

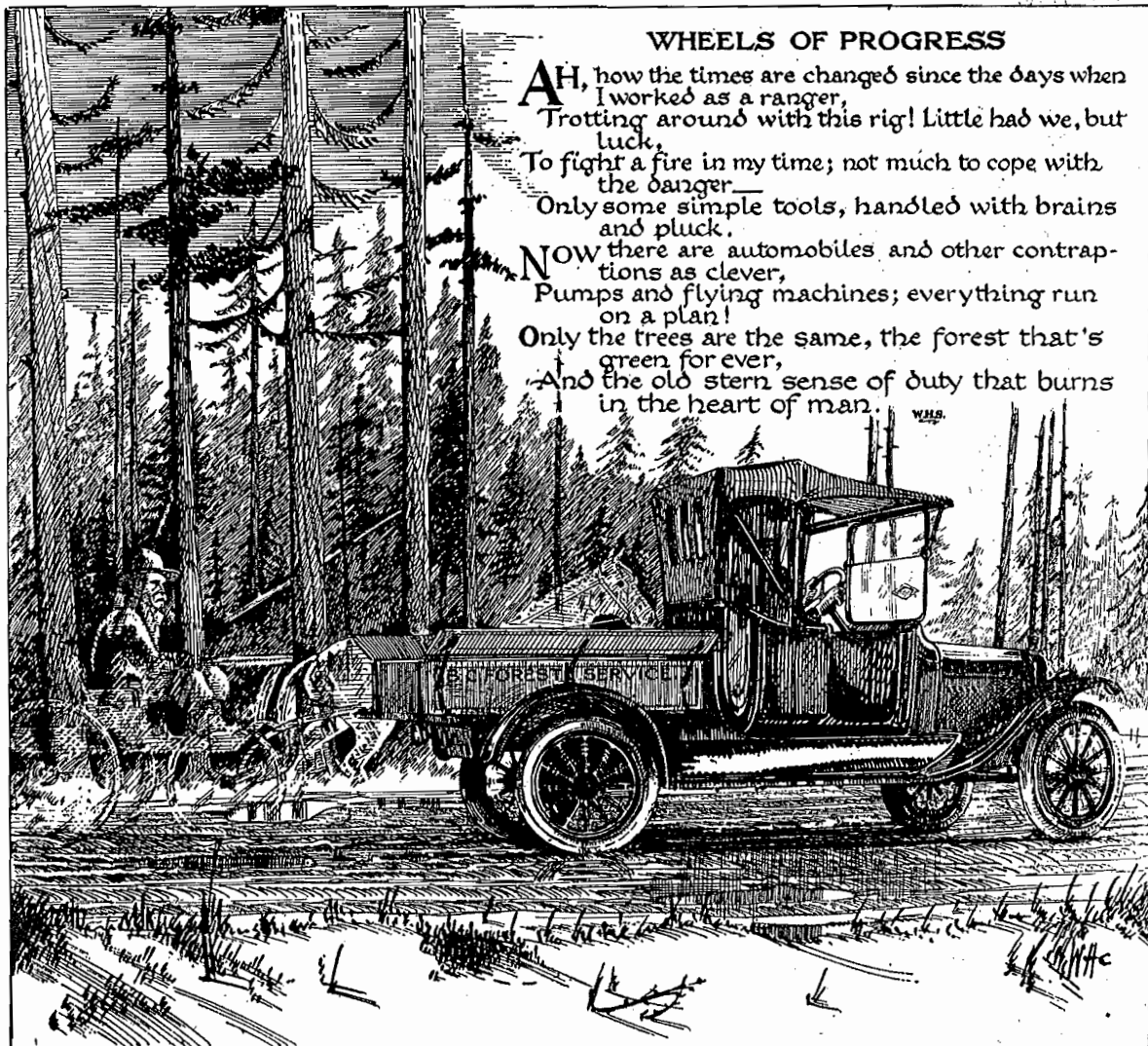
ROOT AND BRANCH

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WHEELS OF PROGRESS

AH, how the times are changed since the days when
I worked as a ranger,
Trotting around with this rig! Little had we, but
luck,
To fight a fire in my time; not much to cope with
the danger—
Only some simple tools, handled with brains
and pluck.
NOW there are automobiles and other contrap-
tions as clever,
Pumps and flying machines; everything run
on a plan!
Only the trees are the same, the forest that's
green for ever,
And the old stern sense of duty that burns
in the heart of man.

V. H. CURRIE

MAKING IT SAFE FOR POSTERITY.

"Minimum Requirements" has become almost a household word to the forestry and lumbering fraternities. It is possible, however, that the picture called up by these words may differ to each of us, as we see the future hazily through conservative or even pessimistic eyes, or through the rose-tinted glasses of optimism. It was an attempt to analyse my own impressions of what "Minimum Requirements" means that led to the writing of this article, which is given to "ROOT AND BRANCH" in the hope that it may aid you in painting your conception of this important subject.

"Minimum Requirements" surely means the minimum action towards insuring a supply of timber adequate for our needs. Many factors enter into the determination of our future needs but these can be discussed under two heads, namely -

Population,
Per capita Consumption.

Each of these subjects is well worthy of special analysis in much greater detail than is permitted here. However, a few of the main features will serve to illustrate, and the interested reader can follow the subject through other channels.

Canada, during the past forty years, has been closely paralleling the growth in the United States a hundred years ago. Census figures show -

<u>United States.</u>	<u>Canada.</u>
1790 ... 3,929,000	1891 ... 4,833,000
1800 ... 5,308,000	1901 ... 5,381,000
1810 ... 7,239,000	1911 ... 7,206,000
1820 ... 9,639,000	1921 ... 8,769,000

The United States grew close to 100 Million by the end of the century. Will the parallel continue? We have been handicapped in the last decade by the virtual cutting-off of immigrants due to the war. History shows, however, that there is always a flow of population from the more to the less crowded regions. From now on, it would seem that Canada should steadily increase at an even greater rate than did the United States, since we have not only the same but more crowded European sources to draw from, but also a population of 100 Million people immediately to the South, speaking the same language and holding the same ideals, many of whom will be seeking new homes and greater opportunities.

Sir L. Gouin says we will have 13,000,000 people in the next ten years. Sir John Willison, President of the Canadian

Colonization Association, states - "I believe that the next twentyfive years will see, not only the greatest expansion in the history of Canada, but the greatest in the history of the whole North American continent."

Griffith Taylor, of the University of Sidney, in his masterly article on 'Future Distribution of White Population' (Geographic Review, July, 1922), gives to America a population of 700 million people at point of satiation, of which 175 million is allocated to Canada, 78 million being west of the Great Lakes. He deduces further that, if the rate of growth shown by the United States continues, this point will be reached in 100 years. "If, however, the rate decreases to the average of the whole world, it would require two hundred and seventy years." It is obvious, however, that the rate will not slump suddenly, and that so far as Canada is concerned, until the vast spaces are somewhat filled up it will continue to be probably higher than the average for the United States.

Professor Raymond Pearl of John Hopkins University is in accord with Taylor. He, however, believes that the point of satiation will be reached in less than two centuries. It matters little whether we take the figures of Taylor, or the more conservative estimate, since we still must concede that there will be a vastly greater population depending on our woods before a new crop can be produced seventyfive to one hundred years hence; and that in all probability by that time some forty or fifty million people (Canadian people) will be drawing their supplies from British Columbia - and this will not include the foreign demand, which is ever increasing.

Neither can it be doubted that the point of satiation will be determined largely by the producing capacity of the soil; that long before the ultimate limit is reached, every acre of land will be closely analysed and allocated to the production of those products for which it is best suited.

The per capita consumption of wood products is equally important in determining our needs, and is equally difficult to ascertain. A study of the per capita consumption of various countries, where figures are available, shows a variation of from 3 cubic feet in India to 250 in the United States. This indicates that consumption depends on -

(a) General Development of the Country. Newly-developed or developing countries use larger quantities of wood than older countries.

(b) Rural vs Urban population. Rural people demand more wood than city dwellers.

(c) General Standard of Living. Reading demands largely-increased newsprint supplies, and this is reflected in the wood consumption.

(d) Relative value of coal and gas as compared with wood for fuel purposes.

Reviewing the above, we see that Canada will for the next century or two be a large wood consumer, and our needs will more nearly approach the past of the United States than those of Europe.

"But," says someone, "what of the Substitutes!" We do have to consider substitutes, but it remains a historic fact that, as substitutes have taken the place of wood for various uses, new uses have developed for wood, and it will only be our inability to supply wood that will allow the substitutes to reduce the per capita consumption to any material extent.

Shall we say, then, that seventyfive years hence Canada will have a population of thirty million people west of the Great Lakes, with a per capita consumption of half that of the United States, which is 250 cubic feet per annum? That would require three-and-three-quarter billion cubic feet per annum!

You can in a very short time figure out what this means in the industrial life of the country -- what it means in Forestry -- what area of Forest Land is necessary.

"Minimum Requirements" is the action necessary to insure the wood material to supply this demand. Visionary? Perhaps. It is hard to see into the future other than dimly, yet most of the great advances in civilization have had their inception in visions.

The present transportation system was the vision of James Watt, as he watched the steam puffing from the tea kettle. The telephone was the developed vision of Dr. Bell; Electric light that of Edison; the aeroplane that of Langley and Maxim.

In Forestry we must take the long time view -- and if we are to err, let us be on the right side.

P. Z. Caverhill.

(Our readers are reminded that our next Special Number is to be a CONSERVATION Number, for which the foregoing article furnishes a splendid lead. Please let us hear from you. Ed.)

MECHANICAL IMPROVEMENTS.

In the year 1917, it was decided that the expense of keeping a number of men, horses and rigs on the ground was cheaper to the Department than a smaller number and faster means of transportation, with its greater initial cost, upkeep and depreciation, such as would be the case if light cars were used. But against the cost involved was balanced something that cannot always be measured in terms of money, i.e., greater efficiency; efficiency in being able to patrol a greater area of country in a given time by a given staff; efficiency in being able to get to a fire, once it was seen or reported; and efficiency in the greater centralisation by having a smaller number of men, who could thus be hand-picked. These were the fundamental ideas which led to the adoption of the light car.

If we examine the reasons in detail, we find that they are all off-set on paper by the fact that since 1917 our fire costs have mounted steadily, although we had in 1921 fifty rangers and 214 Assistant Rangers and Patrolmen against 29 rangers and 126 Assistant Rangers and Patrolmen in 1917 - or an increase of 58 and 73 per cent. respectively. The rise in the cost of fire patrols and improvements has been 44 per cent. over 1917. Therefore, on paper, the force has increased ahead of cost, whereas the reverse should be the case - for a greater patrol force should mean a reduced fire cost. Against this, the number of fires increased from 986 in 1917 to 1332 in 1921, or an increase of 74 per cent., and in 1922, 224 per cent.

I could extend these figures to cover acreage burned, average cost per fire, average acreage burned per fire, and so on, but this would not really lead us to any definite conclusion, inasmuch as we would have to take into consideration the rainfall for the Fire Season, the wind velocity, lightning storms, increase in cost of materials, etc.

Where is all this leading? Simply to a way of stating that whatever the cause may be for the increased cost of maintaining a Forest Protection organisation, the fact remains that the cost has increased much faster than our revenue. And this is a fact that there is no gainsaying.

I think that, taking into consideration the mileage run by our cars, which amounts to 271,000 this fire season (or an average for the season of 5,320 miles per car), there seems to be a big loop-hole for leakage of our finances.

Some of the cars have been run ragged, some mileage costs are little better than disgraceful, although I must add to this that in but one or two cases have the permanent staff

been the offenders. This being so, upon the Ranging staff to a very great extent will devolve the duty of insisting that the temporary men do not take undue advantage of the fact that, for a period, they have cars in their possession, to run up bills which they themselves would hesitate to pay were the cars their own, and to prevent or report undue risks taken, or accidents that happen through carelessness or recklessness. For it is quite certain that only by this means can an effective check be exercised over undue rise in maintenance costs, which the tax payers of the Province must pay for.

It must always be borne in mind, too, that as already pointed out the costs as they appear on paper have a very marked influence on the estimates; and the big fact stands out that if, with all the mechanical improvements that the Department has placed in the hands of the field staff (improvements that call for a yearly maintenance charge as well as the initial investment), the cost is not only not reduced but materially increased, there must be a tendency to reflect that perhaps the old way, after all, had a great deal to recommend it.

How would you like to be deprived of your car, your gasoline speeder, your pump or power launch, and go back to the horse and rig, the hand velocipede and the row-boat? It is unthinkable that such a retrograde step should be taken, of course, yet after all the prime factor in such cases is the cost, and it is upon you therefore that the final decision will rest.

The equipment listed above is necessary, vitally so, if the work is to be done and the looked-for results obtained. But the work cannot be done, nor the results obtained, if the means thereof are so maltreated that when the call comes for their use, sufficient care has not been taken to ensure that they will stand up to the strain.

Your efficiency is very often judged by the way you treat your means of transportation, be it speeder, launch or motor car.

ARE YOU EFFICIENT ? ? ?

C. S. Cowan.

We have noticed very often that the launch, car or speeder with the biggest mileage is not the most efficient as a transportation unit. To get the most work done for a given mileage should be the ambition of every field man, and this may be accomplished best, not by short 'shuttle' runs from a central point or headquarters but by round trips well organised.

GETTING THE "DOPE".

Talking of appraisals - and we seem to have been handling the subject frequently of late - we have been getting some very complete line-ups on a great many Timber Sales. The appraisals show a lot of thought and application to the job, but if we look hard enough we can usually find something with which we do not agree, and often we write back about it. This is done with the object of getting further thought on the problem, clarifying the procedure and replacing guesswork with facts. If we can stimulate argument on this very important subject, we shall get a long distance ahead.

The big fact that struck us (and, I believe, has struck a great many of the men in the field) is that we are in need of a deal of close study of logging costs. This includes everything from the whistle punk to the high speed yarder, from peavie to cook-house, and the problem is as wide and as long as the Province. It calls for study on the ground of every available operation by every available man, if we are to be able to show justification for our stumpage prices. The unit production of the log maker and the effect of interest rates on borrowed capital are equally important, as are the daily output of a high-lead yarder and the rate of income tax paid by the operator.

Now, there are two ways in which we can secure a fund of information on the costs of operating. One is by observation and note-taking on every operation we visit; and the other is by delegating special investigative officers to special operations, making time studies of production and tabulating all costs from the first axe blow on the camp clearing to the finished lumber on the car. At the best, the latter method will not furnish us with any vast amount of information unless we assign more men than we have appropriations for, but the information secured is basic and reliable. We know from the time studies exactly how many logs per hour are made by an average crew of men; how many can be skidded by an average team; how many hauled; and how many loaded. The ground work is then laid for actual appraisals based on what can be turned out under given conditions. Variation, according to factors influencing output, can be applied at the judgment of the appraising officer. The proper scientific foundation is supplied.

This scientific foundation must be used with discretion, and proper discretion cannot be used without a big fund of knowledge behind it. A fund of knowledge can be obtained only by wide experience, close attention to details, some method of orderly arrangement of facts, and comparison of results.

Are we making the most of our opportunities to study this all important problem and to place the information secured at our own disposal and at the disposal of everyone else in the Service ? I venture to say that we are far from that much-to-be-desired condition.

Our basis of scientific fact is being laid by the assignment of two Forest Assistants and at least three Assistant Rangers to the actual time studies on various operations; and as the results are secured, compiled and tabulated, they will be put in proper form and distributed to the service. We have also in the field a permanent staff of somewhere around eighty men, all of whom are constantly visiting timber operations for one reason or another. In addition, our Assistant Ranger force of an equal number has considerable chance for observation. Here lies our chance to develop a fund of information in ourselves as individuals and in the Service, that will place us on the solid recognised footing of KNOWLEDGE.

How are we to do this ?

First let us consider the individual. He visits and inspects numerous logging operations in the course of his duties. While there, he discusses with the superintendents, foremen and loggers, the various phases of the work. They will tell him how much it costs them for wire rope each year; or maybe he finds out how much they make or lose on the cook-house (it really is quite easy to steer conversation into such channels that much of this kind of information comes out); then he visits the yarder - how many men are around it? How much does it yard each day? How much oil and grease does it use? Somebody will tell him while he looks on.

Up along the Grand Trunk are many operations. Going up the road to the camp, our Ranger meets a load of ties coming down. How many ties are on it? How far is it from camp to landing? How long does it take for the round trip? What wages are being paid? How many teams are used? How many extra men for loading and road repairs? The questions to be answered are legion, and if the answer is not evident someone will tell him. And I know that this kind of information is being gathered every day all over the Province, on operations from hand-logging to telephone poles. But what is being done with it ?

The bulk of these facts, gathered in the course of inspections, is kept more or less intact in our heads. It becomes worn with time, garbled by subsequent facts from other operations, and many times it is forgotten. Nor does it often reach the light of day for discussion or for the information of the rest of us. How shall we go about correcting that state of affairs?

First, by encouragement of close observation and the securing of cost data by discussion among ourselves and criticism of appraisals received. Second, by the encouragement of an orderly arrangement of facts and comparison of results.

The first requirement needs no further discussion.

The second might be dwelt upon at greater length than is allowed me in "ROOT AND BRANCH." But for the fulfillment of the second requirement, the individual must in my opinion develop the note-taking habit. He must have with him, all the time, a note-book with a section devoted to logging cost data. Down in this book must go notes on every side of the question as soon as, or very shortly after, the information is gathered. This can be done quite easily during the odd minutes waiting for trains, boats, and meals, when there is absolutely nothing else to do.

Soon a great number of facts will be gathered, in this way, that can be referred to for comparison when lining up an appraisal; and the facts will be much more readily available and more accurate if put down this way than if carried in one's head. I know, for I've tried it.

Now, as to the Service as a whole. How are we to gather together all this material, sift and arrange it, and get it into the hands of the whole crowd for discussion and criticism? I think "ROOT AND BRANCH" may help. Also we shall try to stimulate discussion on as many appraisals as we can and we are going to call on field men individually for definite information on certain lines or aspects of the question. This should be extended by District Foresters and Rangers to the field men working with them, and we hope to start something that we can't and don't want to stop.

We shall get out of this advantages, both personal and professional. Our powers of observation, orderly reporting, arrangement, and discussion, should be strengthened, while professionally we shall have the accurate KNOWLEDGE that must be the foundation of any business.

G. P. Melrose.

THE MIXTURE : The majority of us use entirely too rich a mixture, because it makes starting easier, and the tendency is to make adjustments too quickly after starting instead of waiting until the engine is thoroughly warmed up. Fifteen minutes to half-an-hour should elapse before adjusting the carbureter for steady service, and then only one adjustment should be made at a time.

MECHANICAL TRANSPORT.

(The FORD as a Factor in Forest Protection)

The dedication of an issue of 'ROOT AND BRANCH' to the ubiquitous FORD will meet with the approval of all field men, and especially those whose duties are in any way connected with Forest Protection. It is a well-known fact that the adequacy or otherwise of transportation facilities has a most important bearing on Forest Protection efficiency, and while attention has been directed recently to the possibilities arising from the use of aeroplanes, automobiles - so far as land patrols are concerned - are still and will undoubtedly remain the principal means of locomotion.

Speaking of the developments of the past five years, it is no exaggeration to say that the FORD car has contributed more to the efficiency of Forest Protection in British Columbia than any other mechanical aid, with the exception of the portable fire pump.

Previous to 1917, the Forest Branch did not use motor cars beyond hiring a car occasionally for the transportation of fire-fighters. Land patrols were entirely by horse or on foot. However, in 1917 a few FORD cars were purchased, more or less as an experiment, and the result was a marked increase in the efficiency of fire patrols that year. The number of cars has been increased annually, until now the Department has between fifty and sixty.

The advantages of the automobile over other regular forms of land transportation are so obvious that to enlarge upon them here would be superfluous, but to furnish a concrete illustration of how the adoption of automobiles has aided Forest Protection in this Province, I might quote the following instances, taking the Fraser Valley and Vancouver Island districts as examples.

Forest areas in these districts are fairly accessible over good roads. Land clearing activities have been extremely heavy since the close of the War. 3,842 permits were applied for and issued in these two districts last year as against 1,181 for the total Vancouver Forest District in 1916; and over sixty per cent. of the areas to be burned over were inspected by Forest Branch officers before permits were issued, and in the majority of cases a second and third inspection was made to see that the slash had been burned and to make sure that the fires had been properly extinguished. The areas to be burned which were not inspected by Forest Branch officers were situated in the Fraser Valley, and these were inspected by Municipal officers.

A few years ago, the Fraser Valley was exempt from the permit law, and one of the chief arguments against rescinding this exemption was that it would be impossible for the Forest Branch officers to issue permits and supervise land-clearing fires, as the job would call for a large army of men. The FORD has been a big factor in the solution of this problem.

The Forest Branch maintains a staff in the Fraser Valley of similar proportions to that in other sections of the Province, and without good transportation facilities close supervision of these land-clearing fires would certainly have been out of the question. But as a result of our men being able to cover their districts swiftly, it has been possible to give a reasonably adequate degree of supervision, and even last year (which admittedly was abnormal in every aspect of the Forest Fire situation) less than one per cent. of the permit fires set out in these districts escaped control. Complaints from settlers of their not being able to obtain permits when conditions were right for burning are an exception. Applications for permits are given prompt attention, and the anti-protection sentiment which is generally the result of failure to handle this phase of our work expeditiously has been reduced to a minimum.

During the past few years it has been possible also, by means of improved transportation methods, to greatly improve the enforcement of the regulations under the FOREST ACT regarding the dangerous industrial use of fire. Open burners and donkey engines are now operated under permit, and this necessitates frequent inspections, a programme which was entirely beyond us with the staff employed, in the years which preceded the use of FORD cars.

Last but not least is the part played by the FORD in actual fire-fighting. Previous to the adoption of this means of transportation, when a fire was discovered by or reported to a Forest Branch officer the information was often of very little value, even where good roads led right to the fire, as owing to the length of time occupied in getting there, it was generally out of control before he arrived on the scene! Compare this with the present situation. In any territory where passable roads exist, the Forest Branch officer on receiving a report of a fire can be there in less than an hour, with men and equipment, ready to make the attack; and as a result, many of what would otherwise develop into disastrous fires are checked and extinguished in their incipient stages.

Forest Protection organisations on this Continent have been striving consistently for increased efficiency, and have been credited generally with having attained this to a marked degree in the past few years. Accomplishment in this direction in British Columbia has been in the face of ever-increased hazard conditions, and much of this improvement in Forest

Protection efficiency is directly attributable to the adoption of modern mechanical equipment, one of the biggest factors being the improvement in transportation facilities both on land and water.

The future gives promise of many interesting developments in every phase of Forest Protection work. Radio-telephony has opened up wonderful possibilities in communications; and the aeroplane has demonstrated conclusively its value both in fire detection and as a means of transportation. Witness the exploit of the late Major MacLaurin last year, in taking a crew of men and equipment into Buttle Lake in the interior of Vancouver Island by aeroplane, saving the crew a two days hike, and extinguishing a fire which had every indication of developing into a conflagration before it had spread over an area of ten acres. This trip (which was carried out under extremely bad flying conditions) was made while aviation in the Forest Branch was still in its infancy. But while the aeroplane will undoubtedly become a big factor in the fight for the preservation of our Forests, the FORD has already proved to the full its worth as a friend of the Forest, and as such is well deserving of the tribute paid to it by "ROOT AND BRANCH."

R. V. Stuart.

WHAT "A MILLION-AND-A-QUARTER CAR PRODUCTION" MEANS.

For 1920-21, the estimated production of Ford cars was 1,250,000. While the following figures of materials required to produce 1,250,000 cars are by no means complete, yet they will serve to show the immense quantities of a few of the necessary materials purchased :

Over 634,375 tons of steel are required.

81,875,000 square feet of rubber cloth material for tops.

5,000,000 each of wheels and tires.

3,750,000 lamps.

7,287,500 sq. feet of plate glass for windshields.

172,500,000 feet of copper tubing for radiators.

17,950,000 pounds of steel for FORD magnetos.

43,000 miles of wiring used in magnetos.

12,400,000 sq. feet of galvanised metal for gas tanks.

66,725,000 sq. feet of metal for guards and fenders.

38,750,000 feet of tubular rods.

10,000,000 gallons of fuel oil for heat-treating.

250,000 tons of coal for gas, power and heat.

The Ford Motor Company's pay-roll averages \$462,031
per day.

FORDS AND THE FOREST BRANCH.

This title is wrong way around, as really the Forest Branch should come first, but to get the proper swing to it it must stand.

Perusing the files relating to cars brings to light some very interesting information; so much of it, in fact, that it would seem easier to write a book, or a series of articles, than to condense the data to suit the space which the Editor has allotted.

Prior to 1917, we have no record that cars were used in the Forest Branch, although on occasion they were hired. At all events, we did not own any cars until March 24th., 1917, when an order was placed with the Vancouver Branch of the Ford Motor Co. of Canada for thirteen cars, at a price of \$475 each, F.O.B. Ford, Ontario. Freight charges brought the price up \$75 per car more. The now familiar "red Box" at that time cost \$20, so that the total price per car in 1917 was \$570.

The original equipment has been augmented to such an extent that this year the B.C. Forest Service will have 57 cars in operation. The increase in six years is thus over 400 per cent. Taking the Ford factory figures, we find that in the same time (i.e., six years) their car output has increased in the same ratio, so that we appear to be keeping well up to the game!

In 1917, cars were not regularly supplied with such luxuries as self-starters, dimmers, demountable rims, etc., which are now part of the recognised equipment. The electric lighting system on the FORD at that time was anything but "a joy for ever." When one wanted light most, there was none, as over bad roads and travelling slowly the lights dwindled almost to vanishing point; and if one's engine raced a bit in changing gear the lights were excessively bright. This trouble was caused by the lighting current being derived from the magneto, and any variation in engine speed caused the lights to brighten up or go dim. At any rate, in May 1918 we find a requisition for various accessories such as lighting sets (at least one of which was ultimately traded for a Typewriter!), speedometers, etc., showing that the wheels of progress were still turning.

September, 1918, shows experiments being carried out with a wonderful tire filler, guaranteed to cure all the ills to which tires are heir; and this brings up the question of accessories other than standard equipment.

We may thank our stars that the FORD car as turned out by the Factory is fully equipped for all our needs (except, of course, the "red box"). Has it ever struck you, reader, what a FORD would look like if all the various items of equipment

offered by enthusiastic salesmen and guaranteed to increase your mileage, etc., were adopted. Considering the number of items ("absolutely indispensable", all of them!) which are offered to us in the course of a year, varying from Anti-rattlers to Gas-Jazz, it is felt that instead of looking like a transportation unit of the Forest Service, it would look like anything from a circus band-waggon to a travelling machine shop.

It was in 1918 that our cars gave very considerable assistance in the handling of the influenza epidemic in various parts of the Province.

January, 1919, brought with it a Gray & Davis Lighting and Starting set, which was tried on the Parksville (V.I.) Car, with satisfactory results.

A report on a car operated on the Island (1919) states that "This car requires an overhaul after each trip from Victoria to Nanaimo or vice-versa" and goes on to say that "as a general rule I never repair unless forced to do so," which latter remark probably explains the former.

A letter is on file boosting another make of car at an increase in price of \$850 per car over current Ford prices; the answer to this was the purchase of six more Fords a month later.

In 1920, we find the 'red box' altered to the hinged tail board and flaring sides. We see also that the price of boxes has doubled, and is now \$40 each.

In 1921, due to the increased number of cars now in use, we find that the Fuel and Mileage reports are not coming in regularly - and if it were possible to explain all the trouble this causes in Victoria, it is certain that more promptness would be observed by field officers, and this is just as true today.

How would you like to carry another badge, Mr. Ranger? This matter was under discussion with respect to chauffeurs' licences, but did not materialise. Another matter under advisement this year was the advisability of equipping all cars with 1 to 4 gearing in rear-ends. This was accepted as being a good suggestion, and is now a standard requirement.

We will try anything once, and to prove it we tested out a new make of carbureter for eight months of this year, an experiment in which four cars were involved - two with the new type and two with the standard carbureter, all of them new cars, two of each operated in competition. We found, to the Agent's and our own disgust, that we were expected to pay handsomely for a fitting that would give us two miles less

for every gallon of gasoline consumed than the regular FORD carbureter. This will explain in a measure our reluctance to depart from standard equipment.

During 1921, it was found necessary to instal extra fuel tanks on two of the cars operating in the Cariboo district, where it seems they do not have a gas station at the corner of every block.

J. H. Blake.

Gas Engines, whether they be installed in Launches, Cars or Speeders, or driving fire pumps, are a good deal like human beings. Properly nourished and cared for, they are capable of good service - always providing, of course, that they are free from constitutional defects. Without proper care, the life of the best of them is short and full of trouble.

Constant attention to small disorders is worth more than frequent overhauling. It is the stitch taken in time which prevents the bad breakdown, and prolongs the life of man or motor.

Guard against bad fuel and oil as you would against unwholesome food. Let an overheated part carry the same warning that Nature gives you through the clinical thermometer.

DON'T FORGET that knocking and thumping is the way your engine coughs, and a neglected cough may be fatal.

Remember too, that the carbureter and magneto might well be termed the lungs and brain of the gas engine. They require the services of Specialists. Keep your hands off them unless your attention is absolutely necessary.

To carry the analogy further, "no organ is healthy if it continually lets you know that it exists!" Witness the gradual decrease in earning power of the man who habitually neglects the small ailments to which the flesh is heir. Look also at a piece of machinery which is not kept in proper repair. Is not the useful life of either expended, and the whole structure - whether human or mechanical - in a hopeless state at a time when it should be at the highest peak of efficiency and usefulness?

With a large equipment like ours, handled by a great many different men, a very great saving may be shown at the end of a year's operation, if every man in charge of any part of such equipment will get to know his machine and try to get the best possible results with the least possible expenditure. This does not mean that necessary expense is not to be incurred, but that every economy known to the Operator should be practised, and practised diligently.

HOW FORD FIGHTS FIRE.

Of course, the Ford Motor Company has its own fire department. It consists of a fully-equipped Ford fire truck, a sixty-gallon chemical extinguisher, pyrenes, and various other equipment, including 31,600 feet of hose. Two thousand 3-gallon chemical extinguishers, and one hundred 40-gallon chemical tanks mounted on wheels are placed about the factory. Ninety experienced fire fighters are employed in this department, thirty for each of the three 8-hour shifts. Another force of 200 men is ready for duty at an instant's notice. Each squad of ten men has a captain and a lieutenant. Surrounding the plant are fifty water hydrants equipped to handle two or three lines of hose, while inside the plant are nine hose houses fully equipped.

When a general fire alarm comes in, the call bells are rung automatically. The call is sent instantly to the pen registers in the Superintendent's office, Factory Service Office, Fire Department Headquarters and the Chief Engineer's Office. The exact minute, hour, day, month and year, as well as the box from which the call comes is automatically recorded on the tape. Three hundred call stations are placed about the factory at points 200 feet apart.

The Ford fire alarm system is said to be more effective and up-to-date than any other in the country, even including those of New York and Chicago.

ESPRIT DE CORPS - A Scotchman arrived in Vancouver a few weeks ago, and got him a job in a garage. He had been there just long enough to acquire the rudiments, when he essayed to drive the service car. He got her out and proceeded down town in the wake of another car which was travelling at a brisk pace in the same direction.

Presently the fellow ahead arrived at an important intersection and, in obedience to the uplifted hand of the traffic policeman, applied his brakes, with the result that Scottie crashed into him from behind.

To him came the traffic policeman. "Whut's yer name?" "Sandy Macfarlane." "Whaur frae?" "Paisley." "Man, ah'm frae Paisley mase!" said the policeman. "Pit it there! An' that big stiff backed richt into ye, the rascal!"

Perverted Proverbs - "A fire in the stove's worth
two in the bush."

THE FORUM.

A Plea for the Motor Cycle - "In considering Ranger equipment for future seasons, would the introduction of Motor Cycles be of any advantage?" asks Frank Montgomery, Hazelton.

"In the case of a Northern Interior district like ours, there are many places inaccessible to a car that could readily be reached by Motor Cycle. Needless to say, one could reach them also by horse; but I quite think that the time saved by the faster means of transportation would compensate for the greater outlay. By the introduction of Motor Cycles, Rangers could get through many times the amount of work that could be expected of them if restricted to horse or foot; and not only would they be able to get through more work, but they could keep in much closer touch with their Headquarters - a very desirable thing during the fire season.

"In cases where the Branch cannot consider the purchase of cars on account of prohibitive first cost and greater expense for upkeep, Rangers might be equipped with the less expensive Motor Cycle, which through lessening and speeding up the work I should think would readily repay their cost, besides tending to increase efficiency.

"I have in mind, of course, medium-priced light-weight machines - not the heavier machines, which cost nearly as much as cars."

Motor Cycles were tried out by the Branch as early as 1913. They were found to be unsuitable for several reasons.

- (1) No loads of any account could be carried.
- (2) On rough, rutted, or slippery roads, it was found impossible to handle them properly; at the end of a run under such conditions, the driver was a wreck if the machine wasn't.
- (3) The FORD car, at a little more cost, gave so much more service that it put the Motor Cycle right out of the question.
- (4) It wasn't a case of the Motor Cycle being able to go more places than the FORD. The FORD could go more places, and oftener, than the Motor Cycle.

That was our experience in 1913. However, we retain an open mind, and possibly there are points in favor of the Motor Cycle that might make it worth our while to consider its use in certain cases.

Ranger D. McDougall has had considerable experience with Motor Cycles. What has he to say ?

From where we sit, we can see a neat orderly pile of discarded automobile tires, and it is surprising how many of them owe their early demise to under-inflation. This is unfair to the tire manufacturer, as a tire which is persistently kept under-inflated cannot be expected to live up to its guarantee. And it's unfair to the boss - that is to say, the public who foot the bills.

FORD AND THE FORD COMPANY.

Henry Ford was born July 30th, 1863, of farmer parents. At 16, he left school and the farm to become a machinist in Detroit. For eight years he followed this line, working nights in a watch repairing shop.

In his twentyfourth year he went back to the farm, and went into lumbering in a small way with a portable outfit. The same year he married, and moved into a house built with some of the first lumber from his mill. He set up his little machine-shop and went to work on a steam car. This was really the first FORD passenger car, but was abandoned for want of a satisfactory boiler.

Ford stayed on the farm for two years, then went to work as night-shift engineer in a lighting company for \$45 a month; but by and by they raised him to the entire charge of the plant at a salary of \$125, which he earned for seven years with the same Company. During this time, in a small brick shed at the rear of his home, he worked out in his spare time his first gas car. It was - or is, for it still runs - a two-cylinder car with a speed of from 25 - 30 m.p.h. A company was formed, with Ford as Chief Engineer, and a few cars were built. This connection not being satisfactory, he withdrew in 1901 to begin building another car, which he completed in 1902. In 1903 the present FORD MOTOR CO was organised. Ford owned 25½ per cent. of the stock and was Vice-President and Factory Manager. The Company was capitalised at \$100,000, but no more than \$28,000 in cash was ever paid in to the treasury of the Company.

Henry Ford soon realised that his own ideas and policies, which were very clearly defined, could not be carried out unless he had free control. Accordingly, in 1906 he bought sufficient stock to bring his holdings up to 51 per cent. and a short time later, at seven to one, procured 7½ per cent. more. This arrangement held till 1919, when Edsel Ford, who had succeeded his father as President, bought in the remaining 41½ per cent. The Company was reorganised under the laws of Delaware for an authorised capital of \$100,000,000, and this is the present arrangement.

"A Clerical Scandal - All, or at least most, of the clerical staff" writes one of the 'clerics', "will resent or feel sore at the statement made in the Christmas Number of 'ROOT & BRANCH' to the effect that that sparkling little production is intended for field-men only. For what is a field-man but a man with clerical ability (which he must have and cannot do without) who is privileged to work out-o'-doors; while a 'cleric' is only a potential field man whose duties lie indoors, but who (EXCEPT IN BAD WEATHER) would infinitely prefer to be anywhere but in an office!"

"Moreover," our critic adds, "the gentleman on the front cover is obviously a clerical worker simply and solely, otherwise he would not stand where there are facilities for sitting down! And where are the trophies of the chase, and the photos of Forest Giants, which one always finds in the dens of the field-men? Alas Mr. Editor, you are undone!"

ON "MANAGEMENT."

I have sometimes let my imagination construct a picture of B.C. Forests and the B.C. Forest Branch of a century or so ahead; after contemplating a very satisfactory state of affairs I have then wondered just how much our present work is helping to bring about the reality. Field men sometimes think that their lives consist of making out one report after another. Indicated action (if any) results, and the report is filed. We sometimes wonder "Where is the co-ordination of all this effort? We are putting a Policy into execution; but just what is that Policy? Is it clearly defined in our minds and those of the public? How otherwise can the public understand and have confidence in us?"

Policy is embodied in Law, and we are all acquainted with the Forest Act. Departmental circulars detail incidentals, but together they only partially express and do not clearly define all the ideals of our Forest Policy. To me, the Act conveys a policy of safeguarding the collection of Revenue from the forest, protecting the forest from fire, and retaining control of the unalienated mature timber, in that order of importance.

Experience seems to bear this out. The public know us by our duns and seizures, fire placards shouting on every road and all the spectacular and well-advertised efficiency of our fire-fighting, and by occasional obstacles placed in the way of too-greedy loggers and pseudo-settlers.

Is that all? Any man with the least knowledge of Forestry knows it is not. Such a policy, if that were its sum total, would be one of expediency rather than of ideals.

The Forest Act, then, is not yet a vehicle of a final Policy, but rather of such regulations as can be enforced at the time and which can be included without over-burdening it. Other regulations, no doubt, will be included, and some possibly dropped, until the Act carries the proper complement for a complete Forest Policy.

The object of this little note is to suggest the need for a little more public diffusion of the ideals of Forest Management. No money is spent on advertising this vital part of Forestry as is lavished on Forest Protection from Fire, and consequently the public is little interested. Since any policy is a matter ultimately for the citizens to decide, it follows that no policy in connection with the management of our Forests can be regarded as settled until it is understood and approved by public opinion.

Probably our aim is absolute Government control of all purely forest lands: systematic management of these Forest Reserves on silvicultural principles: regulation of the cut for Reserve, District and Province: full utilization of all species and of secondary material now wasted: the opening of markets to

absorb the full sustained annual yield of a timber-producing Province operating to full capacity: and the establishment of settled forest communities in place of timber-chasing nomads operating out of one big city.

Can we, then, get the public to think of Forest Land as capable of producing successive crops? Can we not demonstrate somewhere that a mill and a forest area can be correlated so that the industry produced is permanent, and not merely an industry of camps to be moved as the timber mines run out? It has been said that the most profitable time to place a forest on a sustained yield basis is while stumpage is low. Well, stumpage is not getting any less. We have timber to sell but we don't need to push our wares on a glutted market. We will need the money more, and do better, later on.

To cruise timber, examine land, investigate rate of growth and reforestation, prepare working plans, and in general manage a forest, requires time and money. When the present mature timber is gone there will be plenty of time - twentyfour hours a day as now - but no money. To maintain a satisfactory Forest Policy, then, the public as well as the forester must think a century ahead. Who's to show them how, if we don't?

I'm told pretty often, "Oh, you're another of those fire wardens." Forests and fire are inevitably connected in the citizen's mind nowadays. Good advertising, evidently - but there's more to the job, isn't there?

F.D. Mulholland.

... ..

Mulholland intimates that the Forest Act isn't all that it should be as a definition of Forest Policy. I believe, however, that there is embodied within it at least the opportunity to define a Forest Policy that will eventually be satisfactory to the most exacting forester. I refer particularly to Section 12, which provides for the establishment of Forest Reserves, "for the perpetual growing of timber." This Section also gives us power to make regulations by Order-in-Council for the management of such reserves. What more can we ask? It is now up to us to lay out and have such reserves established, and then to formulate regulations which will embody a forest policy for handling them. Further opportunities are given in Section 26 and in Section 21, sub-sec.5(b), and we are given practically unlimited powers in disposing of Crown timber under Section 11.

Until we have exhausted the possibilities of the Forest Act, therefore, it seems a doubtful expedient to ask for a more definite and elaborate authority.

What we need for the next few years in this Province, I believe, is not more Forest Policy but more Forest Practice. The following is quoted from a paper by F.A. Elliot, State Forester for Oregon, and delivered at the last conference of

the Western Forestry and Conservation Association.

"The tendency of almost all argument over Forest Practice is to deal too much with generalities and at the same time with methods which cannot be based on generalities. I am convinced that it is results, not methods, that we are after; and that results depend absolutely upon field conditions of such variety that we cannot deal with them by statutory detail. We may have to have some laws demanding results, but - if so - they must be very flexible as to methods, as well as so sound in providing for any cost, that there never will be much controversy over them as laws. I believe almost every forestry problem is a problem of the particular tract, of the particular type, at a particular time. That is why I say it should be settled in the woods. It is my experience that, as a rule, no matter how opposite and heated lumbermen and foresters may be on almost every point they discuss elsewhere as champions of their ideas, they do not have any more dispute when they are on the ground, looking at a particular acre, than would so many foresters. In a majority of cases, I believe, they agree on a compromise, giving it sufficiently what it needs, and without much trouble as to cost."

It seems to me that the above statement is particularly applicable to our conditions. Let us try to solve the many vexing details of forestry practice in the field and determine roughly the 'minimum requirements', as discussed in the August issue, for our differing types and conditions. The broader phases of regulation of cut and more intensive utilization will come later, with the certain change in economic conditions.

Markets are now, and have been for some years, being given a prominent place in our Forest Policy. The working out of Forest Practice must be done in the field; it must be done by field men. Many of these problems do not need any special technical investigation; many of them will be solved probably by the method of "trial and error". Those that need technical investigation will be given attention as quickly as we have funds and men; but at the present time properly-equipped men for such work are scarce. Because a man is a graduate of a Forest School is no sign that he is fundamentally equipped to tackle problems requiring investigation, or that having tackled them he can arrive at any valuable practical solution.

With the latter portion of Mulholland's paper I agree absolutely. The forestry idea must in some way be got across to the people. We need publicity. There are few of us, however, who have the opportunity, time or ability, to write articles for publicity purposes. Perhaps sometime, that rare specimen, a forester who is also a good publicity man, will come forward in our Service.

R.C. St. Clair.

THE QUESTION BOX.

"Do Cigar and Cigarette Stubs start Fires? 'Investigations carried on by Reinhardt during the periods 1904-13 and 1918-20 have brought out several conclusions that are contrary to what is generally believed. Fires are not caused by burning cigar stubs, pipe ashes or glowing matches, but can start only when the match or cinder is burning with a flame. Still or slowly moving air is most favourable for start of flames, but high winds cause them to spread when started.' (From Schwappach, quoted by W.N.S. in Journal of Forestry, March 1922). It has been believed in this Province that unextinguished stubs can start fires, whatever they do or don't do in Germany. What direct evidence have we?" F. D. M.

One of the States (we are not sure whether it was Maryland or Pennsylvania) tried to either prove or disprove the theory that lighted cigarette stubs start fires. Twenty lighted cigarettes were scattered over an area which had all the usual debris generally found in a forest. Conditions were favourable; hot dry weather, and a slight breeze at ground level. Seventeen started fires. This is one instance, at least, where we are ahead of the Hun.

Dr. Hoffmann, of the Wind River Experimental Station, recently proved that there is an inflammability point in all forest debris, when a spark will start a fire. This was traced to Douglas fir moss, ferns, bracken, tops, slashings, etc., and has given rise to the statement that we have "fire days" instead of fire seasons.

When our forefathers used flint and steel, they produced a spark which lodged among the tinder, and by blowing upon it they produced a flame. What is tinder? Just dry wood. Isn't it reasonable to suppose, then, that a glowing cigar or cigarette stub cast among dry litter and fanned by a gentle breeze, would produce similar results?

"You will be interested to know" writes Provincial Forester G.H. Prince of New Brunswick, "that I recently met J.D. Gilmore, who was passing through to New York from Newfoundland. He is now a director of the Anglo-Newfoundland Development Company and makes frequent trips to Europe. I believe he is one of the highest paid foresters that have originated in Canada. I am sure we are all glad that he has made good as a logging superintendent with an annual cut of eighty million feet, so that in a very few years he has won the confidence of the Company sufficiently to be made a Director."

Many of us remember J.D. Gilmore, when he was connected with the Forest Branch of B.C., and none of his friends rejoice more heartily in his success than his friends in this Service.

"A MILLION-AND-A-QUARTER CAR PRODUCTION."
How it is Done.

The FORD Conveyor system is responsible in great measure for the success of Ford quantity production.

This is well exemplified in the rear axle assembly. On the fourth floor the driveshaft is finished; on the second the differential is completely built; then both are transported by the conveyors to the third floor, where they are assembled to the rear axle and thus form the rear axle system. Thus the visitor sees the rough material grow to parts, parts to units and units to assembled systems. All materials and unit assemblies move in one direction - towards the loading docks.

The crank case is made of sheet steel in six operations on seven presses weighing approximately 50 tonseach, and exerting a downward pressure of 900 tons. One man feeds the sheet of steel into number one machine; another man takes the cut piece from the other side of the machine and places it in number two machine, which roughly forms the crank case; the man on the opposite side takes the part and hangs it on a continuous conveyor which carries it through a heat-treatment where it is annealed, and returns it for the remaining operations which are handled in like manner. At the lower end of the department the completed parts are hung on conveyors which carry them to the Motor Assembly. It is noteworthy that 4,000 crank cases are manufactured daily with a force of but 22 men.

The cylinder block enters the Motor Assembly Department on a conveyor. It is carried along at the rate of 12 feet per minute. First it runs through what looks like a tunnel on a miniature railway, but as it emerges dirtless and dripping clean water, it is apparent that it has had a bath. Next it is pulled on to a table and into a special Ford machine, which runs the babbitt into the bearings. Then it is inspected, other parts attached, and the unit grows rapidly as it proceeds.

After being completely assembled, the motor is carried on to the block test room where it undergoes a thorough inspection while being operated by electricity. It is run steadily for 12 minutes, carefully inspected by experts and finally O.K'd. The motors are placed again on the conveyor, carried through an automatic painter which gives them a coat of black paint in 10 seconds. Then they are loaded on trucks and carried to waiting freight cars, in which they are loaded 100 in each car.

On the final assembly line, cars are completely assembled on a moving conveyor. First, a rear axle unit and a frame unit are combined and started in motion. As it moves down the room each man adds a part to the growing car, or completes one operation, so that when the car reaches the end of the line it is ready to run on its own power.

In following the final assembly line to the point of delivery, the visitor is impressed with the despatch with which every movement is executed. The gasoline tank, containing one gallon of gasoline is installed. Next a number of small units are added, such as the handbrake lever, the gasoline feed pipe, fender irons, etc., until the point is reached where the motor is placed in the frame. Ordinarily, placing a motor in a frame is a lengthy process, but in the FCRD assembly the motor is slung from a hoist and lowered into place in the frame while the chassis is moving along. The dash unit is assembled to the car, and includes the dash, steering gear, coil, horn and wiring all ready to connect to the motor, so that its installation is rapid. Farther along, the exhaust pipe, muffler, and side pans for the motor are fitted, and the wheels brought into the assembly. Then the chassis moves to where the radiator is installed.

At the end of the assembly line the rear wheels drop into a set of grooved wheels sunk in the concrete floor, and operated by an overhead motor. Two objects are thus accomplished. First, when the rear wheels revolve with the grooved wheels, the motion is transmitted to the differential, and from the drive-shaft to the motor, limbering up all these parts; and secondly, while they are being limbered up, the switch is turned on and the motor started.

The bodies fitted to Factory-assembled cars are built on a conveyor in the final assembly department. As the completed chassis reaches the end of the line, the body is swung on from an overhead track, the top installed, and a complete new FORD has been built!

In the department where FORD tops are made, the top material is laid, layer on layer (from fifty to two hundred and ten, according to the kind of material) on long tables. Steel templates are laid on and outlined on the goods, on a pre-arranged plan which reduces waste to a minimum; then the cutting machine cuts through the pile of goods as though it was one single piece. Next the pieces are sewed on high-speed machines running from sixteen hundred to three thousand stitches a minute. Of course each operator sews only his own seam and lays the piece on a belt conveyor. The next man catches it up, sews on his piece, and thus it continues until the entire top has been made.

Seat backs and cushions are made on conveyors moving at about Twentyfour feet a minute. At the beginning of the line the coverings are placed upside down on the conveyor, and the padding, covering, cording and buttoning is all done en route. Cushions and seats leave the assembly line at the rate of fifteen a minute and are slid down a chute from the fourth floor to a place opposite the car in which they are loaded for shipping.

CO-OPERATION.

"As an indication that the scattering of seeds of Protection Propaganda does not always result in crop failure," writes the District Forester at Kamloops, "the following interesting resolution has just been received here -

'Upper North Thompson Live Stock Association,
Vavenby, B.C.

'Whereas the membership of this Association, after mature consideration and discussion, is agreed

(1) That burning the range at any time of year destroys fertility and humus, and is detrimental to the growth of every kind of forage:

(2) That the dense growth of Douglas Fir and Jack Pine which at present covers large areas of the lower slopes of the mountains, is a valuable asset to the country, constituting a future timber supply, preventing erosion and promoting precipitation:

(3) That the lumbering industry constitutes the main market for live stock and other farm produce in this district:

Therefore be it resolved that this Association pledges its hearty co-operation with the Provincial Forest Service in its endeavours to keep fire off all Crown land over which this Association holds jurisdiction.

The Secretary is hereby instructed to send copies of this Resolution to the Kamloops Live Stock Association, the B. C. Wool Growers Association and the Provincial Forest Service.

Carried unanimously at the Annual Meeting of this Association held Saturday, January 13th., 1923, at Birch Island, B.C.

(sgd) T.A. Moilliet, Sec. ' '

Co-operation of this sort is invaluable, not only to Forest Protection and the cause of Forestry generally, but for its hearty spontaneity and the friendly feeling which it indicates.

OIL CONSUMPTION - The consumption of oil depends on three factors - the design of the lubricating system, the quality of the oil, and the capability of the operator. In modern lubrication, the oil is used over and over again, and as little as possible is allowed to reach the combustion chamber. But enough must reach the working parts for proper lubrication, and this should be in correct quantity for each moving part. Too much is wasteful, and causes carbonization, leaky valves, etc. Of course, if there are any oil leaks a large quantity of oil will be lost in addition to that lost through poor application.

It is poor economy to use a cheap grade of oil, and one should adhere as closely as possible to the grades and qualities specified by the manufacturer of the machinery under consideration. A small quantity of oil, applied often and in the proper places, has much more beneficial effects than a lavish amount applied at long intervals and carelessly used.

"ONLY YOUNG GROWTH"

"A patrolman entered the office during the fire season," writes the District Forester at Cranbrook, "and in response to a question in regard to the extent of his latest fire, replied- 'Oh, it's only 100 acres of young growth!' Only young growth! Young growth that in 150 or 200 years will have a value, in its finished state, of some \$60,000."

"In 1921, 8,912 acres of valuable reproduction and 68,912 acres of cut over land, unmerchantable timber and old burn, not re-stocking, were burnt over within the Province of British Columbia alone."

"How much does the Dominion of Canada lose yearly by the blackening brand? Canada has lost by fire ten times the timbered area ever touched with the axe, and the annual growth does not replace over fifteen per cent. of the lumber cut. From 50 to 60 per cent. of the area burned over consists of young growth in various stages of re-stocking. In 1921 losses to the Province by fires running through young growth aggregated \$15,000,000, without interest, and payable in the year 2200, and represents one year's work for 10,000 men including a revenue of \$1,000,000 to Municipality, Federal and Provincial Governments!"

"We are saddling posterity with a heavy tax, for the destruction of our young growth means the loss of one of the means of liquidating our debt. At present it requires, from each of us, an hour each day to pay our taxes - federal, provincial and municipal; and each year that the destruction of our young growth continues means the lengthening of the time required to pay off our accumulated national and internal debt."

"'Only young growth' is a dangerous expression, and shows a lack of foresight, which can only be eliminated by a widespread propaganda carried on among our young Canadian citizens. And it rests with the members of the Forest Branch to clear away this and other false impressions."

YOUR STORAGE BATTERY - The quantity of current which may be utilized from a storage battery should never exceed the manufacturers' guarantee, as excess current will only cause rapid discharge and eventual failure of the plates to hold the charge, due to break-down, buckling, and sulphating.

Do not short-circuit a storage battery across the terminals with a screw driver to see if it is alive; it is too great a drain on it and means nothing. When you test your battery, use a hydrometer. If it reads from 1.275 to 1.300 specific gravity, it is all right, but if it gets below 1.200, the battery needs attention. Keep your storage batteries filled to the proper height with electrolyte. To get the best results from a storage battery keep it well charged, and when you need the current it will be available.

PERSONAL PARS.

We are pleased to hear from Vancouver that Ranger O'Grady is improving, and manages to retain his good spirits.

Also that Ranger G.H. Smith has now practically recovered from his accident and is back again on the job.

Assistant Ranger McPhatter's brother and sister-in-law were killed, and two of their children seriously hurt, in a motor accident in Vancouver during the Christmas holidays. A most distressing affair, and one which excites our heartfelt sympathy towards Assistant Ranger McPhatter.

Ranger G.L. Davies (Alberni) is seriously ill, we are sorry to learn, and will be confined to his bed (or at least to his home) for the next six weeks.

R.V. Stuart has been under the weather for the past few days with an attack of 'la grippe', but is out and about again.

"It's lucky it wasn't your right thumb," we remarked to Chas Cowan the other day, in an effort to show him the silver lining. "That makes nine hundred and fifteen," said Chas. "When it gets to the even thousand, I'm going to take a poke at the guy." He expects to be on the road again shortly, so bear that in mind, please! Nine hundred and fifteen, to date.

John Hoy is back again, we are pleased to say, although the fractured rib still troubles him.

We learn that Supervisor Langmuir (Prince George district) entered the state of matrimony a few weeks ago. We extend our hearty congratulations to Supervisor and Mrs Langmuir, and best wishes for their health and happiness.

An interesting news item reaches us from the Cariboo. It appears that historic CLINTON has never had a real church - never since the days when the town first came into existence, away back in the 'sixties - until lately, when they completed their first sacred building.

"The first part of the dedication service was made very impressive by the baptism of an infant, Victor Lewis, son of Mr. (Ranger) and Mrs. W.W. Boyd, by Dr McKinnon. Dr McKinnon baptized the child's mother, Muriel Forbes, during his first journey in the Cariboo in 1895. He also married Mr and Mrs BOYD, and the baptism of their child in the new church, as the first sacramental act in that sacred edifice, made the ceremony unique."

This month there comes into effect a number of important changes in the disposition of our executive field staff.

Mr R.C.St Clair becomes Assistant Chief Forester, and Mr. E.C.Manning joins the headquarters organization in the place vacated by St Clair. Mr P.S.Bonney will assume charge of the Prince Rupert district, and the Prince George district will be administered by J. M. Gibson as Acting District Forester. Gibson has been Assistant District Forester at Cranbrook since April 1921.

It is felt that these changes are in the best interests of the Branch. The appointment of Mr St Clair to be Assistant Chief Forester will leave the Chief Forester more at liberty to take up the purely administrative affairs of the Branch, both here and in the field. Mr Manning's technical training and experience in technical work especially adapts him to the work of the Management office; and Mr.Bonney, in his change to a new field and new conditions on the Coast, will have a wider opportunity for development, and we feel sure will fill the more arduous position with advantage both to himself and to the Branch. At the same time, we are able to afford a chance to one of our younger and most promising field men to show that he can make good in a weightier and more responsible position.

The Clerk in one of our District offices has been dismissed for persistent intemperance.

Social conditions at the point in question are rather difficult, especially for a man with no domestic responsibilities, but work is the great antidote for ennui, and there is generally plenty of that around a District office to relieve one's boredom.

"All work and no play makes Jack a dull boy" is an old maxim, and one with which we are cordially in sympathy; and a man's leisure hours are his own to do with as he chooses. But when he chooses to conduct himself in such a way as to jeopardise the standing of the Service in his community, prompt and decisive action becomes necessary.

We congratulate Assistant Scalers Antle, Boyle, Scott and Sharpe on their attaining the status of Official Scalers, and extend a welcome to R.H.Kearns and A.A.Mitchell on their joining the Assistant Scaler staff. The latter was married a week or two ago; we extend our felicitations to the young couple, and wish them every joy and happiness.

THE DAY'S WORK

- 6.45. Rise.
- 6.46-7.00. Shave (this depends on state of razor)
- 7.00-7.01. Wash.
- 7.01-7.10. Look for clean towel.
- 7.10-7.35. Breakfast.
- 7.35-7.42. Talk over plans for the day.
- 7.42-8.30. Make list of movements.
- 8.30-9.00. Oil and grease car (or launch).
- 9.00-9.30. Fill in fuel report.
- 9.30-10.30. Clean car (or launch) complete property loss records (if FORD).
- 10.30-10.31. Start on trip.
- 10.31-10.35. Return to enter items since found missing.
- 10.36. Start again.
- 10.36-12.00. Getting to destination.
- 12.00-12.45. Lunch.
- 12.45-1.00. Check list.
- 1.00-1.45. Fill fuel report.
- 1.45-1.50. Pump air or bilge water, as case may be.
- 1.50-2.45. Talk to citizen on beauties of organization.
- 2.45-3.15. He talks back.
- 3.15-4.00. Returning home.
- 4.00-4.40. If launch, oil. If FORD, examine and make property loss list.
- 4.46-5.00. Put car (or launch) to bed for the night.
- 5.00-5.05. Kiss wife (or launch engineer.)
- 5.15-5.25. Make out diary, paying particular attention to fact that snow is only excuse accepted by HQ. for work not done on account of weather.
- 5.25-5.45. Complete Property Loss certificate and final returns.
- 5.45-5.46. Meditation, or silent prayer, as case demands.
- 5.46-6.00. Think of quitting for the day.
- 6.00. Quit for the day.

District Forester;

Sir,

The above outline for the day's work constitutes the average employment of the Forest Officer in your district.

You will note that the day is fully occupied, and while there has not been time to attend to the normal functions of a Forest Officer, yet every moment is accounted for.

The remainder of the day, from 6.00 to 11.30, I have not taken into account, as I feel that the leisure hours are profitably occupied by filling out forms 24 - 298 inclusive.

Yours truly,

E.F. Ficiency,

Standardization Engineer."

We might liven up our pages with an occasional Guessing Bee. For instance, "Who is Col. Smith-Brown-Jones, K.C., B.V.D.?"

SEEING OURSELVES AS OTHERS SEE US

"Lieut. Col. Smith-Brown-Jones, K.C., B.V.D. - Closely allied to the Timber Industry, is the occupation of Lieut. Col. Smith-Brown-Jones, K.C., B.V.D., Chief of Staff and Statistician for the Cultus Fire District. When, during the latter part of November, we conferred with Col. Jones at his palatial cabin near Carbunole Bay, he confessed to us that he was far more at ease actively battling with the Red Demon of the Forest than in being interviewed. 'Actions speak louder than words,' he said naively, and referred us to the magnificent though somewhat complicated chart G.21.K, which took up the greater part of one wall. We regret we are unable to give a detailed description of G.21.K, but briefly the dotted line shows the rise and fall of fires for the season as compared with hose mileage for the same period; and a violet line represents the number of Fire Badges issued.

After a pleasant half-hour's chat, we prevailed upon the Colonel to pose for us on a cliff nearby - overlooking the Giant Forests of which Col. Jones is the Protector, this making an appropriate background. Although it was raining Col. Jones - ever a good sport - appeared in Full Marching Order, even carrying his famous pet fire-extinguisher Julius IV (which it is alleged quenched many dozens of bad fires during the past season.) When asked for an Official Statement regarding his district, Col. Jones replied in his original way, "The fire danger is unquestionably over for the season 1922. Now is the Time to Burn your Slash." Which statement we are glad to pass along to an anxiously-waiting public."

(Pacific Coast Lumberman, 'Bunk House Bunk.')

There would be just as many jokes on the Chevrolet as on the Ford, probably, if Chevrolet were not so much more difficult to pronounce.

"What's your name, little girl?" "You'll laugh if I tell you!" No, really I won't." "Well, then, it's - it's - it's Iona Ford."

... ..

"And now" said she, as she rose and moved towards the window, "I'll show you an old tin-type of the family." "Ah, how sweetly womanly she is!" I mused, "and how deeply love of the family is embowered in her heart." She drew aside the curtain. "There's the darned old wreck," she hissed, pointing to the flivver.

... ..

"I say, old man, what other cures are there for a cold besides whiskey?"

"Why, what the devil else d'ye want!"

... ..

"There's the chap with the 'Cant' and the chap with the 'Wont'
 And the chap whose betwixt, more or less;
 There's the chap with an 'Aye' when it ought to be 'Nay'
 And the 'No' when it ought to be 'Yes'.
 There's the chap who's too weak to get up when he's down -
 Too bluffed to strike back when he's hit -
 And the chap who bobs up when he ought to stay down;
 And the chap who does nothing but sit.
 There's the chap who is brave when there's nothing to fear,
 And the chap who's afraid without shame;
 But the world wanting men has no patience with them -
 What it wants is the fellow who's game!
 What it wants is the chap with the 'Can', and the 'Will'
 And the 'Hustle' and 'Do';
 And the chap who comes back with a smile on his face
 When the world thinks he's beaten clean through!
 The chap who'll back down, when he knows he is wrong,
 And the chap who'll stand firm when he's right.
 And the chap who keeps faith when he's given his word,
 And will back up his stand with a fight.
 The chap who forever puts Right above Wrong,
 And Honour o'er Riches and Fame.
 Yes, he is the chap that the world's looking for -
 The trustworthy fellow who's game. "

(The above is an original contribution, from a Ranger who insists upon remaining anonymous. We do not understand his reluctance to acknowledge so worthy a child of his brain; but still we must respect his wishes, and so will ascribe it to 'Ranger Bill'.)

Once more we find ourselves in the position of having more good stuff on hand than we can use in this issue. But it will all see the light of day, sooner or later. But this must not be taken to mean that we desire a cessation of activity on the part of our readers. We need those contributions of yours, and we want them.

... ..
 Boss : "What! you want time off to get your hair cut?"
 Office Boy : "Yes, sir." "In Company's time?" "Well,
 it grew in Company's time!"

STOP PRESS NEWS : Mr Naden has just returned from a visit to the Northern Coast and Northern Interior. He says that conditions along the line of the G.T.P. from the Forester's point of view, are flourishing. Approximately one-and-a-half million ties have been contracted for, and it is estimated that about 40 million feet of logs will be taken out this winter. This means lots of work for all able-bodied men in that part of the country, and there is a feeling of optimism noticeably absent a year ago.

OUR BOOK-SHELF

- Red Cedar Shingle Congress, Sixth Annual, 1922.
(see The Timberman, Dec. 1922, p.32)
- Western Planing Mill & Wood-working Association is Formed.
(see The Timberman, Dec. 1922, p.35)
- Reverse Circulation Dry Kiln.
(see The Timberman, Dec. 1922, p.39)
- The Gluing of Wood, - T.R. Truax.
(see The Timberman, Dec. 1922, p.43)
- Oregon and Washington Lumber Cut for 1919-20-21.
(see The Timberman, Dec. 1922, p.110)
- An Experiment in Closer Utilization of Forest Resources, Box Lumber.
(see The Timberman, Dec. 1922, p.193)
- Overhead Logging Systems,
(see The Timberman, Nov.1922, p.45; Western Lumberman, Dec.1922, p.36; Pacific Coast Lumberman, Dec.1922, p.24)
- Wood Waste Briquets Give Fine Results in Donkey and Locomotive.
(see West Coast Lumberman, Jan.1/23, p.33)
- Pine Blister Rust, Third Western Conference, -1922.
(see Lumber World Review, Dec.10/22, p.38; The Timberman, Dec. 1922, p.84)
- "Save The Forest" - The Nation's Call - by Fred Brown, Part 1.
(see Western Lumberman, Dec. 1922, p.26)
- Austin Static Barrage; "An Invention to Foretell the Approach and Direction of Lightning Storms."
(Pacific Coast Lumberman, Jan. 1923, p.78)
- State Policy - Position of Lumbermen in Unfavorable Regions.
(see Lumber World Review, Dec.10/22, p.45; The Timberman, Dec. 1922, p.89)
- Land Exchanges; Lumberman's Position; State's Position; Government's Position. (Lumber World Review, Dec.10/22, p.49)
- What A U.S. National Forestry Policy Asks of State & Industry, by W.B. Greeley, (West Coast Lumberman, Dec.1/22, p.24; Lumber World Review, Dec.10/22, p.42; Timberman, Dec.'22)
- Reply to U.S.Forester Greeley, by A.W.Cooper.
(see West Coast Lumberman, Dec.1/22, p.89)
- Report to U.S.Forester Greeley re National Forest Policy, by F.A.Elliott. (West Coast Lumberman, Dec.1/22, p.46)
- Agricultural Development of Cut-Over Land, Jas.T.Jardine.
(see West Coast Lumberman, Dec.15/22, p.30; Lmbr World Review, Dec.10/22, p.47; Timberman, Dec.'22)
- The Alderwood Manor Project re Cut-Over Land, W.A.Irwin.
(see Lumber World Review, Dec.10/22, p.48; The Timberman, Dec. 1922, p.90)
- Montana, State Forest Policy, - R.P.McLaughlin.
(The Timberman, Dec. 1922, p.194)
- State Policy, Need of One from Bankers' Viewpoint, C.C.Colt.
(see Lumber World Review, Dec.10/22, p.40; The Timberman, Dec. 1922, p.86)
- State Policy, Lumberman's Viewpoint as Land Owner, - K.Ross.
(see Lumber World Review, Dec.10/22, p.42; The Timberman, Dec. 1922, p.86)

COUE GONE FLOOEY.

"Get ready, Ranger! Overhaul your gear!"
What nonsense. All I need's to concentrate
Upon the fact that we have naught to fear
This year from forest fires at any rate.

For danger's but a figment of the mind;
Conditions every day are getting better.
And day by day, in every way, you'll find
That, all the time, the country's getting wetter.

My district's safe, if I but WILL it so! -
But CONCENTRATE! - and do it resolutely!

.....
("That," said the keeper, "was a Ranger once;
But now the poor nut's cuckoo, absolutely!")

W.H.C.

The following is culled from a local paper :

"Ottawa River Cedar Tree's Age About 1,500 Years : In a virgin cedar swamp on Allumette Island a huge cedar tree has just been cut down that measures three feet in diameter at the base. J.I. Foster, owner of a shingle mill, says that although he has not time to count the rings as a means of telling its age, it must be at least 1,500 years old. Past the spot where this tree was cut, Champlain portaged on his way up the Ottawa. It was an ancient tree even then."

We have looked further into the history of this Forest Giant, and find that it was behind this very tree that La Salle paused in his flight, to change his britches, when pursued by the Iroquois.

Every day and in every way, we are getting bigger and bigger - and later and later !

If you have anything for "ROOT AND BRANCH" (and of course you have!), please send it along early, and give us a chance to catch up on our schedule. You will ? We thank you.

For much of the data in this number, we are indebted to an interesting little booklet published by the Ford Motor Co., called "FACTS FROM FORD."

.....
For most of the rest of it, we make our respectful acknowledgments to Webster's Dictionary.