

WHAT'S UP IN THE AIR?

Canada's Future in the Air Still Problematical Above the Clouds So High

By Flight Commander A. H. Sandwell

These are indeed disappointing days in Empire aerial affairs, particularly as they affect Canada. For months we have been afflicted with highly optimistic ballyhoo about Canada "taking her rightful place in the air!" We have been asked to enthuse about a projected trans-Canada air mail and passenger service which was to start, so we were promised on numerous occasions, on July 1st of this year. We have been urged to arise and wave flags and fire off rockets over the projected trans-Atlantic flying boat service, and about the "aerial links of Empire" which are to connect Great Britain with Australia by way of Canada and the Atlantic and Pacific oceans (although the existing Imperial Airways route by way of India serves a population much more dense, is considerably shorter and infinitely more convenient.) We are told, in season and out of season, by experts and by parrots, that the Atlantic ocean, the Dominion of Canada and the Pacific ocean form the obvious route between Great Britain and the Orient (although the alternative eastern route across Russia is only about two-thirds of distance and is almost entirely overland, which permits of carrying some payload instead of the immense loads of fuel that are required to transport a flying boat across either ocean.)

We have been told weekly that the Canadian Government is "almost ready to introduce a bill to establish" the highly complicated corporation which is to run the trans-Canada air route. And what have we to show for all this activity and hot air but a priceless collection of alibis and broken promises?

I earnestly beg that you will give me credit for having discounted much of this propaganda as soon as it was printed. On October 10th, 1936, I expressed doubts about the starting of the trans-Canada service on Dominion Day of this year. On numerous occasions I begged you not to get over-excited about the Atlantic service. But in my wildest dreams I never imagined that in February, 1937, we should find ourselves bogged down in a state of inertia such as is indicated by semi-official despatches from Ottawa which indicate that there is little hope of getting the trans-Canada airway running until 1938. The inexplicable delay in appointing a "chosen instrument" for either the trans-Canada or this country's quarter-share in the trans-Atlantic scheme has effectively prevented anybody from doing anything really important in preparation for either service, although one Canadian company at least has taken steps to train a number of its pilots in the type of instrument-flying that will be an essential accomplishment of airline first and second officers.

It is reported that several prominent Canadian air services have approached the Government with a view to obtaining contracts to fly mail. From information which reaches me, that isn't the half of it! Several prominent politicians with only paper air services in their possession, it is said, have brought up their heavy artillery with the same object in view.

There can be no criticism of any company or amalgamation of companies which actually have air services for going out after what may conceivably be a juicy plum in the shape of mail contracts. The only doubtful point seems to be just how juicy this particular plum is going to be. I notice that E. Leigh Brintnell, president of Mackenzie Air Service, Limited, which has just merged with Wings Limited and General Airways, is quoted as saying that the anticipated 200 m.p.h. ships to be used on the trans-Canada service can land on any normal airport, and that therefore larger airport facilities would not necessarily be required. Aircraft, fast or slow, in the hands of an expert pilot, can be set down safely in the most extraordinary places. But as has been tragically proved once or twice in recent months they cannot always get out with safety from the places they got in to. The general tendency in the United States, whose machines we shall probably be using for some years at any rate, is to make runways five thousand feet long or more, and they are not doing this just for fun.

Over-Weather Idea Gets Set-Back
The much publicised "over-weather" or sub-stratospheric plans of Trans-continental and Western Air ran into a bit of a snag a couple of weeks ago when that company's test pilot, D. W. (Tommy) Tomlinson, in the Northrop "Gamma" monoplane which he has equipped for experimental and research work in connection with this proposal, found himself, as my colleague C. B. Allen, of the N. Y. Herald Tribune delightfully expresses it, "very much in, if not under the weather" at indicated altitudes of 35,000 to 36,000 feet.

Tomlinson set off from Kansas City deliberately in weather conditions which had grounded most of the commercial transport planes with fog, rain and sleet. Sustained by oxygen he attempted to put over a spectacular flight which would have increased the interest with which his ship was regarded at the National Aviation Show in Grand Central Palace, New York, and a very gallant effort he made. Unfortunately the weather refused to play ball, and instead of merging into that area of eternal sunshine which we have been told exists at around 30,000 feet and upwards, it pushed its nasty clouds up so high that the laboring machine simply could not get out on top of them at all.

After fighting his way up to the neighborhood of 36,000 feet and failing to emerge, Tomlinson, whose airmanship was superb throughout, finally landed with empty tanks near Princeton, sustaining minor damage. There is no criticism of either the pilot or his employers for making the flight. For the former it was a most praiseworthy performance, and for the latter it was a justifiable scientific experiment in search of improved conditions for operating an airline. What Mr. Allen criticizes, and I think rightly, is the slowness with which the results of this flight were realised by the very people who should have quickly seen them. Says Mr. Allen "within the same week as his (Tomlinson's) failure to top a mid-

THE RADIO IN SOUTH AMERICA

Few of the Countries Enjoy Programs of the Highest Quality

Although many radio listeners in the United States are acquainted with South American broadcasting through reception of short wave programmes, little is known in this country of the regular commercial programmes transmitted over medium waves for local audiences. As a guest lately returned from the southern continent and as a former member of the staff of station CB68 at Valparaiso, Chile, we believe that the following information on the conditions of broadcasting in that portion of the Western Hemisphere will picture the type of material supplied to the listeners there.

Throughout South and Central America the greater part of all radio broadcasting is presented by transcription from popular records, with the exception of occasional broadcasts from Buenos Aires and Rio de Janeiro stations, which offer live programmes similar in style to some North American programmes, but lacking in talent. However, more than 90 per cent of all South American regular broadcasts are canned.

Only 42 radio stations scattered throughout the continent have more than 1,500 watts of power. They are operated primarily for local reception. However, due to the comparative small number of stations long distance reception is good and one fairly high powered station located in the centre of the republic is able to cover the entire country from border to border. With the exception of a few long programmes, that is, fifteen minutes to half an hour in length, the average day's broadcast is composed of spot announcements. However, a few of the standard programmes, as sponsored commercially by large corporations, present fifteen or thirty-minute broadcasts using these ordinary disks and an occasional disk especially recorded by the sponsor for distribution in South America.

Talent, as a whole, is generally poor, and consequently listeners are given much better programmes by the transcription method than by using live artists. Due to the high duties on recordings and the wear and tear on records, the average South American station usually purchases a quantity of records only three or four times a year. Therefore within a few weeks after the receipt of the new disks the audience is so well acquainted with the library it invariably reverts to foreign short wave broadcasts or turns the radio off.

winter bad-weather area extending over the eastern half of the United States, speakers before the annual three-day meeting of the Institute of the Aeronautical Sciences at Columbia University were perpetuating the idea that had been their hobby for several years—operation of air liners at altitudes of 30,000 feet, above storms and fogs. Tomlinson's experience of trying in vain to clear the mists 6,000 feet above this level apparently had not registered. The temperature at the maximum altitude attained was some 65 degrees below zero F., in spite of which the mist still swirled thickly around the machine.

Light on Recent News Item

On January 29th, the news agencies in New York City sent out a story to the effect that one C. J. Weininger, of the National Advisory Committee for Aeronautics (N.A.C.A.) had that day announced a new development in aviation to the Institute of Aeronautical Sciences. The so-called announcement was reported as follows: "Baby-size wings called tabs, hooked behind the wings of big planes like air rudders, soon will ease the job of pilots."

Now I don't know just what it was that Mr. Weininger actually announced to the Institute, but I would give odds that it was not that tabs would soon ease the job of pilots. Tabs, as the members of the N.A.C.A. and the Institute must be aware, are now almost standard equipment on a wide range of large and high-speed aircraft, and have been for some years. The term tab is considerably newer than the device itself, since they were originally called "servo-flaps," but the purpose for which they are used has been the same since those early British flying boats which carried a separate little surface stuck out on extensions behind their rudder. The term "flap" is now generally used for the trailing edge flaps which are more and more being used on high-speed machines to assist in the making of reasonably slow landings. These flaps increase the lift by some 25 or 30 per cent, and the drag by from 200 to 300 per cent, so that machines which would otherwise "float" right across a normal airdrome can by their use make a fairly steep descent and land at some 60 or 65 m.p.h., instead of the 90 m.p.h., which would be the landing speed without them.

Reverting to tabs, the little separately movable devices set in the trailing edge of the various control surfaces have proved by long odds

VALIDITY OF THE SALES TAX CHALLENGED IN COURT CASE

City's Complaint Against Imperial Tobacco Company Draws Charge that Measure is Not Within Powers of Provincial Legislature.

MONTREAL, Feb. 10.—A direct challenge to the sales tax of the City of Montreal, as being beyond the powers of a Provincial Legislature to enact, was made this morning before Mr. Justice McDougall in the Superior Court, in an action in which the City of Montreal is seeking to collect the tax amounting to \$3,518.75 from the Imperial Tobacco Company of Canada Limited. The tax is claimed at the rate of two per cent on the purchase by the company of merchandise to be given as premiums with certain brands of cigarettes and pipe tobacco. In refusing to pay the tax, the company claims that not only is the sales tax an illegal form of taxation, as far as the city is concerned, but also that the tax was passed on and was actually paid by the ultimate consumer.

The city's action before the courts calls for the unpaid tax for the fiscal year from May 1, 1935, to April 30, 1936, during which time, it was claimed merchandise valued at \$175,937 was purchased by the company for use as premiums under a system of premium cards then in vogue.

On behalf of the City of Montreal, Camille Tessier, city attorney, suggested that the merchandise in question fell under the definition of a retail sale, contained in the taxing by-law. That purchase by the company, he said, was the last occasion of a sale of the merchandise and it was on the last sale that the tax must be paid.

When the premium was handed over to a cigarette purchaser, after a stated number of premium cards had been collected, what actually happened, he suggested, was that the company gave the article chosen as a free gift. That, he claimed, was not a sale of the object provided as a premium and therefore the sales tax could not be collected from the consumer.

Turning to the legal definition of a sale, the city attorney pointed out that three elements were present. In the first place there must be some object to change hands, secondly a price must be fixed and thirdly there must be the consent of the seller and purchaser.

In the case of the cigarette premiums, he maintained, the element of price was lacking, since the purchaser of a package of cigarettes did not know at that moment whether he would get a premium or what price he would be paying for it.

Since the element of price was lacking in the transaction, the lawyer maintained, the premium must be considered as a free gift, offered to the purchaser as an incentive to buy that particular brand of cigarette rather than another.

His Lordship suggested that it would be easy for the consumer to determine what his premium cost him in each instance, and that would eliminate the difficulty about no determined price between the parties. If, for instance, the article in question were enclosed in the package of cigarettes, would that not constitute a sale of the premium as well as of the cigarettes? he asked.

The city attorney considered it would not. What the consumer was buying was tobacco and not premiums and the merchandise offered with the tobacco was merely an incentive to buy. He insisted that the last real sale of the merchandise took

place when the defendant company bought it, and that was the point at which the law gave the city the right to assess its tax.

W. F. Chipman, K.C., acting for the defendant company, explained at the outset of his argument that the tax was challenged on two main grounds. In the first place, it was no binding on the company because there was no retail sale by the company and in the second place he suggested in any event that the law was ultra vires and beyond the powers of the provincial legislature.

As regards the matter of retail sale he argued that when a purchaser bought a package of cigarettes he acquired not only cigarettes but a right to a premium and therefore the last sale of the premium was when the final purchaser acquired it. The tobacco company, he said, originally bought a certain quantity of tobacco and certain other merchandise for premium. Both tobacco and premium were passed along down the line through the middleman and shop keeper to the consumer. At each stage there was a sale of both articles, not only a sale of the tobacco, and when finally the consumer made his purchase, he acquired both cigarettes and premium.

So much was that the case, that it was shown that in its system of book keeping the company allocated the cost of merchandise bought for premiums only to those particular grades of tobacco on which premiums were given. This cost was passed along finally to the consumer, and there was no difficulty about any purchaser knowing the price he had paid for his premiums, he maintained.

To a question from the Court, the lawyer agreed that if the tax were chargeable to the company, a double-tax would be paid on the premiums, seeing that the ultimate consumer also paid the sales tax on his cigarette package.

the most simple way of trimming a machine which may, for some reason or another, be out of balance. In the case of the elevator flaps, or "flippers" as our American cousins call them, they frequently render unnecessary the tail-plane trimming devices which were so common a few years ago. On the rudder, the tab can be used to overcome the off-centre pull of one engine when the other one is stopped on a twin engine machine. And on the ailerons, tabs overcome or correct the tendency to wing-heaviness on one side or the other which often occurs with cantilever wings that are not easily susceptible to adjustment by changes of rigging, as the wings of a wire-braced biplane are adjusted or rigged. To suggest, as these newspaper dispatches did, that the tab is something new, to be announced to a learned society, is almost like suggesting that someone should 'announce' the introduction of the slide-valve for steam engines.

Sincere if belated thanks are due to the several readers, particularly to Roland Doig and C. R. Partik, who took the trouble to send long and interesting letters relatives to the speed of ice boats discussed some weeks ago. Mr. Doig points out that the something you get from the wind is more than just velocity, it is velocity plus force, a definition of power which is an alternative to the one more usually given 'work divided by the time in which it is done.' Space does not permit printing his entire argument, but it was appreciated just the same.

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