

**Excerpt from a speech by C.D. Howe given in June 1943**

A Canadian invention was responsible for seven major developments in the production of signal equipment, ranging from a tiny "talkie-walkie" radio set which one man could operate as easily as a cradle phone, to a super – high-power field wireless station with the radius of more than 100 miles. These products of Canadian design had so impressed other Allied Nations that orders had been placed for tens of millions of dollars worth.

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## **MIRACULOUS WALKIE-TALKIE LIKE QUARTERBACK TO ARMY**

**Enables Battalion Headquarters to Direct Units Over Wide Sections of  
Battle Front – Canadian Secret Weapon Useful to Paratroopers**



**THE SOLDIER AT LEFT GETS HIS ORDERS BY RADIO**

Canadian military headquarters today for the first time took some of the wraps off a closely guarded hitherto secret war weapon, designed in Ottawa and built in a Toronto plant.

Officially it is wireless set bracket (Canadian1) No. 38 Mark 1. Slang wise it is a walkie-talkie.

To radiomen it is a midget miracle, a tiny but combined broadcasting and receiving set, easier to operate than a hand telephone set, light but tough enough for paratroopers to take along in aerial assaults on enemy airfields. Versatile enough so, in combination,

they become a military network of broadcasting and receiving stations for attacking troops.

To infantrymen the walkie-talkie is like giving a football team a quarterback. Before the walkie-talkie, battalions in today's swift moving warfare, often would be like a football team without a signals-calling quarterback because of inadequate or broken down communication lines.

Today with the walkie-talkie, battalion headquarters can direct units over wide stretches of battlefield the way a quarterback sends his team plunging into action, and in addition the headquarters will know all the time what is developing in each area of operations.

## **May Save Lives**

Most of the fruitless throwing away of soldiers in battle throughout history has been due to faulty transmission of commands, or battle headquarters' ignorance of what was transpiring in frontline areas.

A dramatic example was the charge of the light brigade. Stunned commanders saw the charge begin but were powerless to stop the men. Today a walkie-talkie message could stop them before they traveled 15 yards.

Staff workers at the National Research Council in Ottawa conquered a difficult task in meeting the Canadian Army requirements for a new kind of portable radio.

The new machine, the army insisted, must be lighter, tougher, smaller and more compact than the cumbersome sets they were to replace.

One requirement that was met enables the machines to become impromptu military radio broadcasting and receiving networks right in the battle lines. A dozen or more walkie-talkies scattered among attacking units over a wide front can talk back-and-forth freely, with the headquarters set sending out instructions in all the units at once.

Battle noises would have to be screened out the army insisted. This was solved by having two grill openings in the microphone. Noises coming into both grills, such as battle noises, cancel each other out. But when a speaker uses only one grill opening, his words are broadcast distinctly.

## **Has Telescope Aerial**

The story of the aerial equipment for the walkie-talkie illustrates how the machine is designed for complex and varying requirements, yet its size isn't sacrificed.

One telescopic aerial, to be used under certain conditions, can be collapsed into a small cylinder.

Another aerial, a rod type, is in the 16 sections of four different sizes, and by using different combinations, different results are obtained. Maximum range is obtained with a 12 section area, but under battle conditions smaller aerials probably would be safer.

Aerials may be inserted vertically for use with the operator is in a standing position or at right angles when the operator is in a foxhole in a prone position.

Two power supplies are provided for the walkie-talkie. The battle battery is a dry-type battery consisting of low tension, high tension and bias batteries in a single pack, which fits into a haversack carried on the operator's back.

The vibrator power supply is a separate unit from the set proper and is arranged that it might be carried in a backpack by the operator. This supply provides high tension voltage through a vibrator transferring system from secondary cells of the lead-acid type. These cells may be recharged from any storage battery in the field.

### **Keep Data Secret**

Much of the technical data on the instruments remain secret. Range for example, is described only as "good reliable range for infantry working." The army experts report "performance of receiver and transmitter is very satisfactory".

Walkie-talkies made in Canada are in use for training purposes on both coasts, but most of the machines are going overseas.

Lifting of the security ban on any secret device such as the walkie-talkie usually indicates that a better product already is coming out of the factories. If that is so in walkie-talkies, the new ones probably will be a joint product of Canadian, British and United States designing an experience, for this standardization of signal equipment is one of the features of the cooperative program underway between these countries.