wheelbarrow and usually on a contract basis.

Roasting was confined originally to the late fall and winter months and the sulphur fumes were not annoying during these early days. However, as more furnaces and larger tonnages of roasted ore were required, the roast bed area was enlarged until about 1901 roasting was a continuous operation and the sulphur fumes much in evidence, and often during the extreme cold, horses and people suffered frequently from nosebleeds.

The Old, or East Smelter, during the period of 1899-1902, developed into a fair-sized community with a general store operated by Kirkwood and McKinnon, who also maintained boarding and sleeping camps for the smelter employees. Two areas partly covered by the present slag dump, housed 20 or 30 families, with the General Manager, James McArthur, and T. N. Kilpatrick occupying fairly pretentious houses. The social life was centered at McKinnon's as they usually had

Creighton Encouraging Junior Badminton



If they don't produce a provincial junior badminton champion over at Creighton it won't be for lack of trying. A class of 50 youngsters in the 8-16 age range is receiving a thorough course of badminton instruction. In its second season, the school is conducted by that inveterate sports enthusiast, Ev Staples; sessions are held five evenings a week and several outstanding prospects, like 13-year-old Eddie Hreljac for instance, have already been uncovered. Pictures shows Professor Staples giving a lecture on gripping the racquet to: back row, Bob Seawright, Allan Massey, Eddie Hreljac, Larry Gonnella, Doug Bryan, Walter Saffie; front row, Marie Barbe, Elvi Ikonen, Lillian Hreljac, Carole Staples, Jo Anne Delaney, Bev Cassell (kneeling), Anita Cayen, Maureen Sharpe, Arlene Koskela. Several players will be taken to Stratford in the spring to compete in the all-Ontario junior tournament.

more facilities for dances and parties which were often attended by the young gallants from Sudbury.

Baseball, tennis and cycling were the main sporting events of the day, with football matches on May 24th and July 1st. Cycling was almost a craze prior to 1900 and a good bicycle cost \$100 to \$120 to those who could afford the price, but the cost of living index was unknown with board and room for \$15 per month. Houses rented for \$5 and \$7 per month without electric light, and water was obtained from wells.

Religious History

As mining progressed, the miners and workers who were of various denominations were served by itinerant missionaries of the religious faiths from the mission posts at Sudbury.

Rev. S. Rondeau and Rev. Wm. Bleweet were respectively ministers of the Presbyterian and Methodist faiths. Missionary priests of the Roman Catholic faith who were following the railway construction work also served their people. Canons Piercy, French and Boyde ministered to those of the Anglican communion.

These missionary services continued until a public school was built in Shantytown about 1890 on the site of the present Copper

Cliff Dairy, where all three Protestant denominations held services in rotation. Indeed, church life was organized much on the Union Church basis, one general Sunday School being held to which all the children belonged. David H. Browne, then chemist and later distinguished metallurgist for the International Nickel Co., taught Sunday School for many years.

Entertainments were held in common to raise the necessary funds and to provide opportunities for social intercourse. The late George Leck of Creighton Mine was the leading actor and through his efforts dramas such as "Uncle Tom's Cabin" and "Ten Nights in a Bar Room" were among the many plays staged in the schoolhouse. In the course of time the need was felt for better accommodation than could be provided in a schoolhouse and so a movement was set on foot to build a large Union Church. A canvass was made in the community and entertainments held, and sufficient funds were at length in hand to warrant a start on the church. The result was the building in 1896 of a substantial structure which was then known as the Union Church until 1898, when the Presbyterians took over, and it continued as the Knox Presbyterian Church until union with the

Methodist Church in 1925 under the name of The United Church of Canada. The joint church arrangement did not last very long for the system of a shared church is only suited for very young communities and small populations.

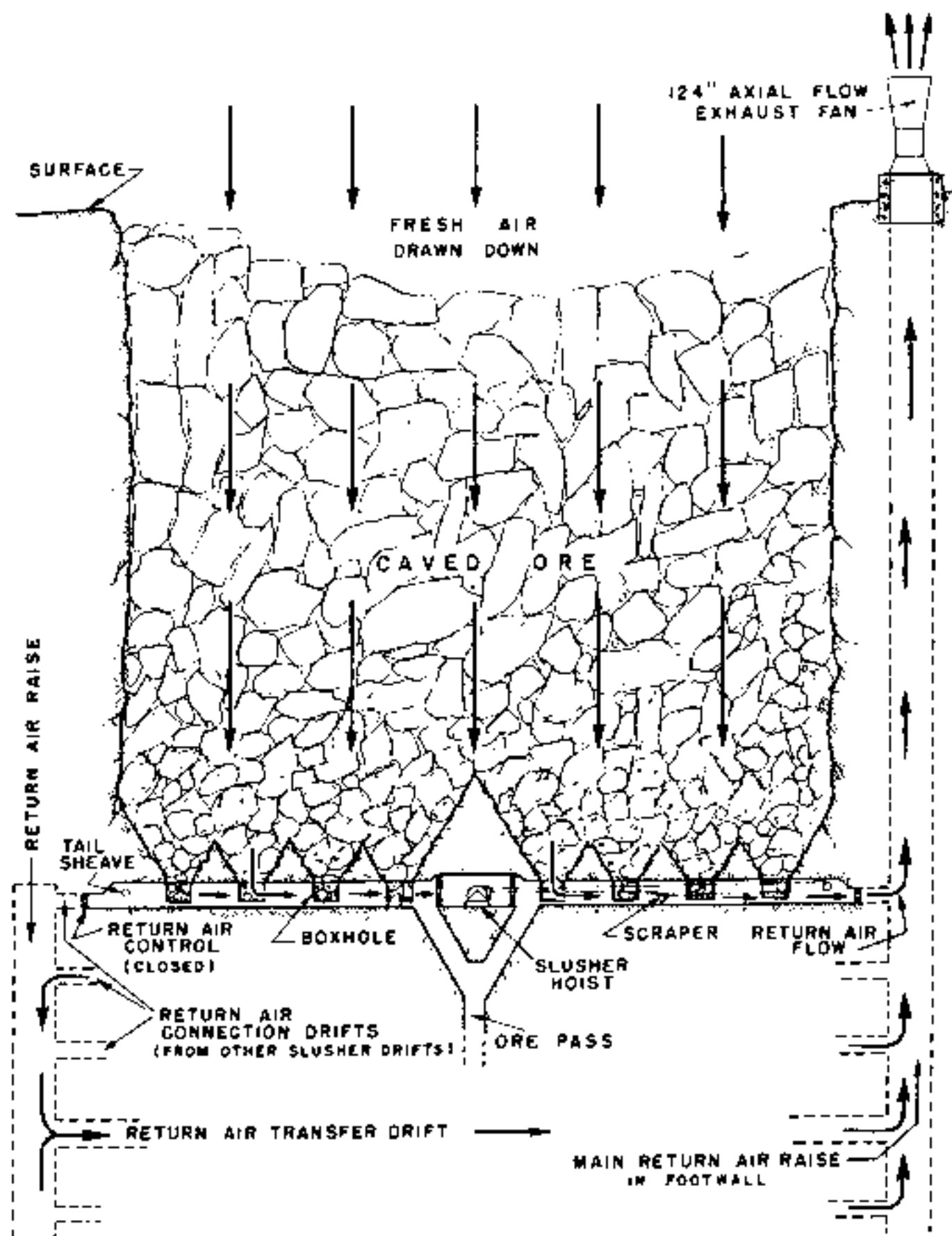
The Presbyterians were the largest body numerically and so claimed the popular evening services, the Methodists occupying the church in the morning and the Church of England in the afternoon at the conclusion of Sunday School.

About 1897 a small Roman Catholic Church was erected on a small hill on the old road in the immediate vicinity of the present Inco overhead railway bridge and near the south-east end of McKee St., and was served by Fathers Caron and Ragareau until the present St. Stanislaus Church on Balsam St. was built in 1904.

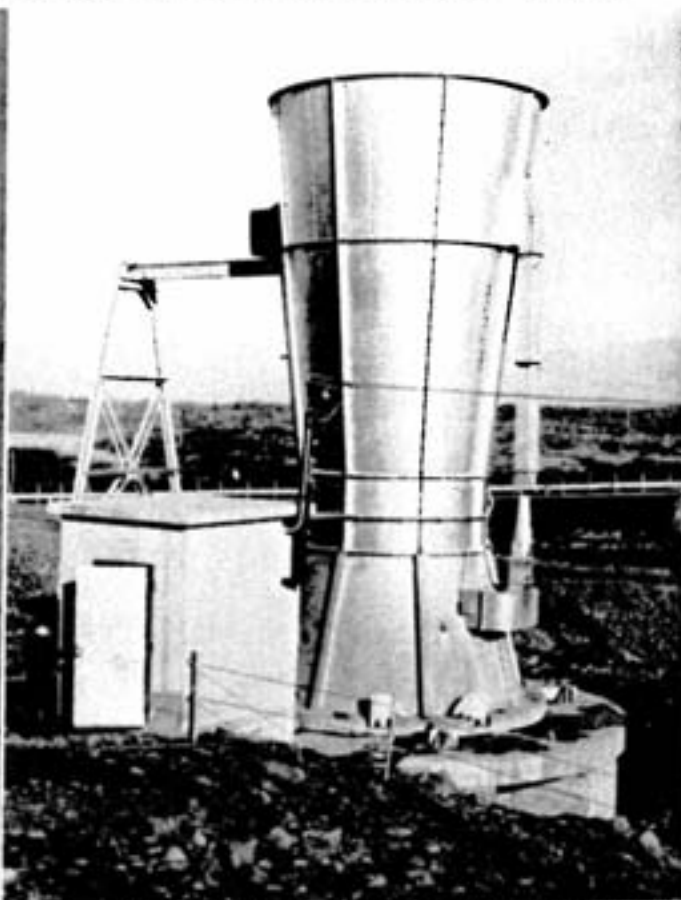
After the old school was abandoned for joint church services it still contained the original library in an upper class room, and then the Finnish people used a lower room for religious services until they in turn built a small hall or chapel on Balsam St. near the corner of Finland St., opposite the Kallio Apartments on Balsam St. Later, in 1910, the present Lutheran Church on Finland St.

(Continued on Page 2)

How the Creighton Caving Area is Ventilated



A Return Air Control and the 124-Inch Fan



At a control in a return air connection drift of the ventilation system for the caving area of Creighton Mine, Norman Reid, ventilation engineer, is seen in the first of the above photos using an anemometer to measure the velocity of air passing from a slusher drift to the main return air raise and thence to surface. The control point is an opening in a concrete bulkhead which can be covered with a steel plate to regulate the air stream. On the right is the 300,000-c.f.m. exhaust fan which draws air through the underground workings. On the left of the fan is an A-frame supporting a crawl beam on which the fan's 350-hp motor can be removed through doors in the steel housing for repairs.

3,000,000 Cubic Feet Per Minute Of Fresh Air Through Workings

The underground workings of the caving project at Creighton Mine are being ventilated by a flow of fresh air at the rate of 30,000 cubic feet per minute. This system of ventilation has been developed on the basis of drawing 10,000 cubic feet of fresh air per minute through each operating slusher drift, with a maximum of 30 drifts.

In the caving program huge blocks of undercut ore work slowly down into the openings below the old Creighton open pit, gradually breaking up through tension and torsion as well as of their own weight and pressure. The ore is drawn off into slusher drifts through boxholes far below, scraped into ore passes leading to crushers, and then whisked to surface through No. 7 Shaft in skips which dump directly into the crushing section of the Creighton concentrating plant.

Slusher drifts at Creighton, designed for two-way slushing, consist of two branches running parallel to the footwall in opposite directions from the ore pass. Each branch is approximately 175 ft. long. Between the two branches is the slusher station, protected by concrete walls two feet thick and anchored to the rock with steel pins. The slusher hoist is mounted on a turntable so that it can be used to scrape ore from either branch of the drift into one of the twin openings

of the ore pass.

As the Creighton caving program took shape on the drafting boards, primary consideration was given to devising a ventilation system whereby a steady stream of fresh air would flow through the slusher drifts.

It was necessary to establish control of the fresh air stream so that any smoke or dust would always be carried away from the slusher operator in his station midway in the drift.

Now the system is in operation, effectively servicing the caving project as it has been developed to date, and with ample capacity to handle ventilation needs under maximum operating conditions.

Drawn from surface down through the caved ore in the open pit, fresh air enters a slusher drift through the boxholes spaced at 30-ft. centres along the hangingwall side, flows along the drift toward the tail-pulley end, enters a connection drift which leads to the return air raise located in the footwall, and is drawn to surface by a powerful exhaust fan. By keeping a return-air control open at the operating end of the drift and another control closed at the non-operating end, fresh air downcasting through the boxholes flows away from the slusher operator. Through an arrangement of smaller return air raises and transfer drifts leading to the main return

air raise, the ventilation system is designed to serve the entire caving area. The drawing on the opposite page shows how it works.

The huge vertical fan mounted over the top of the main return air raise is the only one of its type in Canada. Weighing 20 tons, it stands 42 ft. above its concrete base and is 15 ft. in diameter at the inlet. Its 124-in. impeller has 12 stainless steel blades which are adjustable in pitch through 25 degrees to accommodate the load as the mining operation moves farther from the main return air raise. The impeller is mounted below the motor directly on the motor shaft extension.

The fan is rated at 300,000 cubic feet of air per minute at a suction of 26 lbs. per sq. ft.

Driving the fan is a 350-hp 440-rpm 2200-volt 60-cycle motor, weighing five tons. It is ventilated by using the fan suction to draw filtered fresh air from outside.

Another fan of this type and size will be installed over the north return air raise at Frood-Stobie No. 7 Shaft next spring.

THE BIG TIME

A fellow had just got back from Hollywood. He had been dazzled by the film colony.

"Everything is done on a tremendous scale," he related to friends. "I attended dinner at a producer's home one evening and, instead of using finger bowls at the end of the meal, all the guests took showers!"

Sign on a store which went bankrupt after two weeks' business: "Opened by mistake."



Scouters' Club Refresher for Boys' Leaders

With its 1,400 Boy Scouts and Wolf Cubs, organized into 22 troops and 24 packs, the Nickel Belt is the largest district in Ontario Scouting not manned by a paid executive.

The immeasurable amount of good done by the 75 men and women who provide volunteer leadership for this army of future citizens commands particular attention. To pay its Christmas respects to the many sterling people (God bless them all) whose conception of citizenship finds expression in working with our young people, the Triangle has singled out the Scouters' Club for special mention.

Every second Thursday in the basement of Sudbury's Knox Presbyterian Church the Scouters' Club meets to blueprint the future of boys' work in the land of the three big stacks. The Scoutmasters, Cubmasters, and their assistants, brush up on their instruction methods, discuss new phases of youth training, try out new games, and compare notes on troop and pack problems. In the air at these meetings is a feeling of comradeship in the face of a challenging task, a sense of satisfaction in a self-imposed and very worthwhile duty. It is easy to envy these people their gift and their goal.

To see some of them at a typical Scouters' Club meeting, look at the pictures:

1. When there's something special on the program that will help train new leaders, the club invites troop and patrol leaders to sit in on the session. Here District Cubmaster Joe Basha gives a lesson in the operation of a motion picture projection machine to Trp. Ldr. C. Price of 1st Coniston, Trp. Ldr. J. Fitzgerald of 2nd Coniston, Trp. Ldr. R. Mulock of 3rd Sudbury, Ptl. Ldr. G. Burson of 3rd Sudbury, Asst. Scoutmaster D. Shaw of 1st Garson, and Ptl. Ldr. G. Oldenberg of 3rd Sudbury.

2. Discussing plans for revision of regional boundaries in Nickel Belt Scouting are: seated, District Commissioner Ainsley Roseborough; standing, District Cubmaster Joe Basha of 11th Sudbury, District Scoutmaster P. L. Peterson of Coniston, District Cubmaster Art Gobbo of 2nd Coniston.

3. There's a brush-up on knotting and splicing instruction methods going on here: left to right, Scoutmaster W. Thomas of 1st Falconbridge, Asst. Cubmaster Mrs. Etta Plexman of 2nd Sudbury, Asst. Cubmaster H. Hillier of 3rd Minnow Lake, Scoutmaster

B. Spencer of 1st Garson, and District Scoutmaster P. L. Peterson.

4. How to teach the composition of the Union Jack is the demonstration in progress in this photo: left to right, Asst. Cubmaster Mrs. J. Boucher of 2nd Sudbury, Scoutmaster Phil Fletcher of 2nd Minnow Lake, Cubmaster Ken Stone of 1st Garson, Cubmaster Ted Crawford of 1st Falconbridge, and Asst. Cubmaster Mrs. Ken Stone of 1st Garson.

5. The new handbook issued by the Dominion Boy Scout Association on public relations is being reviewed by Ptl. Ldr. C. Gagnon of 2nd Coniston, Ptl. Ldr. R. Babcock of 3rd Sudbury, District Cubmaster A. Gobbo, E. Croteau, secretary, and A. Montgomery, president, of 2nd Sudbury group committee, Asst. Cubmaster Mrs. R. Melanson and Cubmaster R. Melanson of 2nd Sudbury.

Reminiscences of The Early Days

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was built and in 1950 the Finnish people celebrated their 50th anniversary of religious activities in Copper Cliff and Waters Township.

The Salvation Army from Sudbury during these early years regularly held street services and meetings in the Orange Hall on Gribble St.

The first Presbyterian minister, according to the Sudbury Star of June 14, 1952, was Rev. J. J. Cochrane, 1901. This statement is doubtful as to correct dates since Rev. James A. White left Copper Cliff in 1901 after ministering for two years. Probably Rev. J. J. Cochrane was the first minister, then Rev. J. A. White followed by Rev. Mr. Graham until 1904, and afterwards C. N. McKenzie 1904-1909; later came Rev. W. T. Prittle, 1909-1923 or 1925 (or until Church Union).

Within a short time the Methodists, being dissatisfied with the working of the joint church building, decided to build a church of their own, which they accordingly did, commencing the work during the summer of 1898 and opening the church for divine service late in 1899. The Methodist Church was in constant use from 1899 until union with Knox Presbyterian Church in 1925, then used only for church socials, Sunday School and other activities of the younger people. It was finally dismantled about 1932. The site of the Methodist Church was the corner of Clarabelle Road and Jones St.

For a short time the Presbyterians and Anglicans continued to use the same church, but a desire to be free from the interference of the larger body and to own a church where they could worship in their own way grew among the Anglican people and though few in number they came to the decision to build a church of their own on a site in Shantytown nearly opposite the present dairy on Balsam St.

Accordingly, in 1900, a small building was erected at a cost of \$600.00. It was not very ecclesiastical in appearance but was warm and convenient, and fitted to serve the congregation for many years. An organ was given by the church people of Sudbury and chancel furniture by the late W. G. Cressey.

During the summer of 1909 plans were discussed for a new church, designs submitted and a site was leased by the Canadian Copper Co. on the important corner opposite the present hospital. In Sept. of 1909 a basement was excavated, foundations laid and walls built. The corner stone was laid

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Copper Cliff's First House



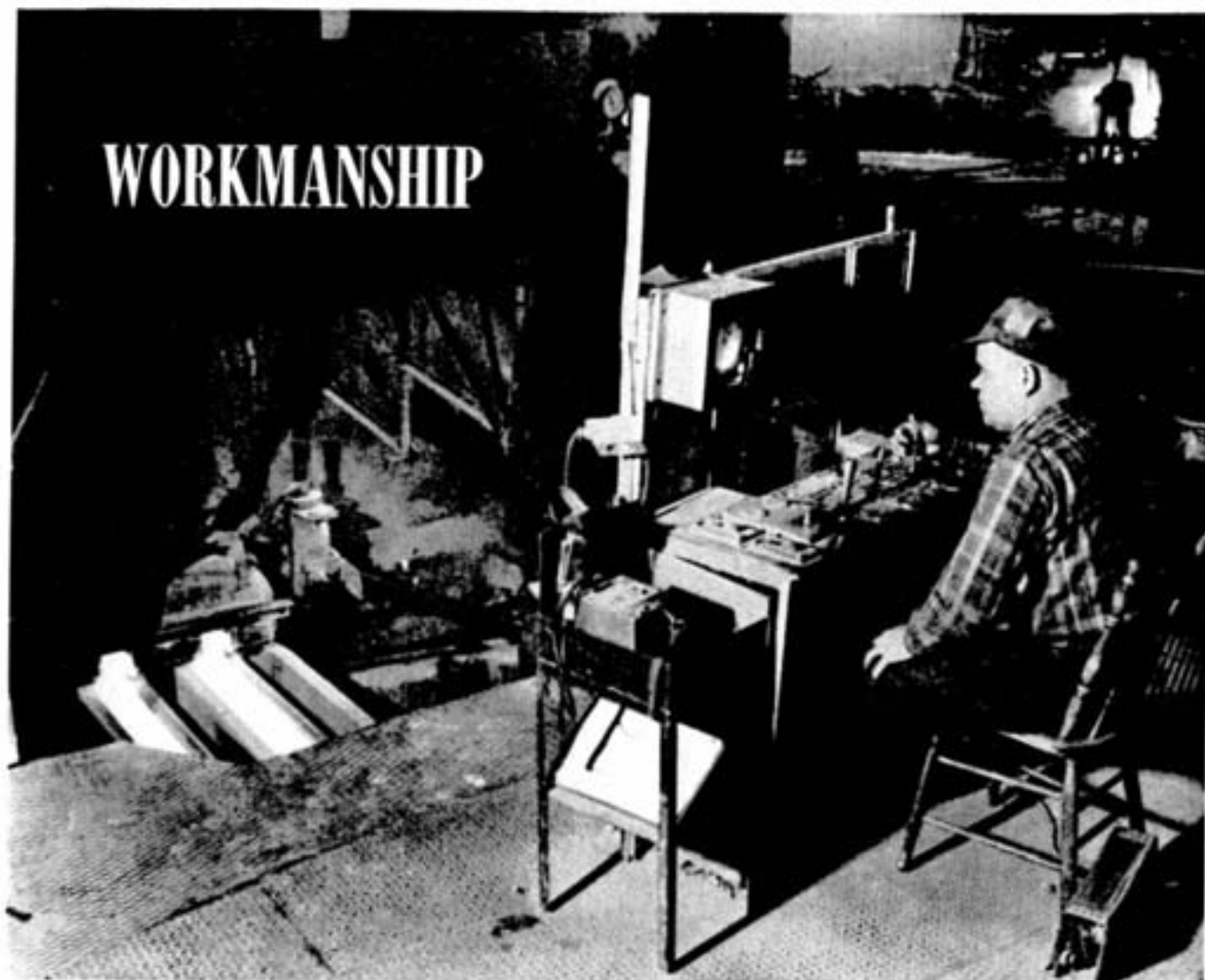
Tom Johnson (wearing apron) stands with a friend in the doorway of the first house in Copper Cliff, built by the Canadian Copper Co. in 1885 on the Balsam St. site opposite the Cochrane-Dunlop service station, now marked by a stone monument.



The Spirit of Christmas, with its neighborly exchange of greetings and expressions of good will, once again warms our hearts and renews our hope for universal peace and understanding. In the happiness of our family gatherings and the pleasure of our friendships we share at this Season a priceless gift of the freedom we cherish. May the joy of an old-fashioned Christmas be with You and Yours, and remain throughout the coming year.

D. Beattie

Vice-President and General Manager



The Wheelman at the Copper Refinery

For the second picture in its Workmanship series, the Triangle takes its readers over to the Copper Refinery to see a wheelman pouring refined copper shapes on a casting wheel. The steady production of shapes free of surface imperfections depends to a large extent on his skill and efficiency.

Pure electrolytic copper melted in an electric furnace flows down a launder into a pour hearth and from there into a tilting ladle with two accurately formed lips kept at a constant temperature by resistance elements. Seated at his pouring stand the wheelman pulls a lever-type switch which tilts the ladle so that metal flows through the lips and into two pockets in one of the 15 moulds on his casting wheel. When the pockets are filled to the required depth he tilts the ladle back and pulls another lever which rotates the casting wheel to bring the next mould into position.

As they travel around to the point where the cast shapes are automatically dumped into a bosh cooling tank, the moulds pass over water sprays for cooling. Then, just before the turn of the wheel brings them into pouring position once again, they are dressed with a spray of bone ash in water to protect them from the heat of the molten metal and to prevent metal from sticking to the mould.

Now the wheelman's technique in pouring the metal from the ladle into the mould pockets is of the utmost importance. He starts with a reasonably rapid flow to cover

the bottom of the pocket quickly and evenly, but at the same time he is extremely careful to allow no splashing because this would result in small bits of metal freezing on the sides of the pocket and causing pits in the surface of the cast shape. Once the bottom is covered he controls the metal flow so that the pocket fills smoothly and evenly without any wash which also would freeze on the sides and cause surface imperfections.

The temperature of the moulds must be maintained within a certain close range in order that the correct amount of bone ash dressing will adhere to them. Since the rate of pouring a mould determines the length of time spent over the cooling sprays by moulds which have already been filled, it is obvious that the wheelman must keep to a definite pouring rhythm; as a matter of fact even a few seconds one way or the other can have a troublesome effect on mould temperatures.

The wheelman must also correlate his pouring rate with the rate of charging and melting in the arc furnace supplying metal to his casting wheel. This factor, to a large extent, determines the uniformity of metal received in the pouring ladle.

These are some of the things a wheelman must do steadily throughout his shift to live up to his own reputation for fine workmanship and to help maintain the high standard of his company's products.

As is usually the case, how well he is able to do his job depends on the teamwork of

the men with whom he is closely associated on his casting wheel — for instance, the arc furnaceman who is responsible for establishing correct melting conditions and the pyrometer man who regularly measures the temperature of the metal as it comes from the furnace to make certain it is right for casting; the mould temperature man who controls the sprays and checks the temperature of the moulds, the painter who carefully applies the bone ash dressing; the ladle tender who makes a final adjustment of the oxygen content of the furnace metal by working the covering of charcoal briquettes on the pouring ladle.

The wheelman on duty in the photograph is Toivo Nupponen.

ALL THIS AND HEAVEN TOO

He had managed to get a job as collector for the gas board.

"Take this master-key and go around and empty all the coin boxes; get all the money," said the manager.

He was gone for three weeks. Then he walked into the office and announced: "Can I have another key? I've lost the other one."

"Certainly," replied the manager. "But where have you been all this time? The cashier has stopped late every night expecting you to come for your wages."

"Geel!" exclaimed the man, beaming, "do I get wages as well?"

Bill Acheson 35 Inco Years On Converters

In his 35 years and six months of credited service in the converter building at Copper Cliff Smelter, Bill Acheson rose from scrap man to superintendent of the whole department.

When he started to work for the Company there were four converters, all on nickel; when it came time for him to retire on pension recently, there were 24 converters, 21 on nickel and three on copper.

The department had vastly improved in efficiency as well as increasing many times in size. For instance, in the old days air went into the converters through the tuyeres at only 9½ lbs. pressure; now it's supplied at about 15 lbs., greatly reducing blowing time and improving production rates.

"One thing that isn't so good now, though, in a way," says Bill, "is the size of the force. Years ago when there were only about 100 men in the building on all three shifts, a fellow knew everybody by his first name. Now there's close to 800 men and you can't know them all. The place has grown too big for that, but you can't stop progress. And think of the difference in wages and working conditions! I started here at 17½ cents an hour, working seven days a week, 11 hours on days and 13 on the night shift."

On his way up the ladder from scrap man, Bill was puncher, skimmer's helper, skimmer, shift boss, and general foreman. His entire service with the Company was spent in the converter building, where he was always liked and respected by the men. A delegation representing the whole department and led by Smelters Superintendent Dunc Finlayson surprised him at his home and presented him with two beautiful pieces of luggage and Mrs. Acheson with a smart leather handbag.

Bill was born in Toronto, son of a shoemaker—which may be the reason he has "lasted" so well! His first job was with a glass works, and some of the big plate windows he installed in Toronto store fronts are still firmly in place.

As a kid he would sooner play baseball than eat, and as a young man he played semi-pro at 2nd base for Toronto and Kitchener. He was on the Cobalt team when Copper Cliff came looking for talent in 1915, and he and Bert Flynn and "Liz" Robinson signed with the smelter town.

The most exciting game he can remember was a Copper Cliff-Coniston duel during his first summer in Nickel Belt company, on the Cliff diamond where the High School is now. On the mound Coniston had Remark, a college kid from Detroit, and the Cliff had Sharpe. After 12 tense, scoreless innings, the wily Flynn drew a walk. Acheson laid a bunt down the 1st base line and beat it out while Flynn darted to 2nd. Remark fielded the bunt but his throw to 1st hit Acheson on the shoulder and the ball went on into right field. Flynn rounded 3rd and raced home with the winning run.

In 1923, when he was promoted to shift boss, Bill retired from baseball, but his interest in the game has never waned and he's a keen fan. He can always get into a peppy argument about 2nd base strategy with his son-in-law, Gerry Wallace.

Mr. and Mrs. Acheson have a family of five: Ann (Mrs. Gerry Wallace of Sudbury), Bill of Sudbury, Dorothy (Mrs. Ken Sargent of Ottawa), Tom of Copper Cliff, and Vivian of Falconbridge (who resides with her parents). The whole family, including the eight grandchildren, will be together this year for Christmas dinner.

Around their attractive home in Lockerb



MR. AND MRS. M. W. ACHESON

is plenty of room for gardening, and although they don't intend to work at it quite as much as they did when they lived in Copper Cliff, it's certain that the Acheson grounds will continue to be a show place in the summer months.

Greetings from Dr. Merica



Perhaps the thought that we all have had a part again this year in contributing, through our production of nickel and other metals, to the welfare of the peace-loving world, should give us an added sense of accomplishment at this Yuletide. May good fortune, good friends and good cheer be yours in the year ahead. A Merry Christmas and a Happy New Year!

Charles D. Merica

President

A Christmas Story Holds Undivided Attention



Eagerly awaited by many Sudbury children is the Story Hour held every Saturday afternoon at the Public Library with the popular Miss Sheila Gow in charge. A Christmas story was being told when the Triangle camera caught this picture. Films are often shown during the Saturday afternoon sessions.

The NICKEL INDUSTRY in 1952

The accelerated expansion of existing production facilities and the advent of new and potential producers were the 1952 highlights of the free world's nickel industry. Dr. John F. Thompson, chairman of the Board of Directors of The International Nickel Company of Canada, Limited, said in a year-end review.

Dr. Thompson estimated that the free world output of nickel will approximate 315,000,000 pounds this year, compared with 295,000,000 pounds in 1951. Canadian production will be approximately 280,000,000 pounds, or about 90 per cent of the total. The free world production of nickel is believed to be over five times that of the rest of the world. He continued:

Nickel Supplies

"Repeated statements have appeared indicating a shortage in nickel supplies. For some time, allocations of nickel have been made by the International Materials Conference for participating countries. These allocations have been in excess of the defence requirements set by the respective Governments. Nickel allocations beyond those needed for direct defence have been available for the supporting civilian economies and, in the case of the United States, also have provided contributions for the Government stockpile. However, reports indicate that free world nickel supplies are not now adequate to meet large government stockpile objectives simultaneously with unrestricted civilian consumption and the requirements of defence programs.

"Nickel-bearing scrap is flowing in easier supply and direct defence orders have been

spread over a longer period, thus helping to relieve some demands for the metal.

Exploration

"Throughout the world the search for new deposits of nickel is being pushed at an unprecedented rate. This exploration work, both time-consuming and costly, is being carried on by interests new to the industry as well as by the established producers. In Canada, particularly, the wave of prospecting which is opening up new areas is attracting considerable attention to the country's untapped mineral resources. Most of this work is being financed by private capital, but some of it is being done with the financial assistance of the United States and other governments.

Production Programs

"International Nickel, the world's largest producer of nickel, is pushing towards completion its major program of underground mining expansion at its operations in the Sudbury District of Northern Ontario. The \$150,000,000 program, financed entirely by the Company's own resources, is scheduled for completion next year. This will give International Nickel an annual capacity of 13,000,000 tons of ore entirely from underground operations, thus assuring maintenance of its current yearly rate of approximately 250,000,000 pounds of refined nickel. Inco has vigorously continued in 1952 its search for new deposits of nickel in Canada and elsewhere.

"According to published statements, various other nickel producers have development programs under way, many of them with governmental financial assistance. Among

the principal undertakings in this group are: Falconbridge Nickel Mines Limited in Northern Ontario, Canada's second largest nickel producer, which has announced it is engaged in an expansion program designed to give the company an annual capacity of 35,000,000 pounds in 1954; the United States Government-financed Nicaro nickel project in Cuba which is now back in operation and reported to be approaching its goal of 30,000,000 pounds of nickel annually; Sherritt Gordon Mines Limited, which is developing a nickel-copper deposit at Lynn Lake, Manitoba, and is reported to be constructing a 17,000,000-pound annual capacity refinery scheduled for completion in 1953; and the nickel mines operated by the French firm S. A. Le Nickel in New Caledonia which are said to be now producing approximately 14,000,000 pounds per annum and are currently being modernized.

"In addition, there are other programs in Canada and elsewhere, many only in preliminary stages, which, if carried on to completion, should further increase the free world's nickel supply in the years to come.

Restrictions

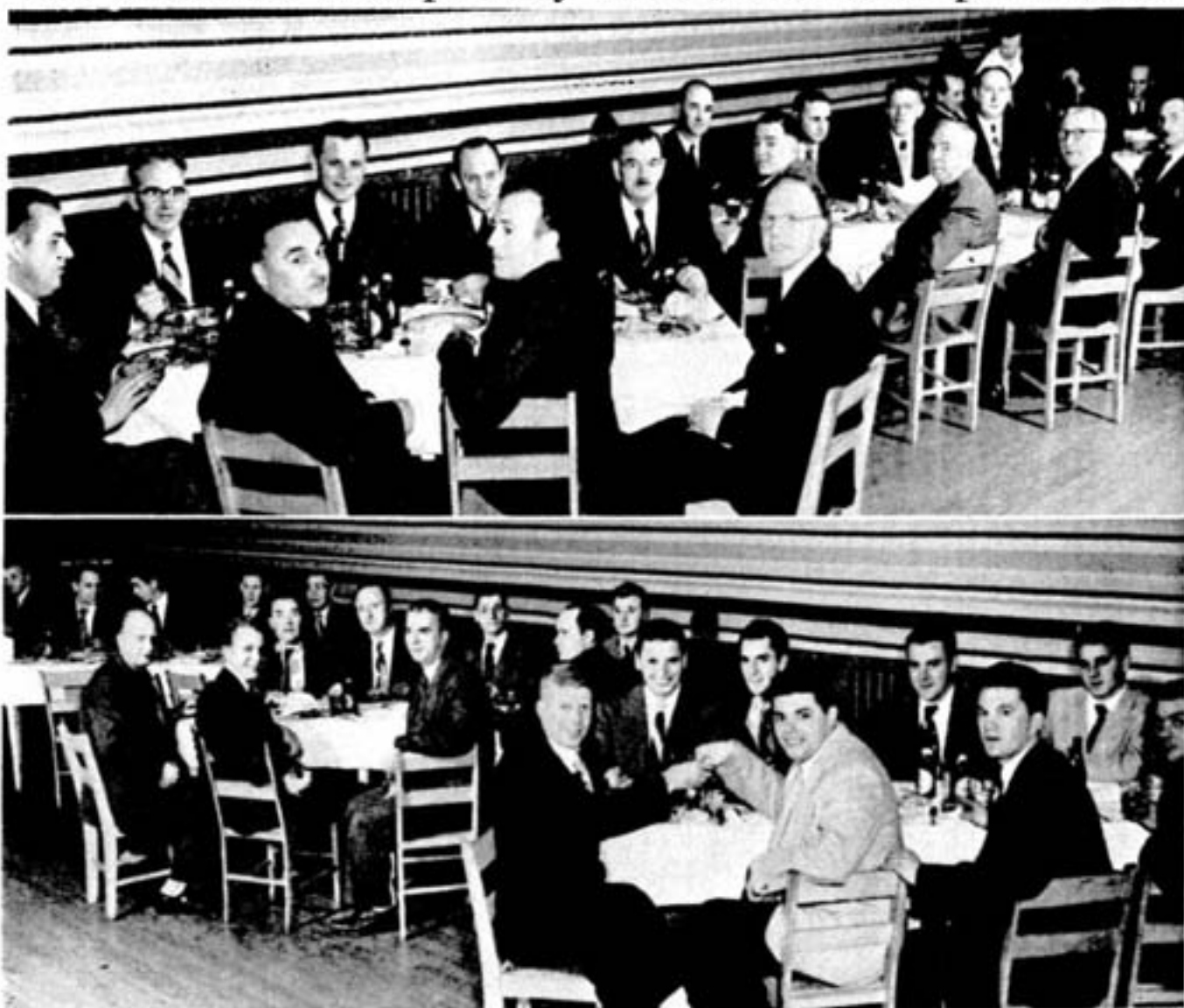
"Many civilian uses of nickel and nickel alloys have been restricted by the various governments, and manufacturers have been forced to improvise substitute materials. Industry has co-operated fully in complying with these restrictions. Through consumer research efforts and those of International Nickel's technical staff, opportunities for conservation have been well implemented.

Applications

"The largest proportion of nickel continued to be consumed by the steel industries of the United States, the United Kingdom and Canada, mainly in engineering steels, stainless steels and jet engine alloys.

"Engineering alloy steels containing nickel are widely used for both military equipment and for numerous applications in the civilian

At Annual Banquet of Mechanical Department



A delicious chicken-and-spaghetti spread in the banquet hall of Sudbury's smart Ryan Club got the annual dinner meeting of the Copper Refinery's Mechanical Department away to a solid start, and the evening's get-together was thoroughly enjoyed by the big turnout of members. Pictures show some of the tables. Superintendent Russ Hewgill and Asst. Superintendent Austin Smith were among the speakers who complimented the men of the department on their efficiency and co-operative spirit in keeping the big plant running smoothly.

economy. These steels for military purposes in 1952 in general have required more nickel per ton than was used for civilian applications. In both fields, however, nickel has been conserved for the more critical uses. Conservation has been achieved by substitutions of steels lower in nickel, or by steels containing no nickel, depending upon the application and the conditions under which the steels were employed. Broadly speaking, substitutions for nickel have involved the use of elements like boron, manganese and chromium. In cases where such conservation procedures did not provide satisfactory alloy steel performance, the governments continued to allow the use of nickel alloy steels for defence purposes.

"A large percentage of the chromium-nickel stainless steels was employed by the aircraft, petroleum, chemical and other defence-supporting industries. The Governments of the United States, the United Kingdom, Canada and other countries continued to impose restrictions on certain uses of stainless steels containing nickel. Substitution of the straight chromium grades was made in

the architectural, utensil, appliance, and other fields.

"The plants of International Nickel in the United States and the United Kingdom continued to supply the age-hardenable series of nickel-chromium alloys, such as the Nimonic and Inconel groups, in large quantities to manufacturers of gas turbine engines used in top performance military aircraft. Alloys of the Nimonic series and other high nickel alloys were significant in the components of the engines in Britain's 'Canberra' bomber, which achieved the first two-way crossing of the Atlantic Ocean by jet aircraft in one day; on the first commercial jet-propelled scheduled air transport, the De Havilland 'Comet', and in the vessel 'Auris', the first tanker with gas turbine propulsion. Also as part of the military demands, increasing amounts of Monel and pure wrought nickels were called for by the United States Naval and other defence programs.

"As a result of government restrictive orders, deliveries of nickel to the nickel-plating industry during the year were re-

stricted to 25 per cent of the level which obtained prior to the Korean conflict. This quantity of nickel has been inadequate to support the volume of plating necessary for satisfactory performance of plated materials. As no satisfactory substitute has been developed for nickel-plating, the quality of the finished product has suffered. During the latter part of the year, this industry was permitted in the United States to use extremely thin deposits on certain items on which nickel-plating was previously prohibited. This was of some assistance to the platers, but not sufficient to produce a quality finish on such items. Industrial uses of nickel-plating authorized under direct defence and defence-supporting applications have advanced due to the expanded use of heavy nickel deposits in place of solid and clad nickel.

"Allocations of nickel to brass mills were increased during the year because of the greater need for cupro-nickel tubing, used principally in heat exchangers in the marine, power and petroleum fields where the per-

(Continued on Page 16)

Very Special Item on Office Staff Dinner Program



A surprise announcement added to everyone's pleasure at the very successful Christmas dinner party held by the office staff of Port Colborne Refinery at the Rathfon Inn. Wilfred Christie (front left in the first of the above pictures) announced his engagement to Jean Massey, the beautiful blonde who is seated beside him. Wilfred seemed quite happy about the transaction, and who could blame him. The evening's arrangements were handled by Don Horne and Nis Nissen in a most acceptable manner.

Reminiscences of The Early Days

(Continued from Page 9)

by Bishop Thornloe on July 11, 1910, and finally it was dedicated as the Church of St. John the Divine on July 13, 1911.

Copper Cliff Brass Band

The Copper Cliff Brass Band had its inception at the Evans and Copper Cliff mines in the early '90's when a few pioneer players, Capt. W. J. Hambley, Wm. Johns, John Redington, George Leck, Chas. Taylor, Thomas and Harry Stoddard provided music at the local picnics and football games, and at times competed against the Sudbury Band.

From 1895 and during the early 1900's to 1905 the band had a membership of 25 under the leadership of Wm. Johns; later on John Gribble assumed leadership and the band was always in evidence at all public holidays and sports events. During the First War year of 1914 the band was attached to the 97th Algonquin Rifles and went to Military Camp at Niagara-on-the-Lake, and played also at the Toronto Exhibition in 1915.

After the depression of 1921 the band had only a very few members, but was successfully reorganized in 1925 under the able leadership of H. N. Shrigley, who had his early musical training in Manchester, England. From 1925 until 1934 the band had a membership of 45 and numerous high class concerts were given at various times, and outdoor performances at the Band Stand in Nickel Park. From 1934 to the outbreak of the second World War, Mr. Shrigley's efforts were directed to the teaching of many young members, but since the war the band has been abandoned, much to the regret of the citizens of Copper Cliff.

Mining and Smelting

At the turn of the century the small pro-

ducing mines, viz., Copper Cliff, Evans, Stobie and Nos. 2, 4 and 5, were unable to provide the necessary nickel and copper content for smelting, so Creighton Mine, then being developed rapidly, became the leading high grade nickel ore source of supply. The first ore shipments over the newly completed railroad, (The Manitoulin and North Shore Railway from Sudbury to a point near the Gertrude Mine west of Creighton) were started in the summer of 1901 and for many years provided ore for the roast beds at Copper Cliff, situated at the higher level called the Crow's Nest north-east of the present day Italian section of the town. The Old or East Smelter suffered several serious fires prior to 1898, then finally in 1899 the greater part was destroyed, which required rebuilding on the site occupied by the present Oxygen Plant near the Old McArthur No. 2 Mine.

The capacity of this smelting plant, called the West Smelter, was increased until 1904 when 12 small blast furnaces provided standard matte for shipment to the Ontario Smelting Works, which was built in 1902 near the Canapini Ice Plant at the end of Cobalt Street. This smelting practice continued until the Ontario Smelting Works were destroyed by fire early in 1904.

A few years later, about 1906, another plant was built on the old Ontario Smelting Works site to treat silver-cobalt-nickel arsenical ores from the newly opened mining camp at Cobalt, Ontario. This plant was operated until 1912, then closed down permanently.

The Canadian Copper Company decided about 1905 to build a large blast furnace and converting plant which today is the present main smelting plant. Later, the Copper Refinery was erected in 1929 on the site of the Evans Mine.

As the Manitoulin and North Shore railroad progressed on its way to Little Current, the Crean Hill property of Canadian Copper Co. came into production about 1909 and was another source of ore supply until 1918, then shut down and is now being explored

after a lapse of 32 years. Also, the original Frood Mine was operated from 1911 to 1915, then again opened in 1929 and has since been a main supply of concentrating ore. During these preliminary years 1902-1913 all Canadian Copper Company operations were under the management of Almon P. Turner, President and General Manager, with Capt. John Lawson in charge of all mining operations, David H. Browne, metallurgist, and John L. Agnew, Smelter Superintendent, later President and General Manager.

(To be Concluded Next Issue)

Notes and Comment

(Continued from Page 2)

formal retirement system and said, "The purpose of this system is to provide the means whereby every employee who grows old in the service of the Company may be assured of a comfortable old age."

Approximately 4,200 Inco men and women became charter members of the system in 1928, and another 2,200 joined the following year when Mond Nickel Co. was merged with International Nickel.

Pensioners receiving retirement benefits from 1928 to the end of 1951 numbered 1831, and payments to them amounted to approximately \$7,400,000. Death benefits during the same period numbered 2,114 and totalled approximately \$1,800,000. At the end of 1951 the number of pensioners (service and disability) stood at 1,194.

ENOUGH IS ENOUGH

Elmer, age 13, was puzzled over the girl problem and discussed it with his pal, Joe. "I've walked to school with her three times," he told Joe, "and carried her books. I bought her ice-cream sodas twice. Now do you think I ought to kiss her?" "Now, you don't need to," Joe decided, after a moment of deep thought. "You've done enough for that girl already."

Nickel, Copper In U.N. Portals At New York

An example of Canada's finest craftsmanship, in the form of seven huge doors made of Canadian metals, will keep this country's name and fame foremost at the United Nations in New York as long as that body continues to operate.

The huge doors were recently presented by Canada to the United Nations as an indication of her faith in the world peace body. A dedication took place in conjunction with the official opening of the building. They were made from a metal never before used in this country for the purpose — an alloy consisting of approximately 43 per cent copper, 44 per cent zinc, and 13 per cent nickel. The design of the doors was executed by a Canadian, Ernest Cormier, of Montreal, one of Canada's leading architects.

Each of the doors stands seven feet six inches in height and measures 40 inches in width.

The copper and nickel in the doors were supplied by International Nickel from its operations in the Sudbury basin. Preliminary work on the seven portals was done by Anaconda American Brass Limited, in New Toronto, where the actual extruding of the basic parts took place. These extrusions were then forwarded to Montreal, where they were further processed by the Robert Mitchell Company. Taking great pride in handling the special order, highly skilled Mitchell men worked hours of overtime to complete the difficult fabrication assembly and finishing work in less than a month's time.

Each of the assemblies and sub-assemblies was subjected to a "finishing" process, consisting of cleaning and burnishing, to produce the final high finish. Because of the properties of the alloy and the very fine polish put on it by the craftsmen, the doors will retain their lustre and gloss permanently.

Four plaques are set into each door to represent Truth, Peace, Justice and Fraternity. On a level with each plaque is a glass panel, one of which — the top — is stationary. Each door is set in a full frame measuring nine feet, ten inches in height and 44 inches in width.



Ernest Cormier, Montreal architect, who designed the United Nations doors, stands beside one of the doors just before it was shipped to New York.

High Falls School and Scholars



Extensive improvements to the one-room school at High Falls met with the enthusiastic approval of Miss N. Taylor, the teacher, and her pupils. The neat little building is now equipped according to the latest educational standards.

Above is the school and below is the class: by rows from the left, front to back, 1st row, Fay Macartney, Buck McQuillan, Donnie Hayward, Brian Insley, George Edwards; 2nd

row, Eva Paquette, Wayne Edwards, John Hayward, Monty McBrier, Ronnie Desjardine, Cecil Edwards; 3rd row, Sharon Macartney, Thelma Maki, Velma Whisman, Stanley Edwards, Brian McCartney, Bobby Desjardine; 4th row, Jackie McQuillan, Edgar Desjardine, Barry Insley, Harley Moulton, Valda Edwards, Miss N. Taylor; 5th row, Maria Cameron, Bernice Whisman, Maureen Macartney, Pam Mackenzie, Renne Desjardine.



The plaques and panel frames were cast at the Robert Mitchell plant from Monel, an alloy of 70 per cent nickel and 30 per cent copper. Each plaque was cast from a pattern taken from a plaster model prepared by Mr. Cormier. Here again a great deal of fine hand work was required in the process to bring out the sharp details of the design.

Ernest Cormier, the Montreal architect who designed Canada's contribution to the United Nations, is internationally known and is one of seven architects whose advice is sought on any major project contemplated by U.N.

Several other gifts, from other nations participating in U.N., were presented as well. Each was chosen to represent the country's way of life. The United Kingdom donated interior decorating and panelling for several conference rooms; France provided a mural painting; Belgium gave a tapestry, Greece a statue; South Africa presented furniture; and the American Association of the United Nations gave a swimming pool and fountain.

The seven doors were picked to represent Canada because they will be a symbol of her immense natural resources and the skill of her workmen in converting them into fully finished products.

SPECIAL RADIO TREAT

A special treat for young and old will be the broadcast over Radio Station CKSO, Sudbury, on Christmas Eve from 9:00 to 10:00 o'clock of Charles Dickens' immortal Christmas Carol. This program is being sponsored by The International Nickel Company to carry its greetings and best wishes to its employees and their families, and to the people of the district in general.

THE FRONT COVER

The unsame miss in a huddle with Santa Claus is Lynn Morrison, daughter of Mr. and Mrs. George Morrison of Copper Cliff. The old boy seems to be lending an attentive ear to her gift hints and we won't be a bit surprised to learn that the ski poles and the new doll and the other things she just happened to mention were all at the foot of the tree when she scampered downstairs very early Thursday morning. Incidentally, Santa in this picture looks a lot like Jack Latreille of the Copper Refinery—which is a compliment to both of them.

Too many people don't care what happens so long as it doesn't happen to them.

—Wm. Howard Taft

Teen Town a Going Concern at Port Colborne



This myriad of happy faces (even the pooch in the front row wears a big smile) was photographed at one of the regular Teen Town sessions at the Inco Recreation Club in Port Colborne. Attendance averages 350 at these immensely popular Saturday night gatherings where all facilities of the clubhouse are turned over to the young fry. Badminton, billiards, bowling and table tennis are followed by dancing.

The Nickel Industry

(Continued from Page 13)

formance of these alloys has been superior to other metals and alloys. The cupro-nickel tubing containing 30 per cent nickel and the 10 per cent nickel type are proving highly effective in combating the corrosive action of salt, brackish and polluted waters.

"In the field of heat and corrosion-resistant alloy castings, which has operated at a high capacity during the year, nickel was permitted for industrial applications requiring high resistance to corrosion and strength at elevated temperatures. These alloys were also employed in many component parts of

jet engines where their heat resistant qualities are of prime importance.

"The production of Ni-Hard, the abrasion-resisting nickel-chromium cast iron, was slightly lower than in recent years because of the restrictions on nickel. Ni-Hard has been finding increasing applications for grinding balls in the mining, cement and paint industries.

"The various types of corrosion-resisting Ni-Resist have been used more extensively. Typical uses of this nickel alloy cast iron were in parts for engines for heavy duty service, pumps and valves, chemical process equipment, and in non-magnetic castings for military purposes."

In conclusion, Dr. Thompson, said: "The

nickel requirements of the free world during the present emergency will continue to impose upon the industry the dual obligation of maintaining the highest possible production and promoting the most efficient use of every pound of nickel produced."

AND BOTH HOOKED

Patience is an angler's virtue — but the angler's wife needs it too. One woman, whose husband had gone off with a fishing rod, was feeling sore at being left alone when a friend called and asked: "Where's George?"

"Go down the river," she told him, "and look around till you find a pole with a worm on each end."

—Labour Leader.

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