

AIRCRAFT PROVE BIG AID IN SURVEY WORK

ECONOMY EFFECTED BY NEW METHOD.

Successful Application of Aerial Photography to Mapping of North West Canada.

During the season just closed a number of experiments were carried out looking to the utilization of aircraft for supplementing the work of parties employed by the Topographical Survey in western and northwestern Canada. These experiments were conducted by the Royal Air Force of Canada under the direction of Mr. A. M. Narraway, Controller of Surveys, and consisted of the taking of series of vertical and oblique photographs from aircraft flying at pre-determined heights, and the use of these photographs as an aid in the plotting of topographical features on the map.

Operations were first conducted in the area north of Pas, Manitoba, where reliable maps are needed to facilitate the development of the mineral and forest resources in which the district is known to abound. Here rocky islands are separated by rickety ridges covered with almost impenetrable bush. Owing to the mass of detail required and the great difficulties to be overcome in collecting it, the production of an adequate map of such a country by ordinary survey methods is very expensive, and as a result the collection of topographical information has heretofore been restricted to the limits of the main connected waterways.

Carried Aerial Camera.

A survey party had been sent into this area in the spring to establish a traverse line along the main waterways extending from Athabapaw lake to the Churchill river, as well as throughout the mineralized area to the east. In anticipation of the aerial photographic work to be undertaken, the party was instructed to note carefully the stations occupied so as to be able to identify these points on the photographs. The party was followed later in the season by a seaplane carrying a pilot, an engineer, and a photographer with suitable emergency rations to provide against forced landings. The plane carried an aerial camera mounted over the nose and made flights at a height of about 4000 feet over the course followed by the survey party.

Oblique photographs were taken at intervals of about three miles so that each picture would show in the foreground the terrain shown in background of the preceding one. In addition to these, other photographs were taken in a systematic manner at right angles to the line of flight. In this way photographs were obtained of a strip of country stretching for over five miles on each side of the line of traverse.

700 Views Obtained.

Subsequently, when the photographs had been developed and collated, a grid system was laid down on them based upon the points of the survey, and corresponding to a system of squares on a plan, thus enabling the various topographical features to be plotted. Upwards of seven hundred views were obtained. These are now being plotted and the resulting maps will be the most complete ever issued of any district in the North.

The next series of experiments was carried out in the settled areas in the vicinity of Red Deer and Edmonton, Alberta, where topographical maps were being made by the ordinary field methods. Oblique photographs were taken at various altitudes from five thousand to ten thousand feet.

A further series of experiments was conducted in the Edmonton district, in conjunction with the surveys for the classification of lands for settlement. This work requires the use of accurate maps showing the roads and trails, areas covered by bush, swamps, hay meadows, and other natural features. Mapping by ordinary methods is necessarily slow, whereas, since the country suitable for settlement has already been laid out in sections and quarter sections, and as the surveyed lines and roads are clearly all visible from the air, all features may be mapped without further ground control.

Results and Conclusions.

The experiments above described indicate great possibilities. In Western Canada the Dominion Lands survey forms an excellent natural system for scaling photographs and outline maps can be filled in at a reasonable cost. In the unsettled North, the country is similar to the area near Pas and it is only reasonable to expect that the same success which attended the experiments there will be attained when the method is applied on a larger scale. Results indicate that it is possible to go into an area previously unmapped and by means of aerial photography and a comparatively small amount of ground work to map even the most intricate waterways. A greater distance can be covered in the season with considerable saving in cost.

There can be no doubt that aircraft and aerial photography by rendering possible the economical production of topographical maps will play a large part in opening up our immense hinterland to the geologist, the prospector, and to all interested in the development of our resources.

RED ROSE TEA "is good tea"

and extra good is the ORANGE PEKOE QUALITY

Surnames and Their Origin

IBSON.

Variations—Ibbon, Ibbotson, Ebet, Ebbson. Source—A given name.

From the form of the name you wouldn't think that Ibsen or any of the above variations of it come from Isabella, but they do, all of them.

Of all the women's names which in England gave rise to family names, Isabella is one of the leaders. The explanation lies in the fact that the name was far more popular during those centuries in which family names came into vogue than it is to-day.

The surname of Ibsen, like that of Bell, which also comes from Isabella, is not as ancient as a host of other surnames. In fact, it must be ascribed to a period quite some time after the advent of the Normans, for the name Isabella itself did not exist among the Anglo-Saxons, nor among the Normans at the time of the conquest.

Nevertheless you can trace a remnant of Norman influence in the diminutives of the name, the ending in "ot" and "et," which place it not among the very latest of surnames. And we know that it did develop before the court and legal records of England ceased to be written in French, and the clerks dropped the use of Latin. In many of those ancient records you will find entries of names such as "Robert fil. (abbreviation of the Latin filius, son) Ibotae," and "Herve fil. Ibotae." But no such names as Fitzibbot have come down to us, indicating that at the time the Ibsen names developed the people themselves had ceased to speak French.

DOUGLAS.

Variations—Douglasi, Racial Origin—Scottish. Source—A clan name.

In Douglas you have a family name which as such rivals the most ancient of the Irish family names, though it is not Irish, but Scottish.

The clan of Douglas claims the uninterrupted use of this name in the family sense for more than 1,100 years, which is a noteworthy claim considering that most family names can be traced back only to about the year 1,300.

When Solvathus was king of Scotland, in 770 A.D., the clan of Douglas was well established, and the name has been passed down from generation to generation, from that day to this. If the foregoing claims are accepted and they appear to be verified by such records as are available, this family name came into use just about the time the Anglo-Saxons were getting well settled in England and were repulsing the attacks of the Danes.

It is told also that one of the ancient leaders of this clan crossed over to the continent and took service with the great Charlemagne, receiving from him grants of land in Tuscany. At any rate there are Douglases in Tuscany, a well-established and numerous family, which tends to substantiate this bit of history of the Douglas clan.

All those who bear the name of Douglas evidently may trace their names back to this great clan, unless, of course, some of their ancestors at some period consciously adopted it. It is not a name which could have sprung in several different places.

The Color of Water.

To speak of color in water seems absurd. A tumbler of water from the tap shows no color at all. How many instances there are, though, where water seems to be colored, either by reflection of light or by material or organisms contained in it.

As a rule, tropical seas appear quite blue, and as one travels farther from the Equator the blue gradually changes to green.

The color varies according to the amount of salt in solution in the water; and as the concentration of salt is greatest when evaporation is greatest, and therefore where the sun is strongest, the blue is intensified towards the Equator.

In the case of the Mediterranean the salt is further concentrated owing to the fact that less fresh water is deposited into it by rivers. The blue sky also increases the color of the sea by its reflection.



A Large Pain.

Turtle—"So you're calling on Mr. Hippo, who has a pain in the small of his back?"

Dr. Monk—"Yes, and I've ordered two barrels of liniment for him to have his back rubbed with!"

Keep Minard's Liniment in the house. Vicious Circle.

A Mid-Western paper reports one of the most "vicious circles" we have chanced to read about. A young man worked hard, saved his money and bought his house. Then he and his wife decided to buy an automobile. They mortgaged the house to buy the automobile and later had to mortgage the automobile to pay the interest on the mortgage on the house. That spiral truth winds to a tight place.

GIRLS' HAIR GROWS THICK AND BEAUTIFUL

35-Cent "Danderine" Does Wonders for Lifeless, Neglected Hair.

A gleamy mass of luxuriant hair full of gloss, lustre and life shortly follows a genuine toning up of neglected scalps with dependable "Danderine."

Falling hair, itching scalp and the dandruff corrected immediately. Thin, dry, wispy or fading hair is quickly invigorated, taking on new strength, color and youthful beauty. "Danderine" is delightful on the hair; a refreshing, stimulating tonic—not sticky or greasy! Any drugstore.



The Little Flowers of Love and wonder.

The little flowers of love and wonder That grow in the dark places, And between the giant rocks of chance

The little flowers of love and wonder That raise their heads Beneath the dread rains; And against the chill frosts; That peep and dream In flaws of light; And amid the still gray places And stony ways.

The little flowers of love and wonder That peep and dream, And quickly die.

The little flowers of love and wonder. —Theodore Dreiser.

Worried the Waiter.

A little woman and her tall husband entered a small restaurant and took seats at a table.

"You will have soup, of course," the husband, glancing at the menu.

"Yes," said the little woman, as she tried to reach the floor with her toes. "And, John, I want a hassock."

John nodded, and as he handed his order to the waiter, he said, "Yes, and bring a hassock for the lady."

"One hassock?" asked the waiter. He fidgeted for a moment, got very red, and then bent over John's left shoulder. "I say, mister," he said, in a low voice, "I haven't been here long, and I'm not on to all these things. Will the lady have the hassock boiled or fried?"

African States.

The whole continent of Africa has only three independent states, Egypt, Abyssinia and Liberia; and Great Britain really dominates both Egypt and Abyssinia, and the United States virtually controls Liberia. If the Sahara Desert be included, France is the greatest landowner in Africa. Great Britain, Belgium, Portugal, Italy and Spain follow in the order named. Germany, which once ruled over more than a million square miles, is now entirely out of Africa. The Cape-to-Cairo railway now building is expected to open for development vast areas of rich country.

To Preserve a Friend

Three things are necessary: to honor him present, praise him absent, and assist him in his necessities.—Italian Saying.

A cheerful mind is not only disposed to be affable and obliging, but raises the same good humor in those who come within its influence. A man finds himself pleased, he does not know why, with the cheerfulness of his companion. It is like a sudden sunshine that awakens a secret delight in the mind, without her attending to it. The heart rejoices of its own accord and naturally flows out into friendship and benevolence toward the person who has so kindly an effect upon it.—Addison.

A prosperous man is like a tree, which men let so long as its fruits last.

Home and the Baby.

Home was never home before, Till the baby came, Love no golden jewels wore, Till the baby came, There was joy, but now it seems Dreams were only rosy dreams, Sunbeams not such golden beams, Till the baby came.

Home was never really gay.

Till the baby came, I'd forgotten how to play, Till the baby came, Smiles were never half so bright, Troubles never half so light, Worry never took to flight, Till the baby came.

Home was never half so best.

Till the baby came, Lacking something that was best, Till the baby came, Kisses were not half so sweet, Love not really so complete, Joy had never found our street, Till the baby came.

Fighting Sugar's Foes.

Many people, even farmers and market-gardeners, have possibly never heard of thermogen. It is a paper made from sugar-cane, the waste substance left after the sugar-producing juices have been squeezed out.

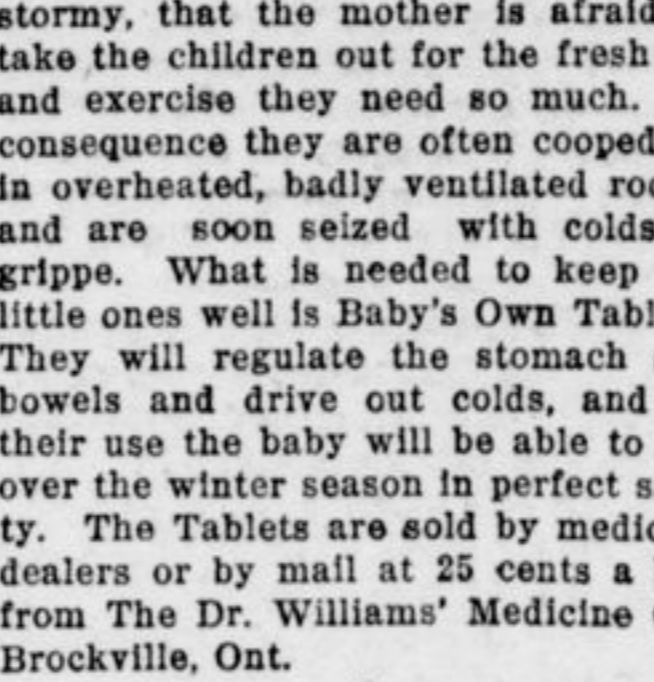
A Hawaiian planter, named Charles Eckart, has found a use for this hitherto waste product of the sugar industry. Reduced to pulp, and made into an asphalt-impregnated paper in rolls of immense length, it is put to a use which is so surprising as to seem almost incredible.

Two great enemies have been the bughars of the sugar-growers, weeds and torrential rains. The first took the nutriment intended for the plants, and the second washed the roots out of the soil and did immense damage.

To-day there are machines which travel across the sugar plantations laying this paper like a long carpet over the soil in which the roots lie buried waiting for the season of growth. It keeps the soil undisturbed by rain, retains a proper moisture, allows the heat of the sun to percolate, and keeps away the flying seeds of innumerable weeds. The sharp spikes of the spring sugar-cane pierce the paper and the unusual sight is seen of a plantation free from weeds.

KEEP LITTLE ONES WELL IN WINTER

Winter is a dangerous season for the little ones. The days are so changeable—one bright, the next cold and stormy, that the mother is afraid to take the children out for the fresh air and exercise they need so much. In consequence they are often cooped up in overheated, badly ventilated rooms and are soon seized with colds or grippe. What is needed to keep the little ones well is Baby's Own Tablets. They will regulate the stomach and bowels and drive out colds, and by their use the baby will be able to get over the winter season in perfect safety. The Tablets are sold by medicine dealers or by mail at 25 cents a box from The Dr. Williams' Medicine Co., Brockville, Ont.



Labor Turnover.

"What's labor turnover?"

"Coughing up yer hard-earned cash to the ole girl."

Dominion Express Money Orders are on sale in five thousand offices throughout Canada.

Residual.

When books I love are no longer my friends, And I'm deaf to the word the night wind sends; When my soul denies the beauty of life, And I'm only a husband to my wife; When I've come to the grave of eat and sleep, Oh, bury me, friends! and bury me deep!

Better to go to bed without a meal than to rise the next morning with a debt.

Reason rules our judgments; our characters determine our actions; hence the frequent inconsistency between them.

All domestic pigeons are descended from one species, the Blue Rock. There are now fifty different varieties.

Canada's forest resources constitute one of the Dominion's most valuable assets. They contribute to the trade of Canada upwards of \$200,000,000 a year and play an important part in our external commerce.

Even constipation, bilious, feverish, or sick, colic Babies and Children love to take genuine "California Fig Syrup."

One of the most valuable assets of the Dominion is its timber. It is estimated that there are now fifty different varieties.

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HEADACHES FOR WEEKS

They Soon Disappeared After Using Dr. Williams' Pink Pills.

Every woman, at times, finds the routine of household work irksome. But how much more difficult are the daily tasks of the home to the woman who is nervous and rundown? She prepares meals for the family, but has no appetite for food. What she does eat distresses her, headaches and dizziness follow, there is a fluttering of the heart, and the complexion becomes pale. In cases of debility of this kind building up the blood is generally effective. By improving the quality of the blood and increasing its quantity, nourishment is carried to the shattered nerves. The appetite invariably improves and gradually the exhausted system is toned up and the whole outlook of life is brightened. Mrs. Geo. Grant, R. R. No. 1, Markdale, Ont., tells for the benefit of others the great benefit Dr. Williams' Pink Pills were to her in a run down condition. She says:—"If anyone can strongly recommend Dr. Williams' Pink Pills I feel I can. For over four years I had been troubled with my nerves, and for weeks at a time I would suffer terribly with headaches. My blood was very thin, I had no appetite, could hardly go about. I was afraid to stay alone in the house as I feared some thing would happen to me. Finally I decided to try Dr. Williams' Pink Pills and they have made me a new woman, as I am now the picture of health. I have increased in weight, the headaches come no more, and my nerves are as good as ever they were. Before I began taking Dr. Williams' Pink Pills life was a burden; now I enjoy living, and I hope some other woman will take courage from my experience, for I feel sure that what this medicine did for me it can do for others."

You can get these Pills from any medicine dealer or by mail at 50c a box from The Dr. Williams' Medicine Co., Brockville, Ont.

All Wrong but the Trombonist.

Popular music to-day is often so ornamented with irrelevant and impertinent sound from some of the more noisy instruments that no one is astonished if the results are not always harmonious. The band of a small Minnesota town had just finished a vigorous but not particularly melodious selection. As they sank perspiring to their seats after bowing self-consciously for the applause the trombonist asked hoarsely:

"What's the next one?"

"The Maiden's Prayer," answered the leader, consulting his programme.

"Good Heavens!" ejaculated the trombonist. "I just got through playing that one!"

He Should Have Looked the Gift Horse in the Mouth.

A lady upon whose child Velpeau, the great French surgeon, had performed a difficult operation, called upon him, full of gratitude, and presented him with a pocketbook that she had embroidered with her own hands.

Velpeau received the testimonial crustily, saying that it was a beautiful pocketbook and all that, but that his necessities demanded something more substantial. "My fee," he said coldly, "is five thousand francs."

The lady very quietly opened the pocketbook, which contained ten one-thousand-franc notes, counted out five and, politely handing them to Velpeau, retired.

Ask for Minard's and take no other.

A Deadly Insult.

It was their honeymoon trip to Birmingham, and the first time they had ever been out of Shropshire. As they waited on the platform at New Street for the guard to bundle their boxes out of the van, the young bride and bridegroom were manifestly embarrassed.

Then an outside porter came up and asked: "Can I look after yer baggage for yer, mister?"

The red blood mounted to the young bride's cheeks, and turning to her hubby she demanded: "Well, well, well! If ye ain't agoin' to thrash him for referin' to me like that, ye're no man, George!"

More Than One Poor Writer.

The professor had written on the back of a theme: "Please write more legibly."

Student (next day) — "Professor, what is this you put on my paper?"

Canada's national parks in the Rocky mountains are nearly as large as Belgium and two-thirds as large as Switzerland.

Mother! Give Sick Baby "California Fig Syrup"

Harmless Laxative to Clean Liver and Bowels of Baby or Child.

Even constipation, bilious, feverish, or sick, colic Babies and Children love to take genuine "California Fig Syrup."

One of the most valuable assets of the Dominion is its timber. It is estimated that there are now fifty different varieties.

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The Legal Hour.

Daylight saving is unpopular in Italy because of the name the government ascribed to it. At least that is former Premier Nitti's laughing explanation. The new time was called the "legal hour."

With the advent of spring, says Mr. Kenneth L. Roberts in Europe's Morning After, the Italian government ordered that all clocks be set back an hour so that the people might have the advantage of an extra hour of daylight. But in Italy, as in other countries, a large number of people didn't like the arrangement, and so they made a frightful uproar and organized strikes against the "legal hour." The street railway employees, for example, were striking. I asked one of them his reasons.

"The new hour," said he, "makes it necessary for us to get up too early in the morning. Everything is foggy and dark."

I reminded him that the new hour saved coal for the nation and gave him an extra hour of daylight when his work was done.

"Yes," he said, "but it is too foggy and dark when we get up."

"Our mistake," declared Nitti, "was in calling it 'the legal hour.' We should have known that no true Italian would have endured it. We should have called it 'the illegal hour.' Then every Italian would have been unanimously in favor of it!"

Spruces.

Little green spruces. Are counting on their fingers, On a million fingers Gemmed with early dew, All their fragrant uses, Blessed joy that lingers Summer time, winter time, The whole year through.

Breathe a million praises, Little green choirs! Shake your spicy thankfulness Through the golden air! Everliving phrases Echo in and o'er us, Telling us our blessedness, Urging us to prayer.

Alberta and Saskatchewan now

ship many of their dairy products to England by way of the Panama Canal. The rate of \$1.50 a hundred pounds is \$1.77 cheaper than the rail-and-sea route by way of Montreal.

ASPIRIN

Beware of Imitations!



Unless you see the name "Bayer Cross" on packages or on tablets you are not getting the genuine Bayer Aspirin proved safe by millions and prescribed by physicians over twenty-three years for

Colds Headache
Toothache Lumbago
Neuritis Rheumatism
Neuralgia Pain, Pain

Accept "Bayer Tablets of Aspirin" only. Each unbroken package contains proven directions. Handy boxes of twelve tablets cost few cents. Drugists also sell bottles of 24 and 100.

Aspirin is the trade mark (registered in Canada) of Bayer Manufacture of Monoaceticacidester of Salicylicacid. While it is well known that Aspirin means Bayer Manufacture, to assist the public against imitations, the Tablets of Bayer Company will be stamped with their general trade mark, the "Bayer Cross."

DON'T TRY THE DO THIS WATCH TEST

Can You Hear? Place watch to ear then draw away. You should hear tick at 56 inches. Does a ringing in your ears prevent your poorer hearing?

LEONARD EAR OIL. Relieves both Head Noises and Deafness. Just rub it back of ears and insert in nostrils. Price \$1.25 For Sale Everywhere. Interesting descriptive folder sent upon request. A. O. LEONARD, Inc., 70 8th Ave., New York.

A Quick Relief for Headache

A headache is frequently caused by badly digested food; the gases and acids resulting therefrom are absorbed by the blood which in turn irritates the nerves and causes painful symptoms called headache, neuralgia, rheumatism, etc. 15 to 30 drops of Mother Seigel's Syrup will correct faulty digestion and afford relief.

CUTICURA SOOTHES IRRITATIONS

In the treatment of all skin irritations bathe freely with Cuticura Soap and hot water, dry gently, and apply Cuticura Ointment to the affected parts. Always include the exquisitely scented Cuticura Talcum in your toilet preparations.

Keep 25c. Ointment 25c. Soap. Taken 25c. Sold throughout the Dominion, Canadian Depot: Urquhart, Limited, 344 St. Paul St., W. Montreal. Cuticura Soap always without muss.

Classified Advertisements

FOR SALE
6 POUNDS LEAF TOBACCO. ONE pound is fine cured. Mailed all over Canada for \$2. Lewis Wigle, Leamington, Ont.

Historic Vault Found.

Arabs digging in the Valley of Kidron, sometimes known as the Valley of Jehoshaphat, between Jerusalem and the Mount of Olives, accidentally discovered three chambers and a family vault, the contents of which had not been disturbed. This contained nineteen ossuaries and is inscribed with Hebrew characters. It is supposed to have belonged to a priestly family. The names Jehshebeah, Imma, Shelom-Zion, Eliezer and Shimeon have been deciphered, together with epigraphical evidence to indicate that the vault dates from the late Maccabean period.

It is most often a lame story that halts in the telling.



CHILLS

are the forerunners of colds and gripple. Inhale Minard's and rub it on throat and chest. A sure preventative.



WEAK, RUN DOWN AND AILING

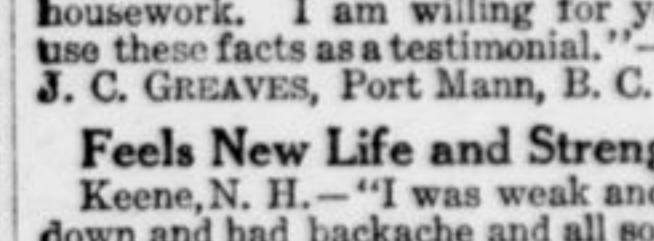
Lydia E. Pinkham's Vegetable Compound Brought Relief When Other Medicines Failed

Port Mann, B. C.—"I took Lydia E. Pinkham's Vegetable Compound because I was tired and run-down. I had headaches and no appetite and was troubled for two years with sleeplessness. I tried many medicines, but nothing did me any real good. While I was living in Washington I was recommended by a stranger to take Lydia E. Pinkham's Vegetable Compound. I am stronger and feel fine since then and am able to do my household work. I am willing for you to use the facts as a testimonial."—Mrs. J. C. GREAVES, Port Mann, B. C.

Feels New Life and Strength

Keene, N. H.—"I was weak and run-down and had backache and all sorts of troubles which women have. I found great relief when taking Lydia E. Pinkham's Vegetable Compound and I also used Lydia E. Pinkham's Sensitive Wash. I am able to do my work and feel new life and strength from the Vegetable Compound. I am doing all I can to advertise it."—Mrs. A. F. HAMMOND, 72 Carpenter Street, Keene, N. H.

Sick and ailing women everywhere in the Dominion should try Lydia E. Pinkham's Vegetable Compound.



Can You Hear? Place watch to ear then draw away. You should hear tick at 56 inches. Does a ringing in your ears prevent your poorer hearing?

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