REGIONAL

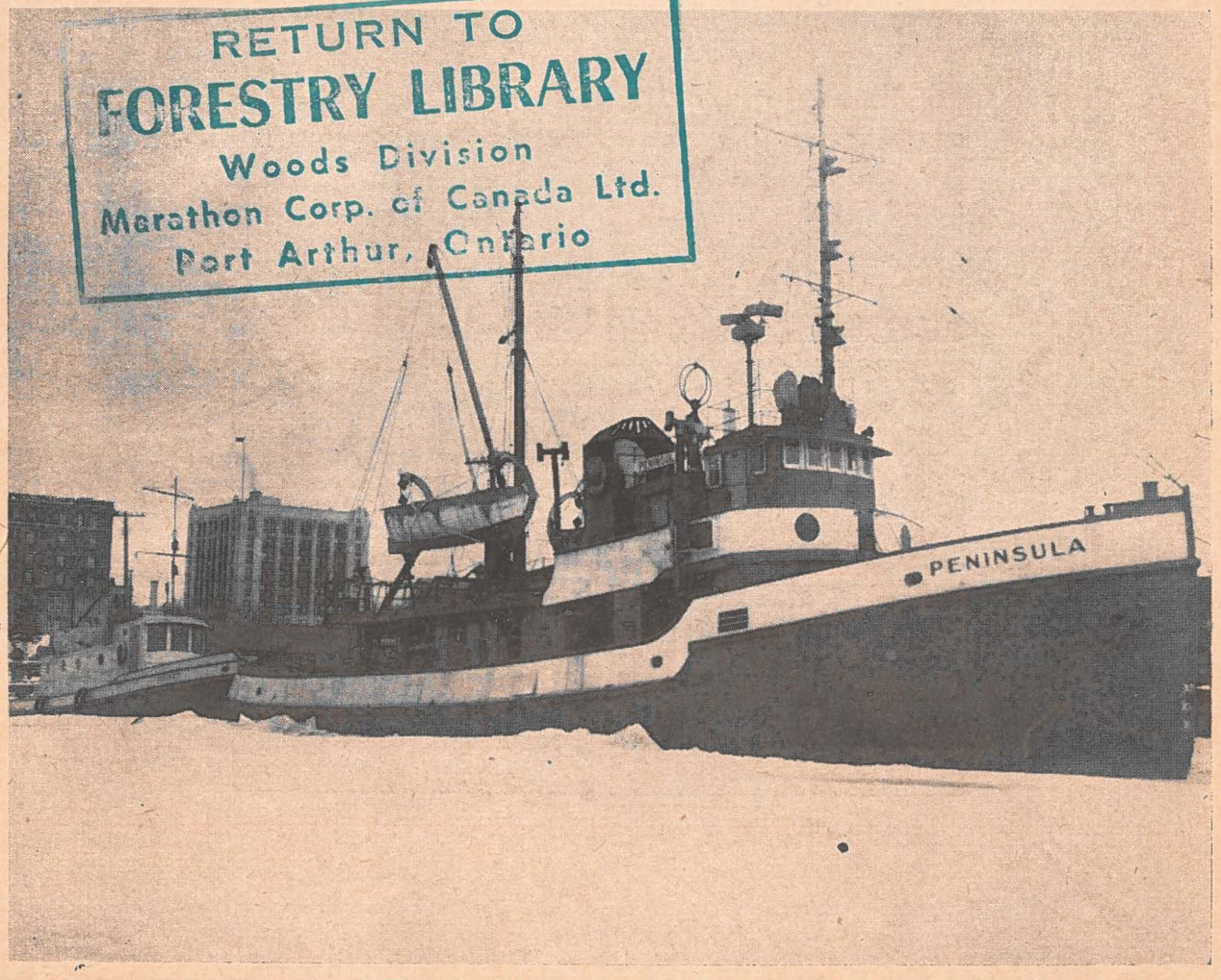
THUNDER BAY TIMBER OPERATORS ASSOCIATION

LOG BOOK

MARCH
APRIL
1951

VOLUME 2 PORT ARTHUR, ONTARIO NO. 6

RETURN TO
FORESTRY LIBRARY
Woods Division
Marathon Corp. of Canada Ltd.
Port Arthur, Ontario

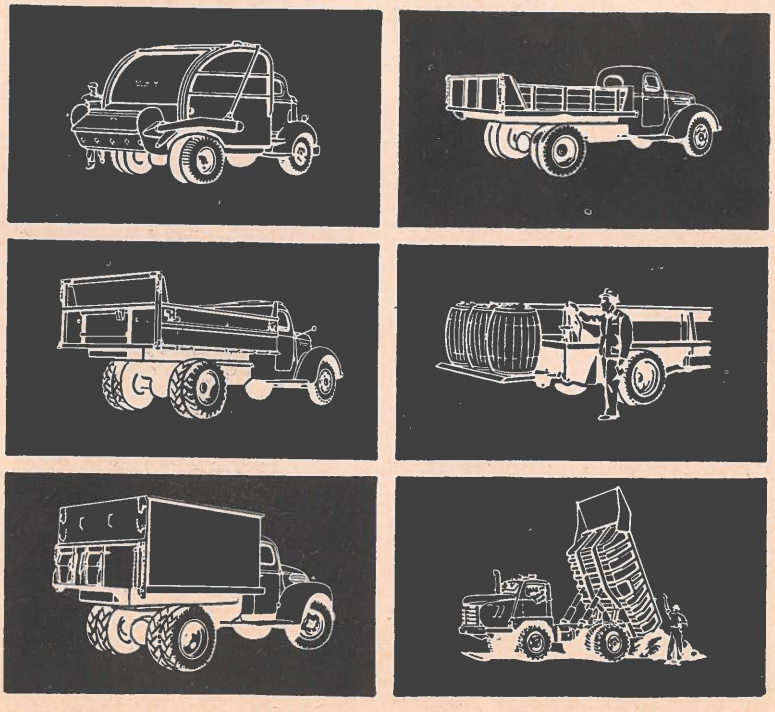




ESP-HEIL
BODIES AND HOISTS
NOW IN CANADA

We proudly announce our association with the Heil Co. as manufacturers in Canada of the famous Heil line of Bodies and Hoists. ESP-Heil brings to Canadians a wide variety of powerful, dependable Bodies, Hydraulic Hoists and specialized truck equipment.

Write today for FREE illustrated Bulletin 120.



Order Now to Assure Delivery

TWIN CITY INDUSTRIAL EQUIPMENT LTD.

Distributor for

INTERNATIONAL HARVESTER TRACTORS FARM IMPLEMENTS

PARTS AND SERVICE

OFFICES AND SHOPS - 915 MEMORIAL AVE. PORT ARTHUR, ONTARIO

THUNDER BAY TIMBER OPERATORS ASSOCIATION

OFFICERS:

H. H. STYFFE ..... President
A. J. AUDEN ..... Vice-President

EXECUTIVE:

A. M. JONES W. B. SOUTHOM
H. P. KLINESTIVER M. COCHRAN H. S. MOSHER
Secretary-Manager, T. S. JONES

Published by
THE THUNDER BAY TIMBER OPERATORS' ASSOCIATION

Edited by
T. S. JONES

FORESTRY LIBRARY RETURN TO Woods Division Marathon Corp. of Canada Ltd. Port Arthur, Ontario

President's Message

These days, about as popular or unpopular a topic of discussion, is the weather. Of man weather seems bent on trying the mettle of even the stoutest hearts among the Timber Operators, with as extreme a variety of haul weather as has been witnessed for many a season.

In early fall the Industry was bedevilled with one of the heaviest and earliest snowfalls on record. Then, early in January, the Old Boy let up a bit and treated us to two very fine weeks of excellent winter hauling and cutting weather. This period was just long enough to allow us to let our guard down. Then we were treated to a record cold spell — a few days so cold that neither man, beast, nor mechanical equipment could function. By this time, many of our fellow operators were almost on the ropes. Then, just as most of us had started wearing two suits of red flannels; (as a matter of fact there were also a number of newly designed Peter Heaters in use) the Old Man decided he'd give us another jolt. Along came the most unprecedented and prolonged mild spell, as has ever been seen in these parts. Main roads looked like rivers, the red flannel came off, to be replaced by B.V.D.'s, and the men began trekking in to have an early visit to town.

Many operators, already on the ropes, began going down for the count, but I guess the Old Man must have had a soft spot in his heart, at least he allowed us to get up before the count because he turned on the cold again. Whether he intends to let us have it again or not is a moot point.

At time of writing however, most hauls are well underway, or completed. Certainly it is unwise to predict weather, but I will go out on a limb and say with optimism and confidence that all hauls will be finished and that no logs, pulpwood or other materials will be left in the bush.

Beyond that, we can only hope that when Mr. Spring takes over from Old Man Winter, he will be much more considerate of the Timbermen.

H. H. Styffe.

COVER PICTURE

The Marathon Tug PENINSULA and the NEWAYGO ROCKET at winter berth in Port Arthur.

SUPERVISORS, FOREMEN, CLERKS

The woods industry in Northwestern Ontario will need men — particularly cutters — as soon as the breakup period is over.

Before the men leave camp, please inform them that there will be jobs in this industry for them after the breakup. Wish them Happy Holidays — they deserve it after battling the elements as they have had to do — and urge them to return to work in this part of the country as soon as possible.

X-RAY SURVEY CONTINUES

A mobile x-ray unit from the Fort William Sanatorium has spent the month of February in the Black Sturgeon Area completing a survey of the Great Lakes Paper Company camps. With the co-operation of all concerned a very successful survey was completed with 763 employees out of a possible 793 being x-rayed.

The camps of the Abitibi Power & Paper Company Limited in the Black Sturgeon Area and the Great Lakes Paper Company camp in the Cameron Falls area will be completed next.

TIMBER CULLERS' ASSOCIATION ANNUAL MEETING APRIL 23rd, 1951

The Annual Meeting of the Thunder Bay Timber Cullers' Association will be held in the Canadian Legion Hall, Cooke Street, Port Arthur, Ontario, Monday, April 23rd, 1951.

Mr. B. F. Avery, President of the K V P Company Limited, Espanola, Ontario, will address the members at the Annual Dinner.

Present officers of the Cullers' Association are:

President — Ken Mason
Vice-President — J. Hughes
Secretary — J. R. Denley

Directors

Lester Murphy — L. Malmborg
Gilbert Lalonde — Len Neva
Sam Cowan — W. Reid

Other Branches of the Cullers' Association have been formed at Geraldton, Sudbury, Kenora-Dryden Districts but so far it is believed that the Thunder Bay Timber Cullers' Association is the only Association to be chartered.

NATIONAL FOREST CONSERVATION WEEK MAY 19 — 26

See page 26 for details on National Forest Conservation Week as arranged by the Canadian Forestry Association.

QUICK CANADIAN QUIZ

1. Who first claimed Canada for Britain?
2. Most of Canada's rivers and lakes drain to where?
3. How long is Lake Superior?
4. What were Canada's first industries?
5. What is the origin and meaning of the word Eskimo?
6. What game bird is found from coast to coast?

(Answers on Page 15)

Planning and Construction of Permanent Roads on LongLac Pulp and Paper Company Limited Limits

By G. L. PUTTOCK

As members of Companies which deal directly with the raw products derived from our forests, we are all aware of the increasing emphasis being placed on forest management, forest protection, and operating efficiency. In order that these may be properly executed a system of permanent roads is a prime requisite. Such development is a major undertaking entailing large capital expenditures which must be applied judiciously. It is logical then that these roads be standardized and a definite procedure adhered to from the initial planning through to the completion of construction.

We, at LongLac, have constructed considerable mileage of permanent roads under varying conditions. Through the experience gained we have now standardized our approach to road development.

Permanent roads are classified, and specifications laid down for each class, according to the normal traffic they are expected to bear.

Classification

Class 1 — Heavy duty haul road running more or less centrally through a large area of timber capable of bearing regular traffic of 30 tons body load over a period of 20 years or more, without undue maintenance.

Class 2 — Access road, servicing a series of camps, capable of bearing supply trucks and general traffic over a period of 15-20 years, without abnormal maintenance.

Class 3 — Access road servicing a single camp; capable of bearing supply trucks and general traffic for a period of 3-5 years, without undue maintenance.

Specifications

Feature	Class 1	Class 2	Class 3
a) Right-of-way	66′	50′	40′
b) Width (centre to centre of ditches)	40′	28′	20′
c) Travelled surface	22′	18′	14′
d) Maximum degree of curvature	10 deg.	Depends upon terrain	
e) Maximum grade (opposing load)	5%	"	"
f) Maximum sustained grade (opposing load)	3%	"	"
g) Minimum horizontal sight	350′	200′	100′

The above specifications are adhered to wherever possible, but it is realized conditions will arise at times making some deviation necessary.

Panning and Location

The initial planning is, perhaps, the most importan phase of road development. As permanent roads must satisfy the threefold requirements of management, protection and operating, all aspects of our forest policy must be considered. The decision, then, as to the genera location and class of road to be constructed must b made by Company executives.

Once this decision has been made, our location fo lows a definite procedure that ensures the most practica route and furnishes the necessary information for economic construction.

1) The best route is laid out on aerial photos along wi alternative routes. These routes are then transferre to a base map of the area showing the course and distance for each tangent.
2) The courses and distances as plotted from photos are first run by hand compass and pacing for a distance of three miles.
3) If this location is satisfactory and scouting ahea indicates no serious obstacles, the line is then traversed with staff-compass and chain, and plotted. This plot indicates any unnecessary irregularities in the line that may be eliminated.
4) After the most suitable location has been made the line is re-traversed and the centre line picketed. Th chainage is recorded at 100-foot intervals along th centre line and permanent chainage posts establish 6 feet beyond edge of right-of-way.
5) Soil samples are taken at 100-foot intervals and wherever a change in forest type indicates different soil conditions. These findings are marked on a blazed tree.
6) Sections over 100 feet in length, where soundings indicate more than one foot of humus overburden are clearly indicated as low cut areas. (See construction.)
7) An Abney level profile is made from which all culvert locations are established and marked.
8) Off-take ditches are located and blazed out until a drop of 1.5% is indicated.
9) Gravel and borrow pits are located and marked.

All the above information is marked on the final ground location, plotted traverse and profile.

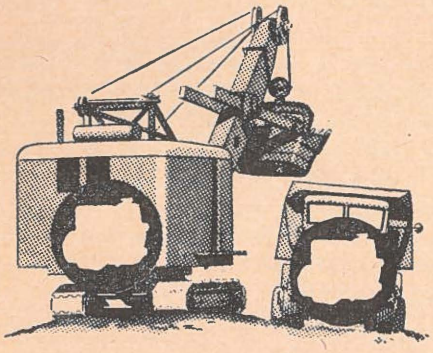
Field notes serve as a permanent record of all information.

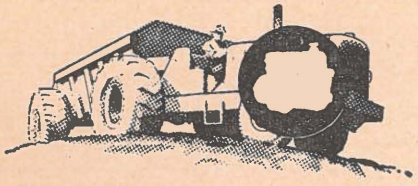
Construction

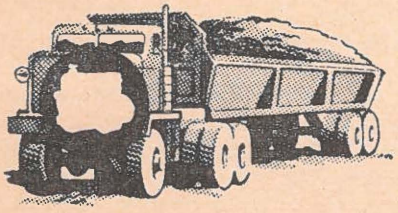
a) Cutting of Right-of-Way

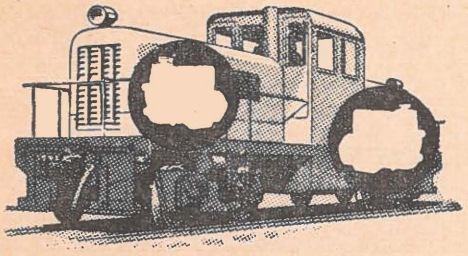
1) The right-of-way is generally assigned to a group of shackers during the non-fire hazard season. Piece rates per lineal foot are established for which the cutters must burn the brush and cut unmerchantable timber into lengths that may be bulldozed off the road. Pulpwood produced is paid for at prevailing rates.
2) All pulpwood and firewood produced is piled in the centre of the road parallel to the direction of the centre line. This allows a haul road to be bulldozed along side of the wood for hauling prior to general construction.
3) Stumps on the highland sites are left 2 feet high to facilitate bulldozing.
4) On the sections designated as "low cut areas," the stumps are cut flush with the ground and the brush spread over the width of road required between the insides of the ditches, so as to form a matting to hold the fill. Such areas are cut to a minimum of 80 feet in width to allow sufficien fill to be obtained from the sides of the road.
5) Off-take ditches are cut out at the time the right-

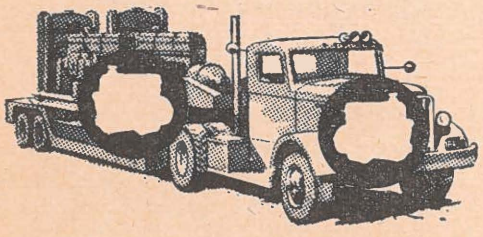
(Continued on Page 18)

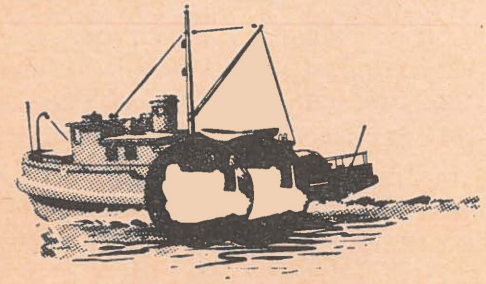


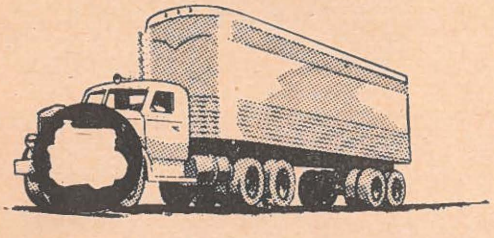












Standardize

on CUMMINS DIESELS

Why? Because Cummins diesels are proven for Canadian conditions in any type of powered equipment . . . and there are other reasons too . . .

1. **Keeps your stockkeeping problems at a minimum.**
2. **Many parts are inter-changeable on the complete range of engines.**
3. **Familiarizing your operators on one basic type of diesel, will pay off in greater serviceability.**

Re-power

with CUMMINS Diesels

Why? Because Cummins power is recognized in the field as the most dependable and economical power plant . . . a custom-built diesel which is 'preferred' . . . and . . .

1. **Re-powering with Cummins will give you greater loads and lifts.**
2. **Installing Cummins power will reduce your fuel costs and make more profits.**
3. **Re-powering work is undertaken with the co-operation and approval of the equipment manufacturer.**

FOR ANY MARINE — INDUSTRIAL — OR AUTOMOTIVE APPLICATION — 50 TO 550 HORSEPOWER

sales *service*

RUSSEL-HIPWELL
ENGINES LIMITED

235 BAY STREET PORT ARTHUR PHONE 5-5914

NORTHWESTERN ONTARIO SECTION, CANADIAN INSTITUTE OF FORESTRY, HOLDS MEETINGS

A meeting of the Section was held in the Orpheum Grill, Port Arthur, January 29th, 1951, with a good representation of members and guests present.

The guest speaker, Mr. J. D. Gilmour of Montreal gave a very interesting address.

Mr. Gilmour's address initiated a lengthy discussion in which views on the following items were expressed.

1) B.C.'s Forest Land licenses, 2) Stumpage appraisal, 3) Size of holdings by private owners, 4) Methods of transferring government land to private owners, 5) Controls on private owners, 6) Seigneurie lands in Quebec, 7) Taxation and assessment laws, 8) Insurance, 9) Recreation reserves, 10) Game management.

Mr. Campbell thanked Mr. Gilmour for his informative and timely address.

The February meeting of the Section was held at the Lakehead Technical Institute, February 16th, 1951 and the main topic of discussion was the project undertaken by the Section for this year, "Slate River Tree Planting Project."

Plans for the Tree Planting Project are as follows:

(a) The Slate River School Board will purchase an area of land of 45 acres adjacent to the school for field planting, or will plant wind breaks.
(b) For field planting, half an acre per year is planned.
(c) The trees will be available at the Thunder Bay Nursery.
(d) Probable planting date is First week in May, 1951.
(e) A lecture on planting methods is to be given by Mr. P. Addison prior to the project.

COMPANIES ASSIST IN BLACK SPRUCE CONE COLLECTION

Probably the most desirable tree for pulp production is the black spruce. This was realized by the Department of Lands and Forests when its Thunder Bay Nursery on Rosslyn Road became the first forest nursery in Ontario to produce planting stock of this species.

To grow the trees, seed is required. Black spruce seed has been very difficult to obtain in this area as crops of seed producing cones are not borne on the trees every year.

However, 1950 was a good crop year for the production of black spruce cones. The cones of the black spruce ripen during the late fall and early winter seasons.

During the late fall such cones were purchased from many school children at Geraldton. The boys and girls were taken by truck to the picking areas on Saturdays where they picked all day and returned to town before supper time. Such work required patience on the part of the children as these cones are only one half to one inch in length.

During the winter both the Great Lakes Paper Company Limited and the LongLac Pulp and Paper Company Limited of Longlac afforded valuable assistance to crews of men from the Department of Lands and Forests, which crews have brought from the cut-over areas the branches bearing the all-important cones. The cones have ben picked from the branches by the Department of Lands and Forests.

Within the next few weeks the seed will be extracted from the cones at the Department's Seed Plant at Angus, Ontario.



Improve the Baking

In Your Camp Cookhouse!

WRITE FOR SAMPLE AND RECIPES TODAY!

BEST YEAST LTD.

Liverpool, N. S. **Thorold, Ont.**

IT'S A FREE SERVICE

When it comes to baking, camp workers demand the best!

Your cooks will be able to give them the best, faster and easier, by using BEST DRY YEAST and following the simple, easy-to-bake recipes recommended by our own baking engineers, and approved by camp cooks everywhere!

For quick, easy and economical variety, plus the mouth-watering goodness that camp workers demand, keep your cooks well supplied with BEST DRY YEAST.

PACKED 12 TINS PER CASE



The Chemical Composition of Wood

By JAMES W. PURDY

To the lumberman a piece of wood is a solid substance which he can fashion into lumber or timbers. His interest in it is confined to its physical condition or properties. To the pulp manufacturer, however, and particularly to the producer of chemical pulps, wood is the basic chemical raw material which he is to convert from its original condition into pulp or paper. His interest in it is divided between its physical properties, such as density, freedom from decay, etc., and its chemical composition.

The three main chemical components of wood are cellulose, the hemicelluloses and lignin, which make up about 99% of every piece of wood. The average analysi of most woods would be approximately

Cellulose	55%
Hemicelluloses	15%
Lignin	29%
Other Material	1%

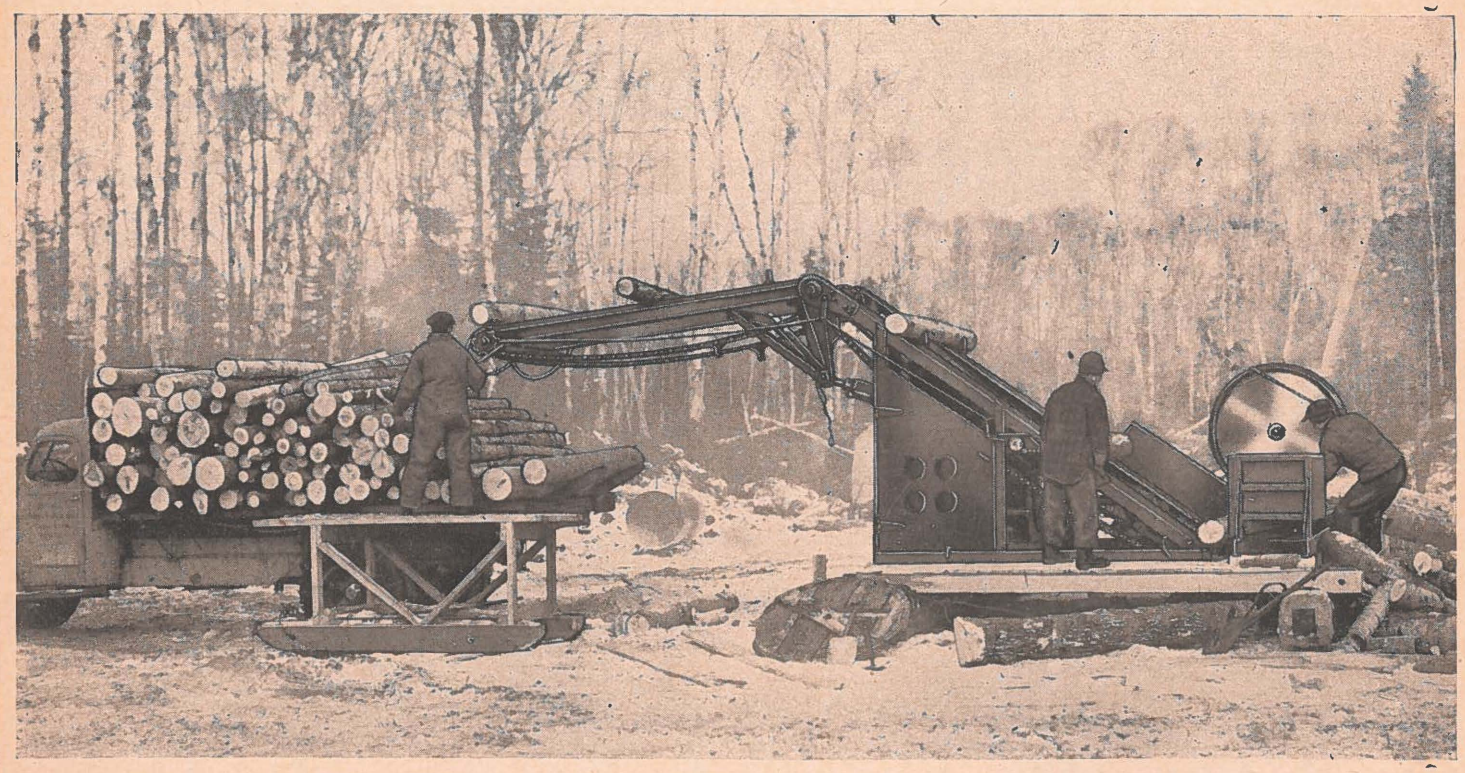
Cellulose is the principal component of all wood and pulp. It is a white, fibrous substance, insoluble in water and with a high tensile strength. In the production of chemical pulps chemicals are employed which remove the impurities, that is the lignin, hemicelluloses and other materials, from the wood, leaving the cellulos relatively untouched. The severity of the chemical action determines the purity of the remaining cellulose. By treating the wood lightly, an impure cellulose may be prepared by the sulphite (acid) process for use in newsprint manufacture or by the kraft or sulphate (alkaline) process for use in the manufacture of boxes and other containers. By treating the wood severely by the sulphite process, a very pure cellulose may be produced suitable for use in the manufacture of plastics, explosives or rayon.

Lignin, with few exceptions, is second only to cellulose as the principal constituent of wood. It makes up the largest part of the substance which surrounds the cellulose fibres and binds or cements them together. Lignin is the principal material which appears with the cellulose as impurities in the finished pulp. At the present time there is not commercial use for the vast quantitie of lignin being continually separated from cellulose in the manufacture of pulp.

The hemicelluloses are of two general classes, those closely related to cellulose, and those similar to lignin, but the distinction between them is not sharply marked. These compounds are in some respects closely related to sugars, for the sugars found in waste liquor from the

(Continued on Page 26)

THE NORTHERN ENGINEERING & SUPPLY COMPANY LIMITED
FORT WILLIAM - ONTARIO - CANADA



MODEL HS 2000 1948

NESCO

U.S. PATENT—41135-6 CANADIAN PATENT APPLIED FOR

TREE-LENGTH SLASHER AND LOADER

Nesco Equipment Ensures — Economical, Speedy, Continuous Operation

Technical Foresters

By C. J. CAMPBELL, Master in Foresty,
Lakehead Technical Institute

In the past, articles have been written describing the Technical Forestry course given at Lakehead Technical Institute, its training syllabus and methods of training. It occurred to me that something should be published in the Log Book outlining the value of a new graduate to a company.

The graduates are young men who throughout their course and during their undergraduate training in industry, have become acquainted with the forest and forest activities. They are men who have chosen forestry work as a career and therefore are very interested in receiving promotions. Because a Technical Forestry Diploma means that the man has proven general ability, has a fundamental understanding of basic forest technique and an aptitude for forestry work, he has just cause to anticipate promotion.

To-day industry requires men who have a broad knowledge of operations and who are capable of specializing in some particular phase of work. Our graduates have acquired this broad knowledge in many ways.

In order to obtain an understanding of logging operations and its many ramifications, the Technical Forester has administered his own operating camp, has cut and hauled pulpwood, loaded pulpwood onto trucks, toured company operations, received lectures on logging methods from industry's specialists and from the Forestry Staff at the Institute. To illustrate the broad scope of this training I am going to outline briefly the studies that were made on two field utilization trips which the students made November 6-12, 1950, and February 18-25.

At Valora, Ontario, as guests of the Great Lakes Pulp & Paper Company the students examined thoroughly an eight foot pulpwood cut layout; the construction, layout and means of assembling portable haul-road preparation on swamp sites; construction and working principals of swing-boom jammers; construction of semi-trailer units; a central steam heat system, and many other things of importance and interest.

While touring the Ontario-Minnesota Pulp Paper Company limits, these men studied a tractor-sloop operation on an eight foot pulpwood cut and on a tree length operation; a slash in operation; sectional camp construction and layout; central steam heating system and a central hot air heating system.

On Dryden Paper Company limits, the students examined the layout for a bulldozed-strip operation; road construction; camp construction and layout; wood storage on lakes; and toured the kraft mill.

The field trip from February 18th - 25th was hampered somewhat by the February thaw that took place during that period. However, Second Year students visited the Newaygo Timber Company limits at Mead Ontario, and observed the hauling methods in use there. From Mead they proceeded to the Marathon Paper Mills of Canada camps at Stevens and Caramat where tree length yarding and slashing operations were studied.

(Continued on Page 9)

Now! TWO MORE COMPLETELY NEW
ALLIS-CHALMERS TRACTORS
New Power Rating! New Strength! New Design Simplicity!

HD 9
WEIGHT: 18,500 LBS.
70 DRAWBAR H.P.
G.M. 4-71 DIESEL ENGINE
SPEEDS: 6 FORWARD TO 5.68 M.P.H.
3 REVERSE TO 4.57 M.P.H.

HD 15
WEIGHT: 27,500 LBS.
102 DRAWBAR H.P.
G.M. 6-71 DIESEL ENGINE
SPEEDS: 6 FORWARD TO 5.80 M.P.H.
3 REVERSE TO 4.57 M.P.H.

GET THE FULL STORY FROM YOUR ALLIS-CHALMERS DEALER

Vulcan Machinery & Equipment Ltd.

Head Office
171 SUTHERLAND AVE.
WINNIPEG, MAN.

SALES — SERVICE

Branch Office
725 N. MAY ST.
FORT WILLIAM, ONT.

DIAL 5-7345

COCHRANE'S

FREE DELIVERY

Gliddens Quality Paints and Varnishes
C.C.M. Bicycles and Joycycles
General Electric Refrigerators and Ranges

COCHRANE HARDWARE (PORT ARTHUR) LIMITED

(WHOLESALE and RETAIL HARDWARE)
11 SOUTH CUMBERLAND STREET PORT ARTHUR, ONTARIO

TECHNICAL FORESTERS

(Continued from Page 8)

The Marathon Company took the students by air over the operations to observe the general lay out.

From there the students moved to the LongLac Pulp & Paper Company's operation at LongLac where bundle skidding operations of cord lots were observed as well as cutting operations for railroad ties and pit props at a semi-permanent sawmill there.

With a little experience, graduates will be competent cruisers. Their training and experience in this phase of Forestry work for the most part has taken place in the field both at the Institute Forest and with operating companies during the summer months. To ensure that the Technical Forester has a complete understanding and a full appreciation of timber estimating, the field work is supported by lectures given by specialists from industry and the Institute Staff.

Lecture and laboratory work in Silviculture, Descriptive Dendrology, Wood Technology, Elementary Forestry, Fire Protection, and supporting academic subjects is designed to round out the graduates' understanding of forestry matters and increase his resourcefullness.

Each of the six second year students was successfu at the Department of Lands and Forests' scaling course.

Undoubtedly a man with this broad education in Forestry will be of great value to a company once he has gained the necessary experience.

The Technical Forestry course at Lakehead Technical Institute is available to men now employed in woods work who are interested in improving their position by acquiring further technical knowledge. To enter the course an applicant must possess a secondary school diploma; however, those men who have had experience in forestry work and display aptitude for higher education should be encouraged to submit applications for consideration.

On behalf of Dr. Bartley I would like to take this opportunity to thank the member companies of the Thunder Bay Timber Operators' Association for contributing the many necessities which made it possible to conduct a field camp this past fall.

—o—

A nation's standard of living roughly parallels its consumptions of pulp and paper. Each day every person in the United States uses almost one pound of paper, which is much more than is used in any other country. With yearly production about 30% that of steel by weight, the size of the industry is impressive.

IN THE DAZE OF PAUL BUNYAN— KING OF THE LUMBERJACKS

(TM Reg. Pat. Office)



Copyright 1948 Clyde G. Yeadon

THIS WAS THE YEAR THAT THE RAIN CAME UP FROM CHINA. PAUL BUNYAN'S CREW WAS AWARE OF THIS FACT, BECAUSE IT WASHED UP MANY CHINESE. MOST OF THEM LIKED THE WATER SO WELL, THEY DECIDED TO GO INTO THE LAUNDRY BUSINESS.

This booklet is printed on "Thrift-Coat Enamel" manufactured at Provincial Paper Limited, Port Arthur Mill, Ontario, out of wood produced in Northwestern Ontario and printed by the Consolidated Press, 137 South May Street, Fort William, Ontario.

RESULTS OF RESEARCH ON BRAKES

(The following article, in the form of a letter, was received from John J. Low, Chief Engineer, Kay-Brunner Steel Products Inc., Alhambra, California, in answer to a letter from THE TRUCK LOGGER.)

You are asking for information that is subject to a great deal of argument as in the trucking industry the use that brakes are put to, is so diversified that there has been no set procedure come up with so far.

It is very apparent that with the loads and speeds that trucks are operated today, any brake that can be installed within the allotted space provided, will be inadequate under some conditions and we have found that the largest diameter and widest brake face are desirable as naturally this will give the maximum braking effort.

Unfortunately the brake drums are entirely surrounded by the tire rims in most installations and maximum ventilation must be provided to allow sufficient air passage to carry off the heat generated by the friction of the brakes which in many cases will be equal to five to six times the horsepower of the motor converted into heat units.

In heavy airplanes with drums 21½ inches in diameter there is generated as high as 15,500,000 ft. lbs. or 470 horsepower in kinetic energy, and these brakes are used for a very short period only, but require a great deal of servicing.

We have brake drums with a braking face 10 inches wide in operation today which are apparently satisfactory under most trucking conditions and the only difference between a large diameter and narrow brake shoe and small diameter and wide brake shoe with equal braking surface will be that the small diameter would have a lower friction speed but would also have a shorter leverage over the same tire consequently less braking effect.

Using a 11.00 x 22 tire and travelling 60 miles per hour an 18-inch brake will have a friction surface speed of 2232 feet per minute where a 16-inch brake will have only 1977 feet per minute. However, the brake lever ratio is nine to one on the 18-inch brake against eight to one on the 16-inch brake, and the ratio of brake to ground contact of the tire is 2.34 to one on the 18-inch brake against 2.63 to one on the 16-inch brake. Therefore, the conditions under which these brakes would operate would largely govern the choice.

The usual practice is to install as large a brake drum as possible, leaving an air space between the tire rim and the brake drum of approximately one inch, also making sure that there is a free passage of air through the wheel.

ENGINEERS, MECHANICS

Re-printed on this page is an article on "Results of Research on Brakes." This article resulted from a letter to manufacturers of brakes asking certain questions. With all the varied types of machinery and equipment in use in our woods to-day there are other questions which some of you would like to ask and have answered by the manufacturers.

If you have any questions on changes or why certain things are so on any mechanical equipment that is in use in the woods to-day, the Log Book will be pleased to write the manufacturer and get a reply which will be published in future issues of the Log Book.

Please send your enquiries to:

THE LOG BOOK,
Room 3, Woolworth Block,
PORT ARTHUR, ONTARIO

In regard to the length of brake shoes we have found that shoes that cover approximately two-thirds of the brake drum surface apparently give the best service as one-third of the drum surface being exposed to the air gives better cooling and a very reasonable brake block life. However, the less brake block surface used the shorter the life will be under most severe service and we are largely governed by customer demand.

GET RICH AT 50c A SHOT

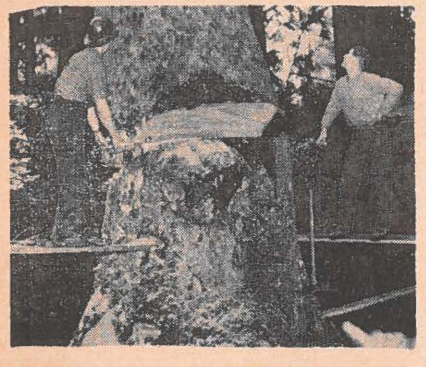
A somewhat amusing bit of advice has been printed hither and yon around the country for several years and it may be time for us to offer it to you.

If you must drink, hand your wife $18 and tell her to buy a gallon of whiskey. Let her be your bartender. Buy all your drinks from her at fifty cents a drink.

You know there are 96 drinks in a gallon of whiskey, so at 50 cents a drink, she'll have $48 by the time you finish your first gallon. That will give her $30 to put in the bank and $18 to buy another gallon of whiskey.

If you live ten years . . . and continue to buy all your booze from your wife, she'll have enough money to educate your children, buy a house and car, give you a respectable burial, and marry a decent man after you die with little green snakes before your eyes.

They Come Down Easier with a



PM WOODBOSS Redhead



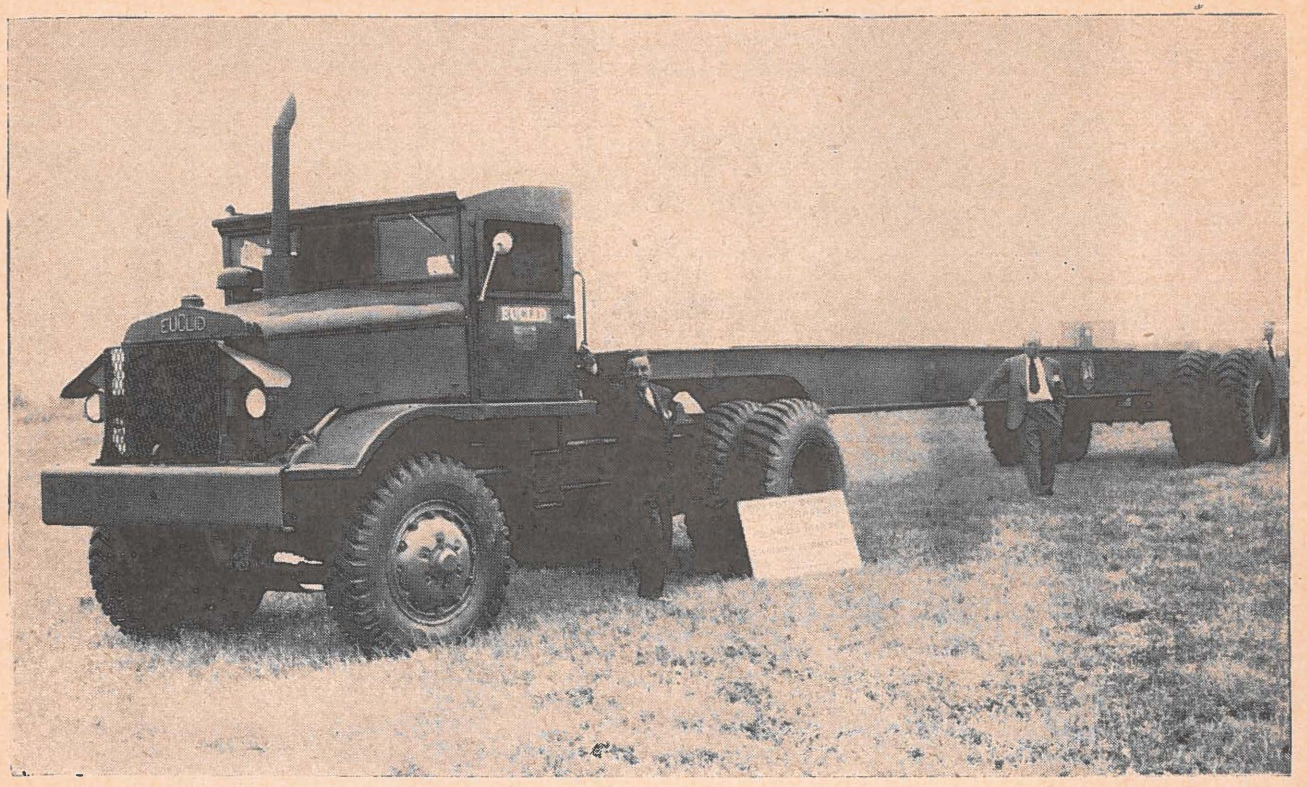
POWERFUL — EFFICIENT — LIGHT
for ONE- or TWO-MAN OPERATION

More power per pound than any other power chain saw on the market. The 5 B.H.P. motor provides ample power to drive cutter bars up to 48". Parts and service are readily available at Service Depots maintained near all larger woods operations.

For Demonstration, Sales or Service, Contact

P. M. PRODUCTS (1947) LTD.

278 Bay St., PORT ARTHUR, ONT. or HEARST, ONT.
Other P.M. Offices and Distributors across Canada



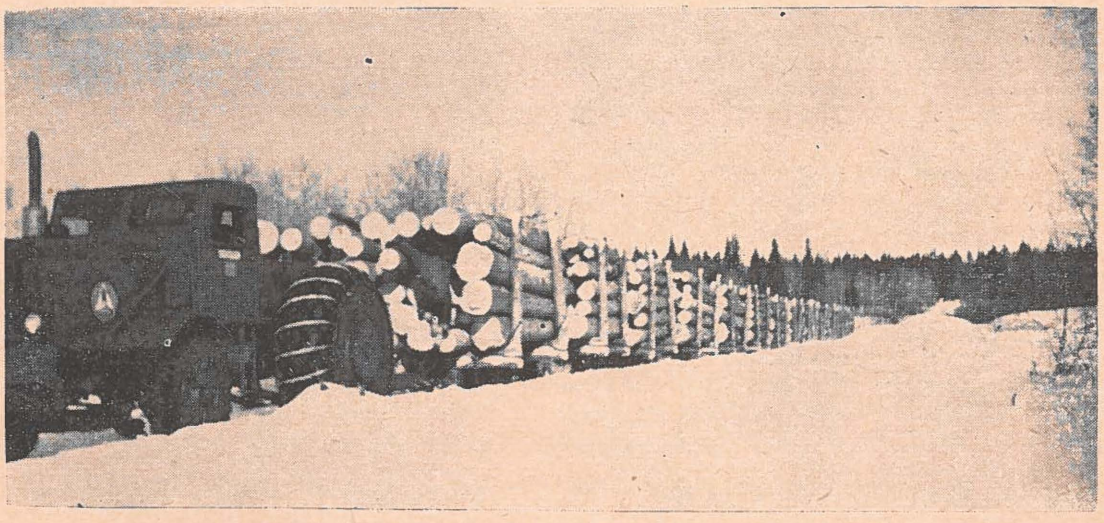
This unit owned and operated by Canadian International Paper Company (Opawica Division)

Modern Logging Has Created a Heavy Demand for EUCLIDS

Tractor and trailer shown used to haul 20 cord loads of 12' pulpwood 15 miles at AVERAGE loaded speed of 20 M.P.H.

What ever off-the-highway hauling there is to be done, there's a specially designed EUCLID to do it. Enquire today about the EUCLIDS line.

TRACTOR — 190 H.P. Deisel Engine, speeds — 2 M.P.H. to 27 M.P.H., Weight - 19,600 lbs.
TRAILER — Length - 41', Capacity Pulpwood 20 cords, Weight - no load - 16,000 lbs.



Pictures taken on The Pas Lumber Co. operation at Reserve, Saskatchewan, where this Euclid Tractor again proved its ability to go out and produce against terrific odds and elements.

G. H. GODSALL EQUIPMENT CO. LTD.

TORONTO
213 BAY STREET

PORT ARTHUR
TEL. 5-6753

MONTREAL
PORT ARTHUR, ONTARIO

There's NO TIME Like the Present

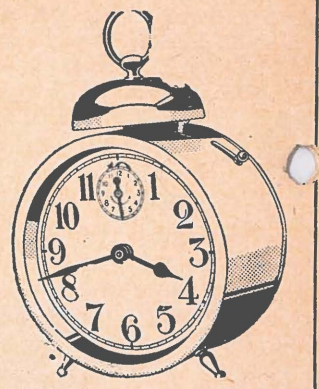
PHONE
WRITE
OR WIRE
NOW!

To place your orders — large or small with a firm that the Lakeheads Leading Industries have found give them the service they want.

Act now. — Place your orders with

MARSHALL-WELLS

CANADA'S LARGEST HARDWARE DISTRIBUTORS



Coming! Coming! Coming!
1951 FIRE SEASON

Before looking into the coming attraction (?) and going into the details of what you, and you, and you, must do to prevent forest fires and to keep those that do start down to a mimimum acreage, it is best perhaps to review the past season.

On the opposite page are printed some statistics covering the Western and Mid-Western Regions of the Department of Lands and Forests and also showing the total picture for the Province of Ontario. The portion of Ontario that the majority of readers of the Log Book are vitally interested in covers the Western and Mid-Western Regions and it is interesting to note that **out** of the 168 fires that occurred in those areas, only 5 were attributed to logging operations. Of these 5 fires, 4 were attributed to employees disobeying the forest fire regulations and being careless.

For the past number of years, operators have been carrying on an intensive campaing to enlist the support of every employee and make everyone on woods operations particularly careful about starting fires. In addition to stressing forest fire prevention, fire fighting instruction has been given and other training carried out. The Department of Lands and Forests staff has ably assisted the operators' efforts by assisting in the training and other practical instruction.

While the weather must be given a large portion of the credit for the low forest fire experience in 1950 the fact that there were fewer fires caused by woods operations and/or woods employees as well as the smaller acreage burnt, would indicate that the co-operative actions of the Department of Lands and Forests staffs and the operators' personnel has been well worthwhile.

The burnt area was considerably smaller than in previous years. Only two fires burnt over 100 acres. The largest fire was on private land owned by a timber company and was started by a sub-contractor for the Hydro Electric Power Commission burning slash without taking the necessary precautions.

At the Annual Meeting of the Thunder Bay Timber Operators' Association held in January, three recommendations were passed to the Department.

(1) In addition to the Spring Meetings called annually by either the Regional or District Foresters, it is recommended that Fall Meetings also be held after the fire season is over so that the fire seaosn just passed may be reviewed while still fresh in the minds of all concerned.

(2) Competent instructors to teach forest fire fighting techniques and tactics are needed. It is believed that such instructors should be made available by the Department and it is recommended that steps be taken to train such instructors.

(3) There was considerable interest in the experiments with the helicopter undertaken by the Department of Lands and Forests. It is recommended that study be continued in the use of helicopters in forest fire fighting and that, if possible, one or more be used in Northwestern Ontario this year.

In preparation for the coming fire season, personnel from all companies will be meeting at the call of the Regional or District Foresters throughout Northwestern Ontario in the near future. Our good work of the past few years must be continued and must be increased. With the probability that there will be more summer work going on in the woods this year than in previous years, our efforts must be re-doubled. Fire prevention, training, organization of fire crews and plans of action for every camp must be made. In order to help this Association will issue a special Fire Issue of the Log Book early in May. Our aims in 1950 are still in effect to-day. They are

No Fires Started by Company Employees.
A Fire Fighting Plan For Each Area.
All Employees Organized Into Fire Crews.
Quick Action To Put Out Fires.

LAST YEAR'S [1950] SCORE!

FIRES BY THE MONTH

Month	MIDWESTERN REGION Port Arthur No.	Geraldton No.	Total	WESTERN REGION Kenora No.	Sioux Lookout No.	Fort Frances No.	Total	Total Ontario
April	—	—	—	—	—	—	—	17
May	21	12	33	17	4	—	21	457
June	8	1	9	6	—	2	8	105
July	6	1	7	4	2	—	6	91
August	10	2	12	24	26	4	54	171
September	1	—	1	7	8	—	15	91
October	—	—	—	1	—	1	2	50
November	—	—	—	—	—	—	—	3
	46	16	62	59	40	7	106	985

FIRES BY ORIGIN

Settlers	7	—	7	5	1	1	7	107
Campers	17	—	17	22	14	1	37	256
Logging	1	1	2	1	2	—	3	29
Road Const.	3	2	5	1	—	—	1	47
Mining	—	—	—	—	1	—	1	3
Smokers	4	1	5	5	9	—	14	258
Railways	5	9	14	10	—	1	11	99
Lightning	5	—	5	12	12	4	28	93
Prospectors	—	—	—	—	—	—	—	1
Incendiary	3	—	3	—	—	—	—	16
Miscellaneous	1	3	4	3	—	—	3	68
Unknown	—	—	—	—	1	—	1	8
TOTAL	46	16	62	59	40	7	106	985
In Comparison								
Total 1947 Fires	133	31	164	45	108	34	187	1,393
" 1948 "	133	62	195	173	183	61	417	2,036
" 1949 "	116	38	154	193	122	55	370	1,834

AREA BURNT — ACRES

In Comparison								
Area Burned 1947	6234	4461	10695	539	2233.8	26	2799	84,032
" " 1948	44379	17449	61828	8078	107033	12809	127920	1,017,389
" " 1949	9016.5	460.9	9477	6068	3039.9	3759	12867	60,065
" " 1950	1165¾	77.87	1243.62	236.16	179.04	1.13	416.33	36,780

MEANS OF FIRE DETECTION

Means	MIDWESTERN REGION Port Arthur No.	Geraldton No.	Total	WESTERN REGION Kenora No.	Sioux Lookout No.	Fort Frances No.	Total	
Rangers	6	2	8	1	6	1	8	93
Towers	10	3	13	29	12	3	44	352
Air Patrol	10	1	11	12	11	1	24	117
Public	20	10	30	17	11	2	30	423
	46	16	62	59	40	7	106	985

SAFETY GROUP RE-ELECTS OFFICERS

The Annual Meeting of the Ontario Pulp & Paper Makers' Safety Association, Northwestern Ontari (Woods) Branch was held in Port Arthur in January. Th meeting marked the first year of operation of this branch of the Safety Association and members re-elected the same executive for the year 1951.

Mr. H. P. Klinestiver, Vice President of Marathon Paper Mills Mills of Canada Limited, was re-electec Honourary President. Mr. John Currie, of the Grea Lakes Paper Company Limited, was re-elected Chairmar and Mr. Ken Eoll, of the Marathon Paper Mills of Canada Limited, was re-elected Secretary.

In his Annual Report, Mr. Currie reported the December 1st, 1949, to November 30th, 1950, membe companies in the Northwestern Branch experienced a total of 1,760 accident claims, four of these involving fatal injuries. In 975 cases compensation was paid to the employees with 785 minor medical aid cases. This number of accidents occurred during exposure of 1,559,008 man-days. In referring to the type of accidents, it was pointed out that 246 employees were injured in the handling of logs, 209 sustained injury from axe wounds, 134 injured through slips, trips and falls. These constituted the vast bulk of accident claims. Mr. Currie suggested that by concentrating all efforts on the prevention of accidents in these categories, it might be able to make a substantial reduction in the number of accident claims.

Mr. Currie pointed out that at the meetings during the past year, a considerable amount of time had been taken up in discussing various phases of accident prevention work. The companies had cheerfully accepted the expense of salaries and other incidentals for these meetings. Mr. Currie stressed the point that he believed the time had come when practical steps should be taken even though mistakes may be made in an effort to cut down the number of accidents.

Mr. J. Cantin, Safety Director of the Quebec North Shore Paper Co., who is stationed at Baie Comeau, Quebec, and Mr. R. Thew of the Steep Rock Iron Ore Mining Company and Mr. T. McLelland, Foreman, Camp 21 of the Great Lakes Paper Company Limited presented papers which are reported elsewhere in this booklet.

—o—

CAMP FOREMAN ADDRESSES SAFETY MEETING

Mr. T. McLelland, Foreman, Camp 21, Great Lakes Paper Company Limited, Black Sturgeon Area, addressed the meeting giving the views of a Camp Foreman on the Safety Program of a Company.

In his opinion, Mr. McLelland stated, the best way to combat accidents is to provide good tools, let Handymen hang axes if the men cannot do it properly, supervise carefully the condition of the tools, make sure saws are kept filed, watch all equipment for defects and trouble, **BUT,** most important of all, **is for the foreman to talk personally to all his men about safety, giving each man individual attention and discuss accidents in the recreation hall with the whole group from time to time.**

Safety

There Is No Humo
These Are Se

READ

EXCERPTS FROM ADDRESS BY J. CANTIN, QUEBEC NORTH SHORE PAPER COMPANY

Gentlemen:

"Accident Prevention, probably more so than any other educational endeavours, calls for continuous repetition. This is why, at the kind invitation of your Chairman, I have come all the way from Baie Comeau, on the North Shore of the St. Lawrence River, to repeat here what I am sure all of you have often heard . . .

"I can best speak on what goes on in my own neck of the woods and therefore will talk of what we do in Quebec as regards Accident Prevention — not with the intent of bragging and showing off — but with the sincere hope that some of the things I will say may be of some use to you in your efforts to prevent accidents on your operations . . .

"My time is limited and it is just as well that it be so because once I get going, there's no telling when I would stop. Can we ever stop talking in this line of business? Are we not the fellows whose job it is to step on the other guy's toes whenever he steps out of line, tries to break his fool neck and that of his co-workers and would blow up the whole shebang if we did not holler — STOP! Why, the things some of us have seen done by supposedly sane persons would shame a monkey out of his skin . . .

"We have always believed that one of the most important phases of our Accident Prevention programme was First-Aid in the camps and for years, we have arranged to have first-aid classes held each Spring for a whole month to which classes we send our bush clerks, foremen, superintendents, truck drivers, tractor drivers, etc. We have found that a good first-aid course, such as the St. John's Ambulance, makes our key men excellent accident prevention propagandists, besides the fact that they have quite often been responsible for saving a man's life because they knew what to do in an emergency. Last Spring 150 of our men took the course in lots of 30 to 35 per class. The course lasted one week with classes held twice a day, the morning being used for theory and the afternoon for actual practice. These courses are given on Company time and we are satisfied that they have paid us to date large dividends.

"Incentive for the promotion of any safety work or Accident Prevention program must generate from management, but the working out of details is usually left to the Safety Director, inspectors, superintendents, foremen, and those who have men under them. Safety work does not develop successfully without some form of initiative and control. There must be continuity in presentation, its value and effort. Much harm is done by starting a safety organization and then letting it drop,

News

ır on These Pages
ious Articles
THEM

even gradually, and it must be kept alive and active through variety of approach, endorsement of its principles and continuous appeal. Every day, additional foresighted businessmen are becoming convinced that they must make an organized effort to prevent accidents to their workers and this conviction has been much more accentuated these last few years in view of the ever-increasing cost of accidents.

"We try on our operations to keep our employees happy and contented by giving them good camps, good food, good pay — and we try to break camp life monotony by giving them once in a while, a good motion picture program. I believe that our workmen are feeling more secure in knowing that in every camp we have one or two and sometimes three good first-aiders who will know what to do if an accident should happen to any of the workers or if any of them should be taken seriously ill. We believe that these workmen come to work for us not just for their health but because they must work to earn their living and that of their family. We believe that we have a moral obligation towards them and that we should make their place of employment as safe as it is possible to make it so. Knowing as we do that as human beings we are not perfect, we realize that our workmen are bound to forget simple rules made for their safety and their welfare and therefore, to keep before them our programme on Accident Prevention we have monthly contests of all sorts for good accident record . . .

"Yes, Acident Prevention is definitely an educational endeavour and the more you will talk about it, the better the results will be . . ."

Thank You!

SAFETY

Act with it.
Fail not to use it.
Encourage it.
Tell others about it.
You may save a life by it — even your own.

An informed employee is the best employee.

A good safety program, like any other project, requires planning, thinking through and following through.

Notice in a paper mill: "Safety starts between the ears."

Good Industrial Housekeeping means a safer, a better, a more satisfying place in which to work.

"Accident Psychology"

By R. THEW,
Steep Rock Iron Ore Mining Company

In a very complete address on "Accident Psychology" particularly as it applies to the Steep Rock Iron Ore Mines, Mr. Thew covered the subjects of Knowledge, Observation, Co-operation, Consideration and Attitude.

Re-printed below are extracts from Mr. Thew's address:

It has never seemed possible to me to isolate Safety as an individual phase of operations. Into whichever direction one attemps to head, in order to accomplish, one is pulled or restrained by the binding links of management. Each is part of a chain.

The chain is the tool of management. Each link is inevitably bound together and is vital to management's avowed purpose — survival by free enterprise.

Production, efficiency, cost consciousness, safety, training and relations are all in affinity. Each link is forged with the same tools and **materials.** Their strength is the strength of the chain itself. Substitute for steel, heat and acid, the materials of knowledge, observation, co-operation, consideration and attitude; fashion these materials with the tool of skilled application and the links are unbreakable . . .

Winston Churchill, back in the last war said, "Give us the tools and we'll finish the job." Our tool is the skill of **application.** Let us see what we have done to apply knowledge — not ours alone — but everybody's — the knowledge between right and wrong, the know-how of the job. Let's see too, how observant; how we co-operate, how others co-operate; what consideration we give to others; how we try to get people to be considerate towards others; and lastly, the most important of all — yet the weakest material in our links — our attitude, everybody's attitude — how it can be changed, improved, encouraged, in order to make us all do a better job of living . . .

(Continued on Page 16)

QUICK CANADIAN QUIZ

Answers

1. John Cabot.
2. Into Hudson Bay and the Arctic Ocean.
3. 383 Miles.
4. Fishing and Furtrading.
5. An Algonquin Indian word, means "Eaters of raw flesh."
6. The Partridge.

Now that you have checked the answers and found that you knew them all the time, turn this page right-side up so that you can read the SAFETY ARTICLES.

SAFETY CANNOT BE PRACTISED upside down. It's not just for cutters and haulers — All Supervisory Staff must set an example.

PREACH SAFETY — BE AN EXAMPLE
BE RIGHT-SIDE UP

Welding Requirements from Stock

DOMINION OXYGEN CO.: Acetylene and Oxygen Gases, Welding Rods and Accessories

LINCOLN ELECTRIC CO.: Arc Welders and Electrodes

NORTHLAND MACHINERY SUPPLY CO. LTD.

203 HARDISTY ST. **FORT WILLIAM, ONT.** **Phone 3-7407**

"ACCIDENT PSYCHOLOGY"

(Continued from Page 15)

Accident statistics, unless they are used to help remove rauses, have a limited value. Invariably they become a thorn in the side. If they are good, the thorn hurts that much more when it is removed . . .

And now, let us consider the material of Knowledge. How have we used this material? Have we used it **sufficiently?**

Let's consider the know-how of a job for instance, and here I'm going to combine training towards safety consciousness at Steep Rock prior to 1948 was First Aid Training. This has, of course, been continued and accelerated. One out of every 12 persons on the payroll now holds a St. John Certificate . . .

The use of National Safety Council films in conjunction with the course was introduced beneficially However, what I have seen of the new St. John films, leads me to believe that they are a big improvement and far more suitable for St. John training when used witl the new book . . .

To foster interest in First Aid Training, Mr. Fotheringham, our President, has donated a trophy for annual competition. July 1st will be our field day. Right now we have 52 persons registered in Steep Rock and Atikokan for the current course — among them many new people. After this course, the competing teams will be coached individually in preparation for the competition. Since First Aid training is the pre-requisite for a safety-minded person, we cannot afford to let up one whit on this phase. Our objective is 100% exposure to First Aid Training.

Parallel with First Aid went the JIT course. Here we started off with top management to pave the way down the line. Something in the course sold itself sut ficiently to top management to warrant action. To date 82 persons — 45 staff and 37 other employees including the Union executive — have been released off the job to take 5 two-hour sessions. During the period of this concerted JIT effort, we found the best means of job analysis, so in a moment we will look at one specific application of the course; in other words, where on-the-jcb observation has its affinity to knowledge. It was from these job analyses that we found the right and wrong way of dong a job, of recognizing hazards . . .

A very evident failure of ours has been lack of follow-up on the course itself. When we have concentrated on one department, we have ignored another. Certain reasons justify this only in part. While the records point to the greatest need for training, we are justified in concentrating on that particular problem. At least, so long as the department concerned is receptive to the idea. Fortunately, those with whom we have deal: have always been receptive, sharing their knowledge and their time. While we have that happy position, one is disinclined to stick one's neck out in the direction of another department where the reception might not be so good, or where the record does not show us that action should be taken, though we know it may be building up towards trouble. Consequently, we ignore it to a certain extent, telling ourselves we are justified in doing so because of other work. Our failure, therefore, is that we are doing only **curative** work and not **preventive** work. We don't anticipate the problem as much as we try to produce a solution after the accident has occurred. Ir other words, hindsight knowledge is being allowed to govern our actions . . .

The significant point to me about the whole thing was that right on the job we had the knowledge to prevent accidents. We had fully observant people. What was lacked was application or the initiative to do something about it . . .

Perhaps Elliott Hubbard's "Message to Garcia" **should** be part of our training creed for supervisors. You remember, McKinley gave the letter to Rowan. Rowar took the letter and did not ask "Where is he at?" You remember Hubbard wrote — "It is not book-larning' young men need, nor instruction about this and that, but a stiffening of the vertebrae which will cause them to be loyal to a trust, to act promptly, concentrate their energies; do the thing — "Carry the message to Garcia." It is perhaps our responsibility, as much as anyone's, to help them understand this "Message to Garcia" . . .

Are we satisfied? Well, we still have a certain amount of non-co-operation both sides of the fence. There are still people who lock away their safety conscience inconveniently. There are those, too, who fail to co-operate for lack of appreciation of its value. Possibly those same people would deny they lack that appreciation. But occasions arise when one is hesitant to follow up on some unsafe condition **for fear of** pointing a finger at some employee — possibly a member of the Safety Committee — lest he suffer. This in spite of the guarantee of non-discrimination against people in such activities. My own personal view is, and I hope it is shared by others, that too much is expected of the line supervisor of today. Too many personal problems, too much responsibility without the authority to act, too much expected knowledge on too many phases, too many recognized management functions, are the overweight carried by the line supervisor with too little time, t little self-training to counterbalance the load . . .

(Continued on Page 17)

"ACCIDENT PSYCHOLOGY"

(Continued from Page 16)

Whatever this superman is expected to do in his daily work, one hears the reoccurring complaints — or reads it — that not enough people talk safety to all their men. Some companies have tried the idea of insisting that all supervisors talk to at least one or two men per shift. Records are kept of this. This individual approach instead of group work appeals to me. I'll tell you more about it when we come to attitude . . .

Perhaps Fred Matthew Young, who started working in a sawmill at 12 years of age, and later founded the Young Radiator Co., expresses best the creed which foremen should remember about their co-workers — "The work of the hand and the skill of the intellect may in part be engaged for hire, but the last full measure is a voluntary response from the heart." It applies equally, of course, to management in **its** attitude towards everybody on the payroll . . .

One thing we do, however — and we think it is important — is to try to create a pre-employment safety awareness in our inductees. We attempt to make it a **personal** appeal — pointing up the hazards to the man himself, to his fellow employees, to the company, and to outline briefly what we are doing to remove or minimize these hazards . . .

We attempt, also, to create job-pride in the man by giving him an outline of our Company's activities to-date, and of the plans for development to come . . .

———o———

A Canadian chemist says that kissing began when the cave man sought salt. He found he could get salt by licking his neighbor's cheek. He found it was enjoyable when the neighbor was of the opposite sex. Then he forgot all about salt.

———

A successful man is usually an average man who either had a chance, or took a chance.

———

The pen is mightier than the sword but is the typewriter a match for the Atom Bomb.

———

A smart girl is one who quits playing ball after she has made a good catch.

———

It takes 3,000 bolts to hold a motor car together and only one nut to scatter it all over the rountryside.

———

There is no such thing as a 'fool-proof' machine.



"JOE BEAVER" By Ed Nofziger



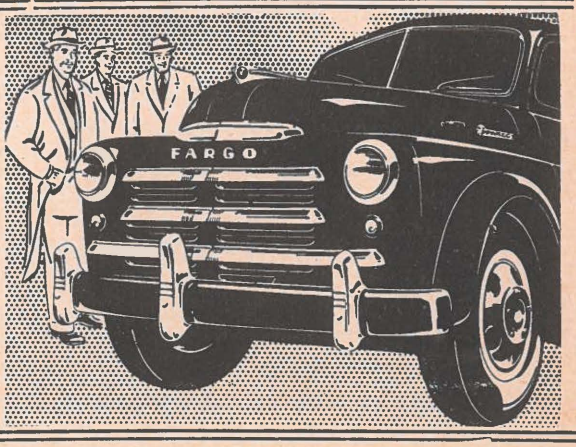
Forest Service, U. S. Department of Agriculture

"Look! He's got two new teeth! Cross-cut, of course!"

LAKEHEAD MOTORS LTD.
Port Arthur, Ont. Phone 56581

Distributors for
THE FAMOUS FARGO TRUCKS
FARGO POWER WAGONS
BOMBARDIER SNOWMOBILES — CHRYSLER MARINE ENGINES
CHRYSLER INDUSTRIAL ENGINES
Prompt replacement parts service

RUSSELL MOTORS
Fort William, Ont. Phone 37421



You . . .

Should Read This!

GETTING ALONG

Sooner or later, a man, if he is wise, discovers that life is a mixture of good days and bad, victory and defeat, give and take. He learns that it doesn't pay to be a sensitive soul; that he should let some things go over his head like water off a duck's back.

He learns that he who loses his temper usually loses out. He learns that all men have burnt toast for breakfast now and then, and that he shouldn't take the other fellow's grouch too seriously. He learns that carrying a chip on his shoulder is the easiest way to get into a fight, and the quickest way to become unpopular is to carry tales and gossip about others.

He learns that buck-passing always turns out to be a boomerang, and that it never pays. He comes to realize that the school could run along "fairy well" without him. He learns that it doesn't matter so much who gets the credit so long as the job gets done.

He learns that people are human and that it doesn't do any harm to smile and say "Good Morning," even if it is raining. He learns that most of the other fellows are as ambitious as he is, that they have brains that are as good or better, and that, hard work and not cleverness is the secret of success. He learns to sympathize with the youngster "coming on the job" because he remembers how bewildered he was when he first started out.

He learns not to worry when he makes a blunder because experience has shown him that if he always gives his best, his average will break pretty well. He learns that no man ever got to first base alone, and that it is only through co-operative effort that we move on to better things. He learns that bosses are not monsters, trying to get the last ounce of work out of him for the least amount of pay, but that they are usually fine men who have succeeded through hard work.

He learns that folks are not any harder to get along with in one place than another, and that the "getting along" depends about ninety-nine percent upon his own behaviour. — Anon, Midwest Paper News.

———o———

CHAIN SAW MAINTENANCE — TRAINING SUBJECT

The Manpower Committee on Safety and Training of the Northeast Pulpwood Research Center and the American Pulpwood Association Northeastern Technical Committee, unanimously voted chain saw maintenance as the No. 1 training subject for 1951 Spring training sessions in the New England States.

An American Pulpwood Association Training Manual release states that much of the inefficiency of chain saws in pulpwood production is due to:

1) improper filing
2) lack of efficient filing equipment.

A Chain Saw Vise and Jointer Gauge is described with sketches in the release.

RANDOM LINES

By George Mills

Written at Heron Bay Wharf

The old bell buoy in his endless grief
Grumbles away on the outer reef.
The green range light across the bay
Fades and dies with the dawning day.
Grey ghostly gulls with their eerie cry,
Wheel and swoop from the misty sky.
The hawser creaks in the chock's worn groove,
The loose line end on the spar above
With a mournful morse, just taps and taps
To vie with each little wave that laps
On the old tramp's plates unceasingly
With a sad age-long monotony.
The clash and clang from the loading chutes
The crunch and scrape of caulk-filled boots,
Corded muscles and picaroon,
Harmonizing in a toiling tune
Of muscles and men and moving wood.
And over it all the magnitude
Of a greater scheme of the things that are
Expressed in the light of sun and star,
Of tawny rock and of moaning surf,
Of scanty pillows of greening turf,
Of scudding clouds and of greening tree.
Oh I'll thank the Lord, if in years to be
These sights and sounds will return to me
In the warp and woof of my memory.

———o———

PLANNING AND CONSTRUCTION OF PERMANENT ROADS ON LONGLAC PULP AND PAPER COMPANY LTD. LIMITS

(Continued from Page 4)

of-way is cut. These are cut 16 feet wide to allow a bulldozer or dragline to operate efficiently.

Upon completion of the cutting of the right-of-way full scale construction commences.

1) Stumps and other materials are bulldozed to either side of the road leaving the mineral soil exposed.
2) Ditching and grading follow closely behind the stumping operation. This is particularly important during winter construction, as the frost may penetrate so deeply in the freshly bulldozed soil as to make grading and ditching extremely expensive. Clayey soils, if not ditched and graded immediately may seriously impede progress during the summer months. Either an angleblade dozer or leaning-wheel grader is generally used for this operation.
3) Cuts and fills are brought to grade by means of tractor and scraper within their economical operating range.
4) Culverts are installed as construction progresses thereby eliminating the undue expense of "digging out" after the road has been shaped.
5) Once the road is shaped and dried, a primary application of gravel to the depth of three inches is applied. This is generally followed with a further application of three inches of gravel once the sub-grade has been consolidated.

This by no means covers all the ramifications of the planning and construction of permanent roads. It has been found, however, that by having these standard and rules to guide the progress of each phase of road development, a higher degree of efficiency may be obtained.

(One of a series of articles by members of the Northwestern Ontario Section, Canadian Institute of Forestry.)

PORTABLE SAWMILLS IN PORT ARTHUR - GERALDTON AREAS

The portable sawmill is a feature of the Lakehead and surrounding country. A recent survey by the Department of Lands and Forests indicates that within the Port Arthur and Geraldton Districts of that Department there are operating during the present season approximately one hundred and thirty-five such mills.

Within these two Districts the sawmill licenses issued show that there exists the greatest concentration of small sawmills in the entire Province.

Most of such sawmills are privately owned and such indicate a distinct trend of private enterprise. However, some of the portable mills do belong to companies which find it more practical under some conditions to remove the timber from the woods in the form of lumber rather than in the form of logs.

In addition to the portable mills there are approximately ten larger stationary sawmills.

In the Western region there are:

Sioux Lookout District — 12
Kenora " — 74
Fort Frances " — 129

Included in this total are approximately 12 larger stationary sawmills.

THE WORLD'S MOST PORTABLE SAWMILL

"Proven in the Woods"

§ SETS UP FOR SAWING IN 30 MINUTES

§ READY TO MOVE 15 MINUTES AFTER SAW STOPS

§ CAN BE TOWED BY TRUCK AT 45 M. P. H.



JACKSON LUMBER HARVESTER

A real aid to good Forestry practise, the Jackson Lumber Harvester makes selective cutting practical. A precision-built one-piece machine that requires no costly dismantling or reassembling. Only one skilled man is required. The sawyer rides the carriage and can see and control the entire operation and cut to higher yield per log, fewer mis-cuts. The Jackson Lumber Harvester manufactures accurate lumber at 5 man-hours per 1000 board feet. No slab or sawdust disposal expense. Costly loghauling virtually eliminated. Feature by feature, it actually excels mills costing 3 times as much — gives you bigger profits — the first new sawmill in 50 years!

Now used by large Lumber Companies, commercial operators, Farm-to-farm Custom Operators.

WRITE TODAY FOR FULL ILLUSTRATED LITERATURE

TIMBERLAND MACHINES LTD.

MECHANIZED LOGGING SPECIALISTS **WOODSTOCK, ONTARIO**

ONTARIO PAPER COMPANY BUCKSAWYERS COMPLETE CONTESTS

Bucksaw contests were held in all camps in the Ontario Paper Company (Heron Bay—Hemlo Area) and the finals for the Division were run off on January 21st, 1951. Ludovic Cyr again won the Division Championship.

Cyr won th Northwestern Ontario Championship in Fort William in 1949 and has competed in the last three National Championships held in conjunction with the Canadian Pulp & Paper Association Woodlands Section Meeting in Montreal.

The following is a list of the camp winners and their times:

Camp	Name	Time
11	F. Couture	15 sec.
25	L. Cyr	9 3/5 "
26	H. Dumas	12 "
44	A. Fortin	10 "
45	C. Pomerleau	10 "
46	A. McGraw	12 1/5 "
47	J. Roussell	15 2/5 "

FINALS:

Company champion, Ludovic Cyr, best time 8 2/5 seconds; 2nd place, Henri Dumas, best time 9 3/5 seconds; 3rd place, A. Fortin, best time 9 4/5 seconds.

Camp winners each won a red wool bench coat, trimmed with yellow at collar and cuffs and a company crest. These bench coats are the type used by the major hockey clubs for the players as they come off the ice.

Cyr won $50.00 cash and the trip to Montreal on March 28th - 29th, all expenses and salary paid to compete against other champions for the C. P. P. A. Woodlands Section prize of $100.00 cash and three different trophies.

Henri Dumas won the second prize of $25.00 and A. Fortin, third prize, received $10.00.

This is the third season that contests have been held in company camps and individual camp interest seemed much greater this year due to the fact the contests were well advertised, with the camp foremen, clerks and others taking part in organizing same.

ADVERTISERS' NEWS

A recent issue of the "Steelcraft News" publish by Russel-Hipwell Engines Limited, tells about the "hickey" boats. The News reports that "hickey" boats are only known on Manitoulin. No one seems to know how the name originated, but it is believed they were called a "heck-of-a-rig"! They were originally built of wood which usually lasted only about one season; now they are welded-steel and will last many years.

One main feature of the "hickey" boat is its ability to work in and out of booms in shallow water. It is 18 feet long with a draft of only 15 inches; closed "hull cooling" makes it independent of outside water for engine cooling. It can ferry as many as 10 men but usually works with a single operator. The power is a highspeed Jeep engine.

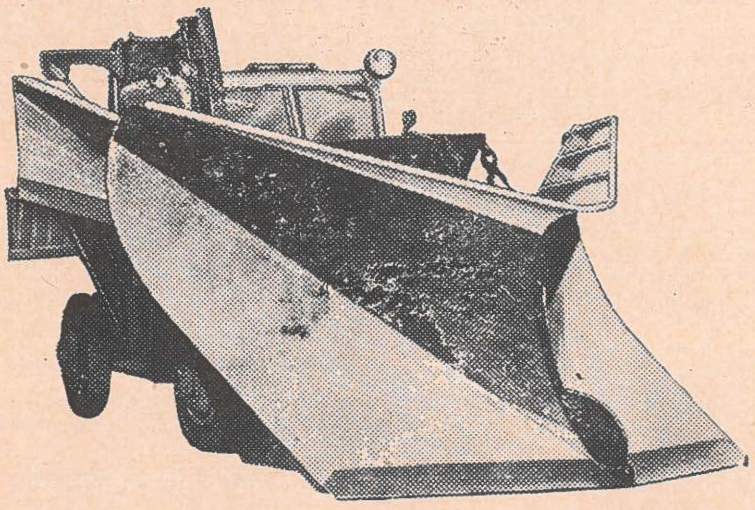
The Manitoulin Division of the Ontario Paper Company Limited operate three "hickeys" in conjunction with three tugs of various sizes.

The Vulcan Machinery & Equipment Limited announce that new Allis-Chalmers models HD - 15 and HD - 20 Tractors are now on display.

These are new models of Allis-Chalmers Tractors which, with the model HD - 9 completes the full line of new Allis-Chalmers crawler Tractors. These tractors are the ultimate in design, balance of power and weight, ease of operation and maintenance, accessibility for maintenance and adjustment, and economy of operation.

Also on display are HD-5B Tractors, HD-5G Tractor Shovel, and three models of Allis-Chalmers Motor Graders.

Need A Snow Plow for Next Winter?



Order a **FRINK** now from

TWIN CITY INDUSTRIAL EQUIPMENT LIMITED

Offices and Shops: 915 Memorial Avenue, Port Arthur, Ontario

PATRONIZE OUR ADVERTISERS

"Imagine- delicious milk ready anytime- as low as 55¢ a gallon!"

The ideal milk for camps

Have good-tasting milk on hand all the time for better camp meals by using . . .

TRUMILK, whole milk in handy powder form. Just add TRUMILK to water, mix, to have full-nourishment milk for drinking and cooking . . . at as low as 55c a gallon!

Not only is TRUMILK economical to serve, it's also easy to store, for it keeps without refrigeration. Light to transport too . . . weighs ⅛ as much as fluid milk. TRUMILK is vacuum-packed (with perfect reseal to protect contents) in 50-lb. containers encased in wood.



Hand mixer at cost-$25.00!

Now camp cooks can mix TRUMILK in quantity with Borden's effort-saving hand mixer.

The mixer stores and dispenses as much as 5 gallons of reliquefied TRUMILK. It has cut-bronze gears for long wear, heavily tin-plated steel container, and a sanitary outlet.

To help camp operators use TRUMILK more economically, Borden's supply this mixer at cost—$25.00 plus freight. Measuring scoop and mixing charts supplied free.

Order TRUMILK, and Borden's new powdered milk mixer from your nearest distributor. 2½ gal. mixer specially priced at $19.00, plus freight.



THE BORDEN COMPANY, LIMITED.

DRY MILK DEPARTMENT, Spadina Crescent, Toronto 4, Ontario.

THE BORDEN COMPANY, LIMITED, 407 McGill Street, Montreal, Quebec.

KIRKLAND & ROSE
130 Water Street,
Vancouver B.C.

McKENZIE, STEPHENSON LIMITED
345 Higgins Ave.,
Winnipeg, Manitoba.

A. H. BRADBURY
13 North Wharf
Saint John, N.B.

1950 AERIAL SKETCHING ACTIVITIES

By H. H. PARSONS, B.Sc.F.

The following analysis for the summer season of 1950 with respect to "Aerial Sketching" activities, will prove, I trust, of general interest to many of the subscribers to the popular Thunder Bay "Log Book" and will indicate the varied intensiveness of the different programmes completed by token of the spread in map scales requested.

The season's flying commenced May 29th in Quebec and terminated Oct. 24th north of Red Lake in Patricia; with the geese streaming southward for days, we evenually smartened up, turned about and followed the migration.

Some 264 hours of flying represented the season's aerial requirements, with some 7420 square miles, or 4,748,800 acres examined and mapped in various degrees of intensity.

The following table pretty well summarizes the season's work:

Scales Used	Areas Examined By Scales= Acres	Programmes Completed For	By Product	Bases Utilized
20 chains to the inch	947,200	77.9% of total acreage examined for Industry	640,000 acres completed for Pulp Concessionaires	Des Joachims (Point-Aux Pins) Little Vermilion Lake Orient Bay Gull Lake— Haliburton Huntsville Port Arthur Sioux Lookout Twin Lakes Red Lake
40 chains to the inch	25,600			
2 miles to the inch	960,000	22.1% of total acreage examined completed for Governmental Bodies	4,108,800 acres completed for sawlog operations	
4 miles to the inch	2,816,000			
Totals	4,748,800			

A possible better comparison might be indicated by the fact that 170 hours of the above aggregate of 264 hours flying, were concentrated on 947,200 acres, at the scale of 20 chains to the inch, representing roughly 1/5th of the gross area examined. In conjunction with a portion of the above, two survey crews were utilized for practically the entire summer, "ground sampling" for Management and Operating Plan requirements.

MEN MUST WORK

The Royal Bank of Canada Monthly Letter for January was in the form of a very interesting article entitled, "Men Must Work."

Space will not permit us to review this letter other than to quote the sub-headings of the various parts of the letter.

The sub-headings are:

(1) We Are Making the World.
(2) About Being Tired.
(3) We Exchange our Work.
(4) Wages.
(5) About Dignity.
(6) Who is the Producer?
(7) We Cannot Go Backward.
(8) Canada's Needs.
(9) Our Personal Prospects.

Copies of this letter are available from any branch of the Royal Bank of Canada.

Unemployment is increasing, especially above the ears of too many people.

A SPEEDY and EFFICIENT

PRINTING SERVICE

TO MEET THE EVER-INCREASING NEEDS OF THE LUMBERING AND PULPWOOD INDUSTRIES OF THE DISTRICT, WE HAVE INSTALLED FAST, MODERN EQUIPMENT, ENABLING US TO GIVE A BETTER PRODUCT QUICKER TO SAVE YOU TIME AND MONEY.

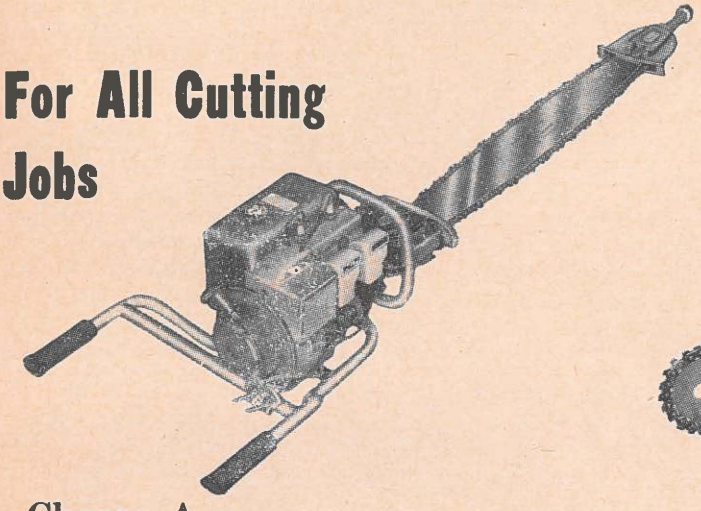
WRITE, PHONE OR WIRE

CONSOLIDATED PRESS

DIAL 3-8323 **137 SOUTH MAY STREET — FORT WILLIAM** **DIAL 3-8323**

Performance Is The Deciding Factor When You Buy a Power Chain Saw.

For All Cutting Jobs

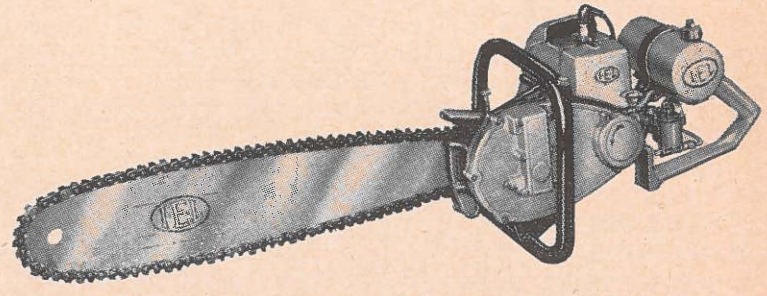


Choose A

51 SUPER TWIN

- EEZY - FEED ¾ Pitch Chain
- Increased Cooling Capacity
- Concentric Float Carburetor
- New Transmission
- Improved Oiler
- New Tailstock

For One-Man Operation



Choose a PIONEER

- Weighs Only 28 lbs.
- Fingerlight Clutch
- Filtered Fuel System
- Trigger Swivel Blade
- Supplied with Bar and Chain *14" — 18" — 24" — 30"*

See Them in Action - Try Them Yourself

You'll be convinced there isn't a saw to compare with the power-packed performance of the PIONEER and the SUPER TWIN — both made by Industrial Engineering Limited. The famous trade mark on every saw is your assurance of complete dependability, fast cutting action and all-round efficiency.

I·E·L Power CHAIN SAWS

Sold and Serviced by:

TWIN CITY INDUSTRIAL EQUIPMENT LTD.

915 MEMORIAL AVENUE — — — PORT ARTHUR, ONTARIO

Praise For Supervisors

(Excerpt from a radio broadcast by The Forest Industrial Relations Limited over Vancouver Stations recently. What the broadcaster says about supervisory personnel in the B.C. woods industry certainly applies to supervisory personnel in Northwestern Ontario.)

Before the last war, there used to be saying to the effect that the Sergeant-Major was the backbone of the British Army. I can even recall hearing a couple of sappers I knew mentioning the fact that there were a couple of backbones they'd like to break.

But seriously, there can be little doubt that the Sergeant-Major **was** and **is** the backbone of the British Army, especially in the peace time army, and the same thing applies to the Chief P.O.'s in the senior service and the Sergeant-Majors and W.O.'s in the Airforce. Thinking about this the other night, with one eye on these troubled times that face us, it occured to me that this condition applies to a very great extent to industry as a whole, as well as the armed services.

It has become the custom, especially after a company or an entire industry has made some particularly successful effort or achievement to heap accolades of praise upon the management of the industry — either as a whole, or one particular man — or else at the same time to praise the efforts of John Doe. John Doe, in such a case, epitomizes the average employee — the loyal and trusted worker who year in and year out gives his all to the best of his ability.

Now I would not for an instant take one iota of such praise away from either of these men — or the groups they represent. Wise and far-sighted management can and does contribute vastly to the growth and successful development of a company and an industry. The efforts of the employees of such a company or industry are equally important. One could not succeed without the other. Management and labour are inter-dependent, as I have pointed out many times before . . . and this is something that should be recognized by members of both groups. When either group decides that it is NOT dependent upon the other, then both will most surely suffer. When the **state** attempts to replace the function and the position of management we arrive at the evil conjunction already achieved by Soviet Russia . . . with the resulting complete limitation of the freedom and actions of the employees. It is perhaps the most remarkable mental error of our time that there should still be some amongst us who would have us believe that state usurpation of all the rights, privileges and practices of management will lead us to Utopia. It would lead us somewhere, alright, if it happened — but not to Utopia — unless you call complete subservience to the state Utopia.

However, in the few remaining free and democratic countries of the world, that is not likely to happen. Time and again Mr. Average Canadian goes to the polls and proves that he is satisfied not necessarily with the status quo, but with the opportunity for improving the status quo the present system permits. And there

As I recall it, there was a popular post-war gag in the U.S. which depicted a group of ex-G.I.'s getting together for a bull-session, and the chief topic of conversation was which one had had the touhest Sergeant in the army. But always it struck me that there was a deep undertone of pride in such an argument. And the same undertone of pride applies to the attitude of good employees working under good supervisory help.

think we have the most important clue to our possible economic survival — the fact that our system offers us the **freedom of opportunity** — and inherent in that is the opportunity to advance and improve. That is a freedom that could never exist under a totalitarian system — and which is being rapidly eliminated under the watered-down system of socialism being practised in England — or being **imposed** under the guise of free government hand-outs would probably be a better way of describing it.

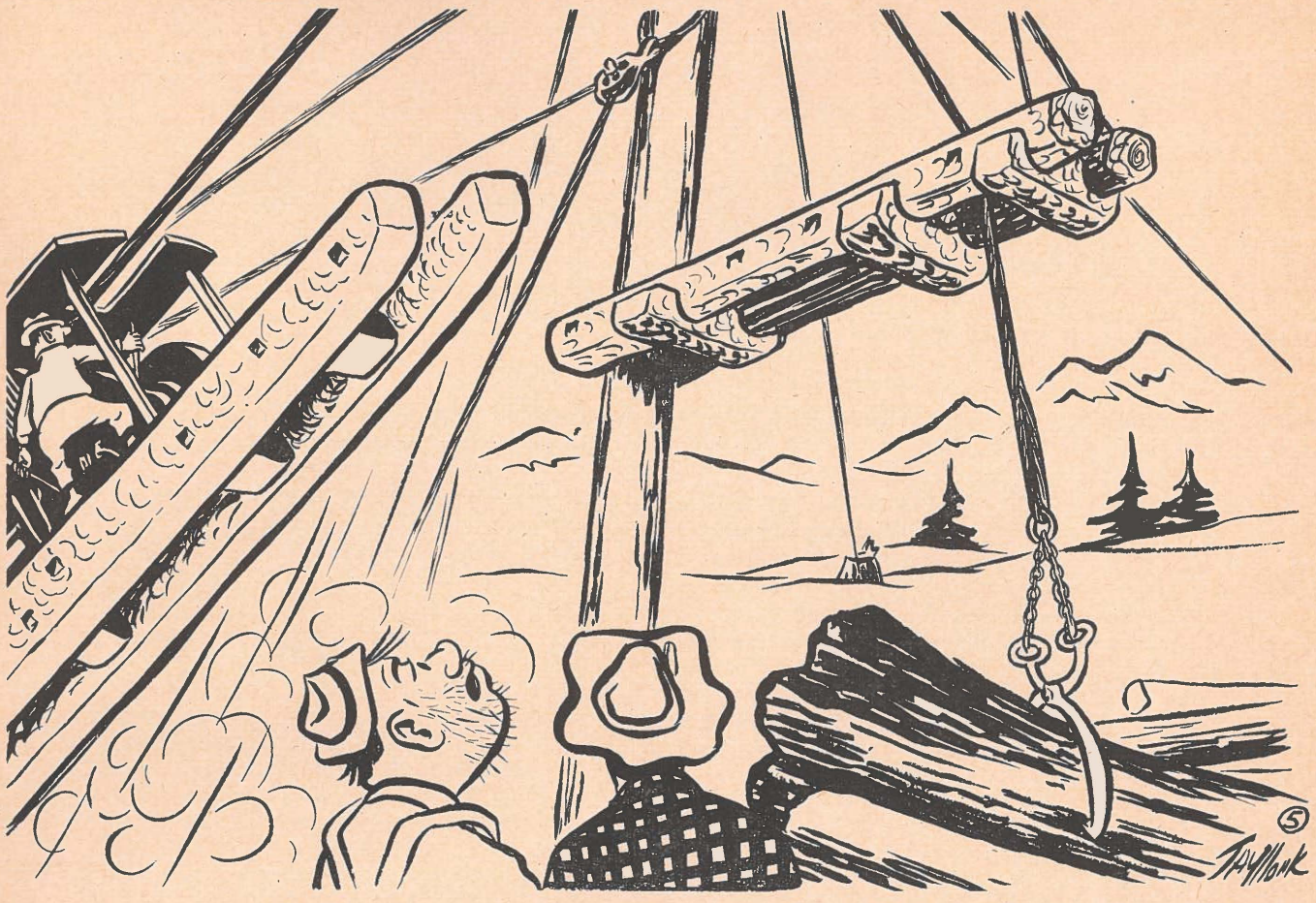
But so long as we enjoy that freedom of opportunity, and the fruits thereof, we should be fully aware of the part played by all those who preserve it. It is not my purpose tonight to praise simply the co-operation that exists between management and labour — and the individuals representative of each group. Instead I would like to say a few words about the Forgotten Men of Industry. The Forgotten Men of Industry. Who are they? Have you ever stopped to realize that such a group exists? Because it does. The Forgotten Men of Industry in this country are the supervisory employees . . . the foremen and supervisors who keep an operation running come hell or high water.

When they are handing out bouquets, either in the press, or on the radio, or at testimonial dinners, for a successful year's operation, it has always amazed me that no special mention is made of that group of men without whose unceasing efforts and energy, the operation would never have run at all . . . the **supervisory employees.**

You remember all the old gags we used to use in the armed services about the Sergeant-Major, or his equivalent — ranging from the bawdy to the wonderfully ludicrous song from England "Kiss Me Goodnight Sergeant-Major?" Well, to a large extent all the same sentiments may at various times be applied to the supervisory help by the rank and file employees — but I believe that underneath they realize, just as the Private in the army did, that without the Sergeant and the Sergeant-Major, they wouldn't be anywhere. There are certain conditions of work and employment which, although beyond the control of the supervisory help, hardly endear them to the employees — but nevertheless without them, there simply wouldn't be any jobs. Not for long, at any rate.

(Continued on Page 26)

READ THIS!



"Something's gotta give . . . . and it won't be those Wrights' Ropes!"

Wise operators — men who really know their ropes — choose Wrights' for ease in handling, greater resistance to bending fatigue and wear, economy of operation.

Manufactured to rigid factory specifications from top quality English steel, acid grade, Wrights' mining ropes are preformed with built-in lubrication. Available in all sizes and constructions. Call your nearest Wrights' representative today.

"Be right - buy Wrights'!"

STOCKS OF WIRE ROPE FOR IMMEDIATE SHIPMENT ARE CARRIED BY

BRITISH COLUMBIA:
Marshall-Wells Companies
Vancouver, New Westminster, Victoria, Prince George

SASKATCHEWAN:
W. F. Fuller Machinery Co., Ltd.
Regina

ALBERTA:
Wilkinson & McClean Ltd.
Edmonton, Calgary, Lethbridge

Lucey Export of Canada Ltd.
Edmonton, Calgary

MANITOBA:
Kipp-Kelly Ltd.
Winnipeg

NORTHWESTERN ONTARIO:
Twin City Industrial Eqpt. Ltd.
Port [illegible]

WRIGHTS'

Greenheart

CANADIAN ROPES LTD · VANCOUVER B·C·

"SERVING THE TIMBER OPERATORS OF NORTHWESTERN ONTARIO"

Merchants Distributors Limited

WHOLESALE

LUMBERMEN'S CLOTHING, BEDDING AND FOOTWEAR.

Fort William

GROCERIES, FRUITS & VEGETABLES, TOBACCO, ETC.

PRAISE FOR SUPERVISORS

(Continued from Page 24)

I doubt very much if the average citizen ever stops to realize to what extent we are indebted to supervisory employees for keeping things rolling during the war. And I think it might be a good time to stop and realize it now, before the same conditions apply. Take the lumber industry, for example. The depletion of man-power due to the requirements of the armed services and the war manufacturing industries left the lumber industry up a pole, literally as well as figuratively, so far as man-power was concerned. Yet the industry made a notable contribution to the war effort of the allied nations — for timber was a vital necessity in the war effort. And the men chiefly responsible for the success of that contribution in the face of severe shortages of man-power and other essentials were the supervisory employees — the foremen and the superintendents.

The push and the side-push have a long and honourable history in the B.C. Lumber Industry. You know, in the old days many years ago there was a special classification of men who used to hire out as "pace-setters." They were high-ball loggers who could set a choker or sling rigging faster than anyone else . . . and the rest of the crew had to follow them. This category has long since disappeared from the B.C. woods . . . but the push — the foreman who pushed the crew along and kept things going has remained. Not only has he remained, but he has become an ever increasingly important figure in our most important industry. For their past achievements — and for their future responsibilities my hat is off in tribute to the forgotten men of industry — the **supervisory help!**

THE CHEMICAL COMPOSITION OF WOOD

(Continued from Page 7)

sulphite process are derived in part from the hemicelluloses.

The other components of wood include resins and fats, tannin, coloring matter, traces of minerals and volatile substances such as turpentine. Although some woods contain sufficient turpentine to make recovery of it practical, generally speaking these substances have no commercial value. The resins and fats are retained in the pulp after the pulping process and frequently lead to serious problems in paper maufacture. Tannin and coloring matter are objectionable when a white pulp is desired.

(One of a series of articles by members of the Mid-West Branch, Technical Section, CPPA.)

FOREST CONSERVATION WEEK MAY 19 — 26

For the first time in the history of the nation, Canada will have a national drive this year to impress all citizens with the supreme importance of her forests. The drive will take place from May 19th to May 26th inclusive, and will be known as National FOREST CONSERVATION Week. The "Week"is sponsored by the Canadian Forestry Association, and its branches and affiliates in the various provinces.

Investigation by the national head office of the Canadian Forestry Association disclosed that four Canadian provinces held forestry weeks of one kind or another last year — all at different dates and all called by different names. Nevertheless, the weeks were quite successful as a means of putting forestry before great masses of people in a concentrated dose. All provinces agreed this year to join hands in a united effort.

Arrangements already concluded by Canadian Forestry Association (early March) include the running of a one minute forest fire prevention movie short in about 2,000 first run theatres across Canada. The first 200 theatres will be showing this film starting May 17th. The film is being shown as a public service through the courtesy of the Canadian Motion Picture Distributors Association.

Newspapers, magazines, and radio have all indicated their willingness to jump in and talk forestry during the period May 19th to 26th. John Fisher is dedicating one of his famous Sunday radio reports to forestry during FOREST CONSERVATION Week, and the CBC has assured the Canadian Forestry Association of its support.

The week will be featured also by parades in some provinces, or by special school programmes and tree planting bees.

Federal and Provincial departments concerned have indicated their desire to co-operate, as have professional and industrial organizations.

All those reading these lines are urged to initiate a programme of their own to tie in with and take advantage of Forest Conservation Week from May 19th to 26th.

Perhaps one reason that the dollar will not do as much for anyone as it used to do, is the fact, that no one will do as much for the dollar as he used to do.

In the good old days a man who was down to his last dollar at least knew where his next three meals were coming from.

WOODLANDS SECTION, C. P. P. A., DISTRIBUTING ATTRACTIVE POSTERS

It is not possible to reproduce the actual posters in this issue but one dealing with high stumps is reprinted to the right.

Descriptive wording of the other posters which are in colour are as follows:

(1) Do not fell trees into the undergrowth.

(2) Little trees like children are needed for the future — protect them.

(3) "I had bad luck. Tried seven camps. Worked hard, but had no one to show me how to work."
"Here I am with a good stake. I found out that it pays to be trained."

(4) "How do you cut so much wood?"
"I use my head to save my back. I know how to plan my work to do it right and keep my tools sharp."

(5) "I like cakes and pies."
"You can't work on cake. The Doctor says we should eat soup, meat, more vegetables and some milk and cheese."
"I feel sick."
"Sure, because you eat only pies and cakes."



THERE'S A NEW INTERNATIONAL

OF EVERY SIZE FOR EVERY PURPOSE

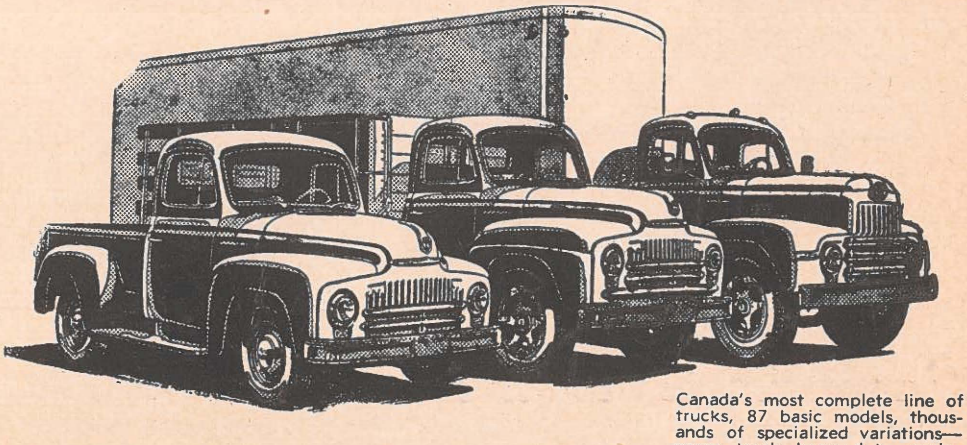
Construction Work

Mining and Lumbering Operations

Wherever the Work is Heaviest

Heavy-Duty Engineered

INTERNATIONAL TRUCKS



Canada's most complete line of trucks, 87 basic models, thousands of specialized variations—every truck heavy-duty engineered.

The All New 1950 INTERNATIONAL TRUCKS

ARE AVAILABLE NOW AT

S. J. HILL & SONS LTD.

Member of Canada's Largest Exclusive Truck Service Organization

ALSO DISTRIBUTORS FOR FRUEHAUF POLE, SEMI, LOGGING, VAN, AND CARRY-ALL TRAILERS

PORT ARTHUR
Red River Road — Phone 5-5488

FORT WILLIAM
North May at Cameron — Phone 3-6457

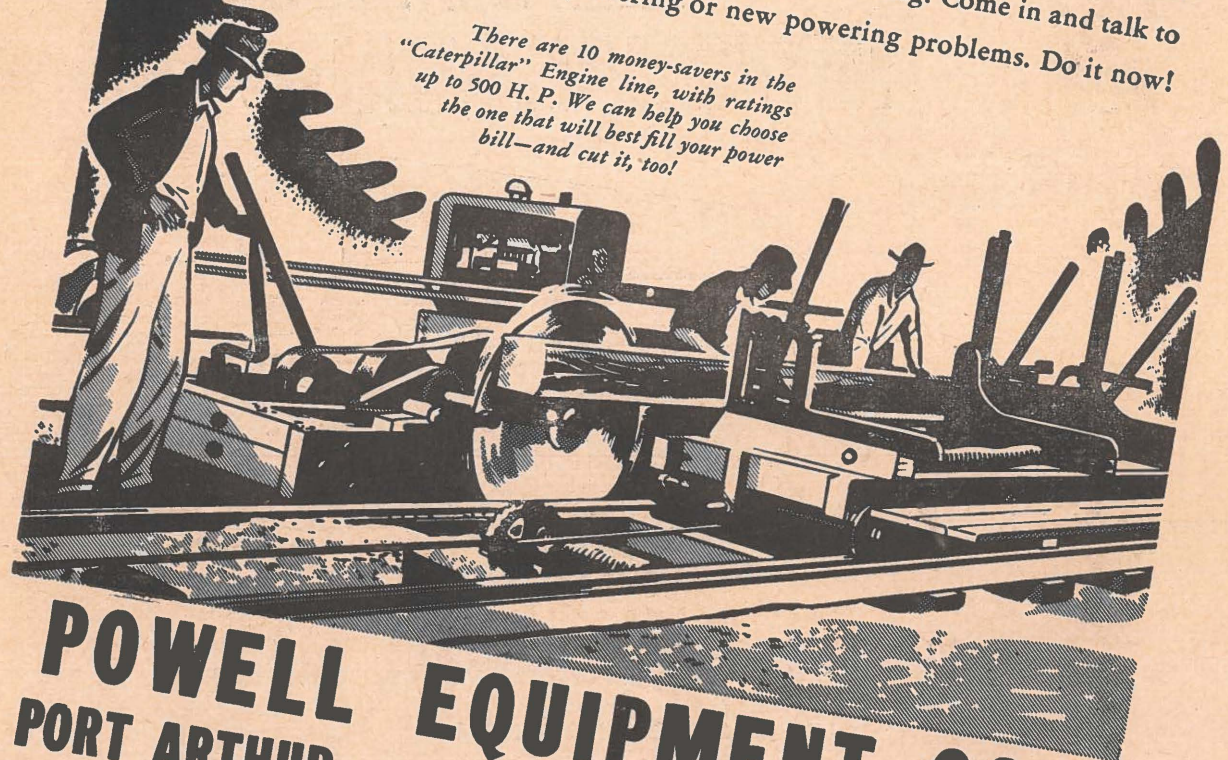
7 DAY LOAN

Sawing at a Saving . . . with "CATERPILLAR" Diesel Power!

Logs turn to profits with steady sawing power furnished by a long-lived "Cat" Diesel Engine.

Cold weather or hot, you can start up in the morning and know you can run a full day without a breakdown. "Cat" Engines convert small helpings of fuel into steady sawing power. "Cat" Diesels have an unequalled lugging ability to meet changeable saw bites—it's smooth sawing all the way through. And "Cat" Diesels keep their ability to saw full days . . . to cut fuel costs . . . to keep sawing steady for years and years. Veterans of 50—60—even 70 thousand hours are still piling up savings for their owners. Our sawmill power experts can put new savings in your sawing. Come in and talk to them about your repowering or new powering problems. Do it now!

There are 10 money-savers in the "Caterpillar" Engine line, with ratings up to 500 H. P. We can help you choose the one that will best fill your power bill—and cut it, too!



POWELL EQUIPMENT CO.

PORT ARTHUR **WINNIPEG**

"CATERPILLAR" Diesel Sawmill Engines