

### Canada's aluminum whistles blow long and strong

What do a British locomotive, a United States Navy vessel, a Nova Scotia lighthouse, and the top of the B.C. Hydro Building in Vancouver have in common? Aluminum air horns, made in Vancouver by Airchime Manufacturing Company, and designed by Bob Swanson, founder of the company.

It all began in 1948 when diesel locomotives were introduced to British Columbia.

Soon after the switchover on the Esquimalt and Nanaimo Railways, a collision occurred between a diesel and a truck. The truck driver said he had heard the horn but thought it was another truck. Federal authorities were hearing similar complaints from throughout Canada — that train whistles sounded like boat whistles, bridge whistles or cattle whistles.

Mr. Swanson, at that time chief inspector of railways in B.C., felt the answer was to create an air whistle that sounded like a C-sharp diminished chord. But because steam whistles work on the flute principle, and air horns work on the trombone principle, experts said it couldn't be done.

Mr. Swanson decided it could, and he set out to prove it. He travelled throughout B.C. recording the sound of train whistles. Analysis showed the sounds were made up of five basic notes which were really one note and four harmonics. So he had air horns manufactured to make each of these notes, tested them individually, then combined them and "by golly I had something that really sounded like a train whistle."

Installation and testing was done on various locomotives in the Vancouver area, but the first sale was made in the U.S. when the Southern Railway and the Baltimore & Ohio each ordered 250.

"The first horn I made was steel, and you needed a wheelbarrow to move it...it weighed 54.5 kg. So when I went to the U.S. I made it out of the lightest and best material — Alcan aluminum, alloy 135," says Mr. Swanson.

Thousands of whistles later, aluminum is still being used. Airchime has been making them since 1953. Prior to that they were made under licence by another company. Now Airchime li-



Bob Swanson designed these air horns, used in Canada, Britain and the U.S.

cences manufacturers in the U.S. and Britain to assemble them from parts made in Canada.

#### Advantage of aluminum

According to Mr. Swanson, aluminum has a number of distinct advantages for use in the permanent-moldcast bells and heads of Airchime's products.

"It's less expensive than other metals. It's easier cast and handled. It's lighter. It can be heat treated and it machines better than most metals. You can drill and tap it."

And it lasts. "You can take an alu-

minum whistle that's seen more than 20 years' service on a navy boat out of Victoria. Put it in a bath and remove the paint. Put the parts back on the shelf and resell them. I've done that."

Every train in Canada carries an Airchime. Every railway in North America and British Railways are equipped with them, as are many U.S., British and Canadian naval vessels.

The latest — and largest — Swanson air horn is 171 cm in length, with a 86-cm diameter bell. It's driven by a self-contained 10 hp motor for use on huge supertankers. (From Alcan News, No. 6, 1976.)

#### Life insurance — a good way to save?

When contemplating the purchase of life insurance, the potential buyer is confronted with two types of policy — standard insurance and term insurance. These two differ in duration: term insurance is available through one- or five-year contracts, while standard insurance policies are relatively long-term. There is, however, a more fundamental distinction. Unlike term insurance, standard policies are not solely concerned with protecting against losses incurred by death; in addition, they are a means of saving. However, the rate of return on savings thus accumulated is unclear since life insurance companies do not disclose the yield on the savings element of standard policies. Hence, it is difficult to compare this investment to other financial assets.

Jacques Babin, an economist with the Economic Council of Canada, approaches this problem by using figures from some of the major life insurance companies in Canada to calculate the yield.

A standard insurance policy has two components: protection against the risk of death and savings. To isolate the savings from the protection element, Mr. Babin estimates the latter as equal to the alternative protection offered by term insurance. Five-year term insurance contracts may be successively renewed to equal the duration of long-term standard insurance policies. As well, until age 65 or 70, they can be converted into standard insurance. Therefore, the protection given by a \$10,000 standard insurance policy held for 20 years is deemed equivalent to the premium paid on a thrice-renewed \$10,000 five-year term