

NATURE NOTE
 During the course of the botany lesson the teacher asked if any boy knew why the leaves turn red in the autumn. Up popped an eager hand. "Well, Wilks?" asked the master encouragingly. "Please, sir, they're blushing to think how green they have been all the summer."

Initial Training School Full Of Scientific Marvels

One of a series of articles on the old Hunt Club never dreamed of the scientific wonders it would one day contain.

By HUGH TEMPLIN

"Were you planning to visit the Initial Training School at Eglinton?" asked Flying Officer Nicol, our guide whose duty for the time being was to get us past the sentries and the barrier gates and explain what the Royal Canadian Air Force was doing.

I said I hadn't thought of it: my desire was to get on to the camps where there was actual flying just as quickly as possible.

Flying Officer Nicol thought that would be a mistake. In his opinion, the Initial Training School was the most interesting place of them all. It was customary to take distinguished American visitors up to Eglinton just to let them look around and see for themselves that there were certain things in Canada which Uncle Sam's Air Force didn't have. Walter Lippmann, the columnist, had been there just a few days earlier.

My guide was right, as usual. If I had missed the Number One Initial Training School, I would never have realized just how thorough is the early testing of the young men who are destined to become fighting pilots and observers.

Carrying on Sir Frederick's Work
 It is generally known that when Sir Frederick Banting died in a plane crash in Newfoundland, he was on his way to England to carry on his scientific work for the Air Force. His death did not stop that work. It began at the Banting Institute at the University of Toronto, and since last November, it has been continued in the buildings which formerly belonged to the Eglinton Hunt Club in North Toronto.

The Eglinton Hunt Club used to be a favorite resort of Toronto society, and the kind of place where a village editor would hardly expect to find himself. Inside the main building is a big arena, large enough for a game of polo and ideal now, since the seats have been taken out, as an indoor drill ground. There are class-rooms where dance floors used to be, for the students at the Initial Training School are already studying a stiff course of higher mathematics, armament, signals, sanitation and navigation. It is easy to see why matriculation standing or better is a necessity for every aspiring pilot.

I looked over the lay-out admiringly. Even though it had been toned down to make it useful rather than beautiful, signs of its former magnificence were apparent.

"This must have been a swanky place in the old days," I suggested. Flying Officer Nicol used to be another working newspaper man. "I wouldn't know," he said. "My dues in the Hunt Club weren't kept up very well."

When the land and buildings were purchased, there were questions in Parliament and suggestions that they had been bought to help out an organization which was about to pass out of existence. I don't know anything about the truth or otherwise, but the people who built the

Testing Brain Waves

After a brief call at the office of Squadron Leader McPherson, officer in command at No. 1, I.T.S., I went to the office of Flight Lieutenant C. B. Stewart. This brilliant young doctor, a graduate of Dalhousie University in the Maritimes, is carrying on Dr. Banting's work, but he took time off to guide me personally through the building where the aircraftmen are tested, mentally and physically, to see whether they will be able to stand the strain of flying and fighting five miles above the earth.

As we started down the hall, we met a young man whose appearance was startling. He looked as though he had just come from the hands of an electrician. Five long wires hung down from his head. Two of them seemed to be soldered to the top of his head, in among his hair, two more were attached to the back of his neck and one hung from his left ear. Little patches of hair had been shaved off and the wires attached at important points. Dr. Stewart explained that the two in front were over the part of the brain controlling muscular co-ordination and the two on the neck indicated the place where the optic nerves entered the brain. The one on the ear was just a ground wire. By using a complicated electrical machine, it was possible to measure the brain waves of the man who now looked like something that had wandered out of a cartoon comedy.

The young aircraftman was told to enter a small room and lie quietly on a bed. The wires were attached to binding posts on the wall. He was told that he wasn't to think of anything exciting, such as an evening with his best girl, but to try to come as near as possible to thinking about nothing at all.

Out in the next room, the Flight Lieutenant touched a switch. A broad ribbon of white paper began to creep over a table. On it were four wavy lines, drawn by pens actuated by the wires from the head of the man whom I could see through the window, lying peacefully on the bed.

This patient was normal. The wavy lines had no sudden variations. His electro-encephalogram showed that he had passed one more test.

A few are abnormal. Suddenly the black line takes a jump to one side. An aircraftman with a record like that may take a fit up in the air some day. He won't be rejected on that one test alone, but the chances are that the time and expense of training him would be wasted, so when he shows other symptoms as well, he is finished as a pilot.

Low Pressure and Oxygen

In the next room, a large cylindrical structure stood in the centre of the room. It looked like the bottom of a silo. The outside was reinforced with steel and planking and large metal pipes ran around it. A porthole of heavy glass was built on one side and there was a desk with a microphone near the window.

Dr. Stewart opened a door and we entered a circular room, lined with burlap. Seats for ten persons ran around the sides and in the centre was a table with a chair where the doctor sat.

This strange room is used to test the ability to stand high altitudes where air gets thin and oxygen scarce. Usually a class of ten takes the test at once, with a doctor keeping watch through the window from outside and giving instructions through a loud-speaker, while another doctor sits at the centre table. The officer on the outside manipulates valves and the air is gradually drawn out. Indicators show the altitude at which the air is similar to that inside the circular room, 5000 feet above sea level, 10000 feet, 15,000 or more.

There is no particular sensation felt by the person inside the tank, but above 10,000 feet, or two miles, the nails turn a bluish tinge, which is also apparent in the lips. The brain seems unimpaired, but that is an illusion. To prove this, the aircraftmen are given simple little problems to do — to change a sentence into a common code, or something of the kind. Like a car driver with a few drinks, who thinks he can drive as well as ever, they don't know they are making mistakes. As the air is exhausted, the margin of error rises.

Another test follows. A rubber

oxygen mask is fitted over the nose and mouth. A tube hangs down from it and the end of this is plugged into a small pipe which runs around the inside of the wall. With a supply of oxygen available, the tests show normal brain operation no matter how high the pilot may "fly." It is an impressive lesson, thoroughly taught.

43 Degrees Below Zero

I wondered what would happen next as Dr. Stewart led me into another room. Young men were climbing out of flying suits of various types, and hanging them on hooks along the wall. Equipment, as well as men, must stand the tests.

The Flight Lieutenant opened a door similar to those on large refrigerators and we entered a cold chamber. The temperature there was said to be 20 above zero, but we didn't stay long, going on into a second and a third, through large insulated doors each time. The second refrigerator chamber was kept about zero and the third at 20 below. In ordinary summer clothes, it began to feel chilly, but such temperatures are encountered in high flying.

In the third refrigerator room, there was a metal chamber, somewhat like a large concrete mixer, coated outside with an asbestos compound. My guide unscrewed a circular door like a big porthole and the two of us climbed inside. There was only room for two at a time there, and a cold artificial wind blew continually. Dr. Stewart pointed to a thermometer, which registered 43 degrees below zero, a temperature encountered four or five miles above the earth. It is possible to exhaust the air from this chamber also.

We did not stay long. As we came out again through the various chambers, even zero temperature felt warm.

Next Week—The Link Trainer.

A Negro minister was caught hugging one of the sisters of his flock, and a church inquiry was called. Witnesses testified, and the minister confessed, but defended his actions as proper.

He maintained that as pastor of the flock he had a perfect right to take one of his lambs in his arms.

When the inquiry was finished, a brother offered a resolution:

"We excuse Brother Johnson from all blame, but hereafter when he wants to take one of his lambs in his arms we suggest that he select a ram lamb."

Liberal Classified "Ads" bring results.



TELEPHONE TIPS FROM A FIGHTER PILOT

A fighter pilot must keep 48 basic factors in mind. These are technical flying matters, apart from battle tactics.

And he must also remember other things—for instance how to talk on his aircraft telephone; he always speaks clearly and concisely.

With telephone lines carrying an extra heavy load directly concerned with Canada's war effort, you can help telephone workers maintain good service by adopting fighter pilot telephone technique.

When your telephone rings, answer promptly, and don't waste time by saying "hello"—instead give your name immediately. Speak distinctly, directly into the mouthpiece, and be sure to replace the receiver on the hook when you have finished your conversation.

Your co-operation will help us to provide fast, accurate telephone service for a nation at war.



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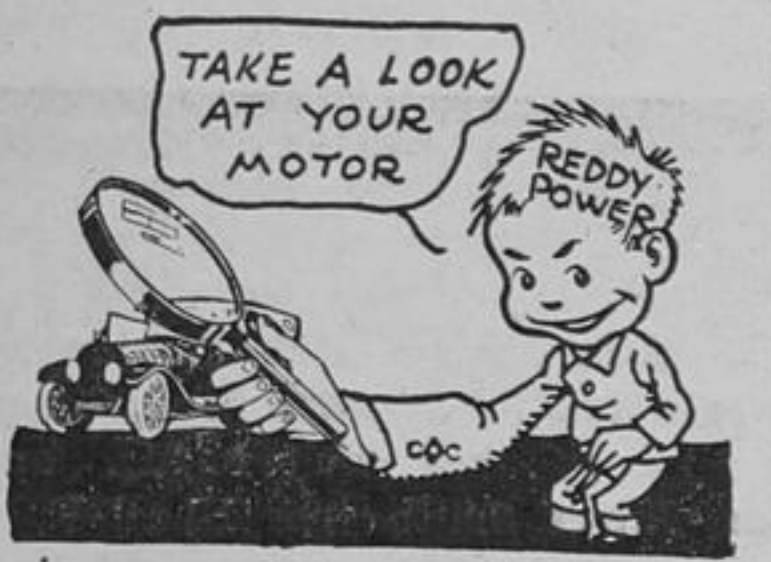
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Alaska Cruise Delightful Holiday



The Trail of '98 that once taxed the energies of Alaska-bound prospectors, today has an alternative and more attractive route, served not by dog-sled, but by luxury steamships of the Canadian Pacific coast fleet, and following the sheltered "Inside Passage" between Vancouver and Skagway. These trim liners, whose sister ships ply the "Triangle Route" between Vancouver, Victoria and Seattle, and cruise the west coast of Vancouver Island, bring the "Midnight Sun" within three days of Vancouver. Commencing May 2 and effective till Sept. 30, three smart "Princess" liners will conduct a series of 9-day cruises from Vancouver to Skagway, with a 33-hour stop-over at the Alaskan port. The B.C. coast service will also operate three 11-day cruises to Alaska, allowing for side trips by rail and lake from Skagway to Lake Bennett, Whitehorse and West Taku Arm. The cruise liner "Princess Charlotte" will feature in these tours. From comfy deck chairs, today's northbound nomad is treated to a moving pageant of majestic glaciers, towering peaks, and rock-bound fjords. Adventure waits at every port of call. Alert Bay, Prince Rupert, Ketchikan, Wrangell and Juneau follow in colorful succession, each with its weird array of totem poles and other symbols of Indian life. Picturesque "Sunset Cruises" along the west coast of Vancouver Island are also scheduled for the current season between Victoria and Port Alice. These popular cruises offer the passenger eight days of splendid coastal scenery with regular stop-overs at quaint Indian fishing villages. Two Canadian Pacific liners will be in "Sunset Cruise" service from June 1 to September 21. Life on a Canadian Pacific coast vessel is fashioned after that of an ocean liner. Deck tennis, shuffleboard, morning bouillon, afternoon tea, horse racing, dances, moonlight promenades on deck, and midnight snacks all contribute to the joys of ship-board life on a Canadian Pacific "Princess" liner.