

thicker than a lead pen-

intriguing invention, I
 summer when guest of
 Northland Railway
 at Cobalt to inspect
 mines. Now each mine
 great quantities of com-
 to drive the drills.
 g air is expensive.
 years ago when Cobalt
 biggest silver camp in the
 Toronto engineer devel-
 e to produce air for
 fe took the principle of
 a sink. Have you ever
 w the water swirls
 e little screened drain
 k. It creates a suction
 the water down. Some-
 es down with a gurgie.
 Toronto engineer dam-
 Montreal River. Above
 here there is quite a
 e river. Under his dam
 wo cylinders with holes
 e a kitchen drain. Only
 ed to pipes which went
 wn. As the water from
 rled over these cylin-
 s sucked down and went
 ned on Page Seven)



An obvious atmosphere of conviviality is indicated by the above photo of several engineers partaking in the refreshments served at the Stag Party. The party was held last fall at the Alex Canteen. Left to right: Ray Power, John Burrows, Ross Wetmore, "Perk" Perkins, Bert Dunphy, Don Pyne, and Earl Morris.

A Report on

(continued from page three)

to such an extent that it is almost impossible to find the road, let alone to keep it open. The Haines Highway was constructed to bring supplies over to the Alaska Highway from the ocean during its construction, and is still used for this purpose.

From Haines Junction, following the Alaska Highway still to the north west, one comes to another high plateau, the Klauane Lake Region, and finally into the permafrost area around mile 1110.

At mile 1130 the highway spans the Donjek River by means of seven trestles. At the present time, the Army is constructing a seven span steel bridge. This bridge has been under construction for several years, and its completion is not expected for some years to come. Progress is slow because one of the purposes of the construction of this bridge is to give practical experience in bridge building to Army personnel. Also, because it is in the permafrost area many unprecedented holdups have occurred. When completed, the bridge will not only provide a better crossing of the Donjek River, but will have cut out several miles of bad, twisting highway.

It is well known that construction in permafrost areas is much more difficult than in ground which alternately freezes and thaws. In most places the permafrost is covered by an insulating muskeg. If this muskeg is removed, the ground under it thaws upon exposure to the sun, and the result is a soupy mud on which it is impossible to erect even the smallest building and expect it to last. There have been cases where tons of gravel have been placed on thawed permafrost and never seen again. To date, the most satisfactory method of construction on permafrost is to leave the muskeg, and build on it.

Between the Donjek River and the Alaska border the highway is almost entirely built on permafrost and is not as good a road as it was in the south. However, it is continually being maintained and repaired where necessary, and is always open to traffic.

The Alaska border is at mile 1221, and from here to Fairbanks the highway is maintained by the Alaska Road Commission. The quality of the road is much the same as on the Canadian end. It is interesting to note that in the summer of 1949, the Americans hard-topped a section of the highway in Alaska, which was still in good condition in the summer of 1950, having survived the severe winter and spring thaw without serious damage. It must be remembered however, that this paved section was almost wholly over flat country and it would not be an indication of the success of paving in Canada. The highway in Canada is in a much more mountainous region and there would be nothing to warrant the cost of paving. The unpaved road is excellent, and on a par with many paved roads elsewhere.

At the present time, the highway in Canada is maintained by the Canadian Army Engineers, and

comes under the name of the North West Highway System, with headquarters in Whitehorse. Under the Highway Maintenance Establishment, a sub-section of the Highway System, are about twenty maintenance camps spaced at intervals along the highway. In most cases civilians are employed here, and in charge of each camp is a camp foreman. It is the job of these camps to keep the highway in repair and open to traffic twelve months of the year. The road is continually being gravelled and graded during the summer months. In many places a decomposed granite is used for the wearing course, which produces an excellent surface. About the only fault with the road in summer is the dust.

During the winter months, snow removal is the major problem, and this job keeps the maintenance camps busy from October until April. In the winter, the snow on the highway in many places freezes to such a low temperature that many people say the driving is better than in the summer. Also, it is dust free.

The Army is continually improving the highway where possible, and trying to eliminate many bad curves and hills. It is quite possible that it is several miles shorter now than when the mileposts were first installed, but changing these would lead to such a state of confusion that it is more advantageous to leave them as is.

We have seen the route of the Alaska Highway, its quality, and some of its history. In closing, let us take a brief look at its possible future, and the meaning of this future to Canada.

There is really little point in mentioning the quantity of untouched resources in the north. Seismographic crews are sounding for oil all along the highway since it lies in the great petroleum belt that stretches from Texas to the Arctic. There are great quantities of pulpwood and water power going to waste. Mountains of copper, lead, coal, iron and other ores. There lies a fortune, greater than the gold found in the Klondike rush of '98, and the medium of discovery is the Alaska Highway. The Yukon is waiting for the day that the highway will undoubtedly bring its economic boom, and when this day comes, much of the credit for it should go to the Alaska Highway. The Alcan Pioneers, the men who built the road, put it this way:

"We lend you the road, we who made it, And bright may its victories burn."

Doctor: "Mrs. Brown, I have good news for you."
 Patient: "But my name is Miss Brown."

Doctor: "Well, Miss Brown, I have bad news for you."

Those who think our jokes are poor would straightaway change their views, could they compare the ones we print with the ones we could not use.

"I heard your brother went to Florida with his girl."
 "Yes he went south to Tampa with her."

Slide Rulers

(Continued from Page Six)

rushing through the pipes at tremendous pressure. The air in those pipes was compressed and later tapped. There is enough pressure to carry the air 12 miles in pipes and at the other end enough pressure to supply a dozen silver mines. A terrific invention which has saved the mining companies millions of dollars, and yet so few people know anything about it.

Today in Labrador they are building a railway. Someday they will turn the iron ore of this bleak land into iron and steel, and someday we will unknowingly touch it when it has become an automobile, a bridge, a typewriter, a fence, a combine, or even a needle. And even at this primary stage, before the tracks are down, the engineer almost to the ounce, can tell the amount of earth that must be moved, the rock that must be blasted. The unknowns have become known by the application of the slide rule.

The blueprint of modern civilization was drawn by the professional engineer. Too often we see him as a tough square jawed boss on the construction job. Too often we see him with chin etched against the setting sun or perched on the skeleton of a skyscraper. We forget that some engineers live by furnaces and beside tubes. There are civil, mechanical, forestry, electrical, metallurgical, mining, hydraulic, aeronautical and others—each in his own way contributing to society, each entitled to carry after his name the letters P. Eng. — Professional Engineer — just as a doctor has M.D., a nurse R.N., a lawyer K.C., a veterinarian D.V.M. — so when you see the letters P. Eng. after a man's name you will know that it stands for the professional engineer — the man behind the convenience — the unseen helpers. When we flick a switch, step on a starter, walk on a sidewalk, drive a car, pick up a phone, turn on a tap, pull open a drawer, listen to the radio, or even open a can, we are doing something made possible by the blueprint boys — the moulders of the modern ways.

No country stands to gain more from professional engineers than this, our own Canada. In a country of space, riches, power and position, tomorrow the slide rule boys will really paper the country with blueprints.

Mankind has known many rulers — groups of rulers, rulers for good and for bad, but never was there such a hopeful, peaceful and yet so influential a group as the "SLIDE RULERS".

Engineering . . .

(Continued from Page Two)

facilities by negotiation, between the provincial bodies. It has no legal status because under the B. N. A. Act, the practice of Engineering is a provincial matter, over which the Dominion Government has no control. A provincial association does not have to agree to any of its suggestions unless it sees fit to do so.

The Dominion Council meets annually and this year it meets in St. John, on 3rd, 4th, 5th of April. It is already planned that they will come to Fredericton as the guests of members of the New Brunswick Professional Association at one of its district meetings. This will be a dinner meeting at the Beaverbrook Hotel and to this meeting engineering students at the University will be invited — to the dinner, if they have the price — if not, to the after dinner meeting to hear the speakers.

I have spoken of the legal control of responsible engineering practice, but there are other associations which have no such legal requirements but are of great benefit to an engineer's career and contacts. In Canada the outstanding one is the Engineering Institute with headquarters in Montreal and branches in nearly all the Provinces. Then there is the American Institute of Electrical Engineers, with Canadian headquarters also in Montreal and branches in nearly all the large industrial centres of Canada. Membership in these is purely voluntary but they give fel-

lowship and a bond of friendship in the profession.

Co-ed: "I'll stand on my head or bust!"

Gym Instructor: "Never mind, just stand on your head."

Two (slightly oiled) Meds were walking home the other night and passed a window where the curtains had not been drawn.

1st Med: "That girl isn't exactly modest, is she?"

2nd Med: "No, but she certainly is retiring."

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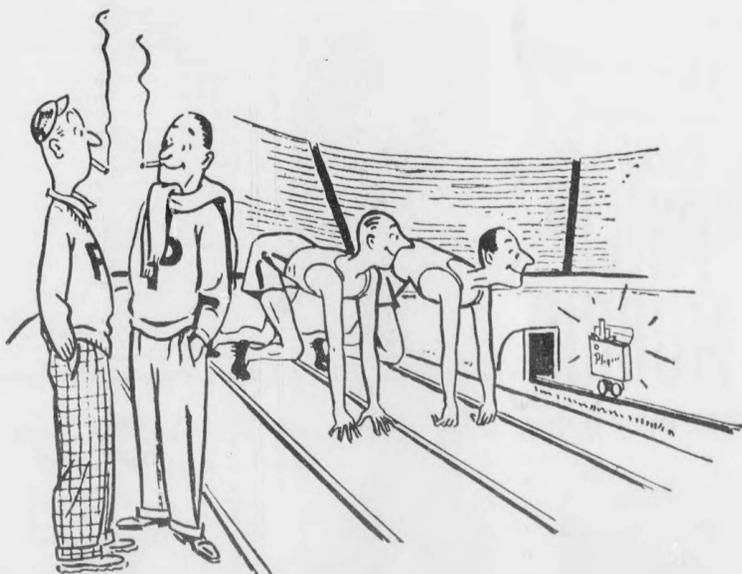


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