State — had usually tried to impose political riders to the acceptance of a continuing mandate for UNFICYP.

Canadian in the chair
The presidency of the Security Council rotates monthly according to alphabetical order. During June 1977, Canada's Permanent Representative to the United Nations, Ambassador William Barton was in the chair.

Starting with the publication of the United Nations Secretary-General's semi-annual report on the activities of the Force, Ambassador Barton commenced negotiations with the parties directly concerned (mainly the Greek- and Turkish-Cypriots, Greece, Turkey and Britain.)

On this occasion, the main problem was that the Greeks and the Greek-Cypriots claimed nothing had changed in the Cyprus situation in the past six months, whereas the Turks and the Turkish-Cypriots argued that there had been substantial changes; both sides were adamant that their views be reflected in the Council's resolution on the UNFICYP mandate-renewal question.

Despite the persistent, personal efforts of the president of the Council, combined with separate initiatives by other individual members of the Council — principally the ambassadors representing the non-aligned group of states and those representing the Western countries — over five consecutive days, the renewal of the mandate was still not assured.

Informal sessions
After virtually non-stop consultations, agreement was reached in the Security Council, meeting in informal session, at 18 minutes to midnight. Council members quickly adjourned from the basement conference room and moved to the Security Council chamber. The seconds ticked by; last-minute procedural questions had to be settled.

Two minutes to deadline
Finally, as Council members fidgeted in their seats and looked anxiously at the clock on the wall, Ambassador Barton rapped the gavel at two minutes to 12. The sudden silence from the Security Council was deafening. Delegates looked up.

Ambassador Barton proposed that the mandate of UNFICYP be renewed on the basis of a resolution identical in its operative paragraphs with that of the previous
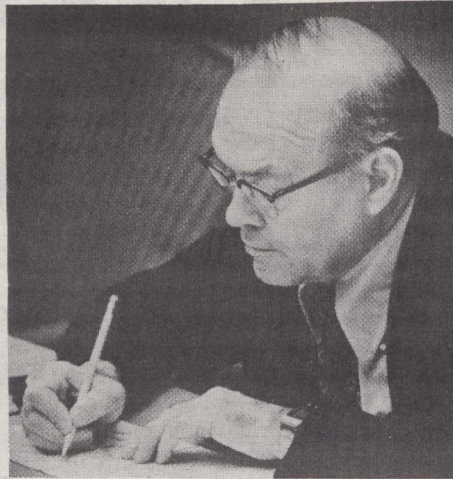
Ambassador William Barton (above), *Canada's Permanent Representative to the UN, was Security Council president as time was running out while members debated the controversial UNFICYP resolution in June.*

session but changed somewhat in its preambular paragraphs to reflect a changed reality. In the absence of any objection, the president ruled that the resolution had been adopted by consensus.

As UN Secretary-General Kurt Waldheim reached over to shake Barton's hand, he glanced at the digital watch on the Security Council president's wrist. Eleven fifty-nine and forty-five seconds.

If the mandate had not been renewed by midnight, the Canadian forces in Cyprus would have been in a state of legal limbo. There would have been no UNFICYP troops in position to restrain the itchy trigger fingers of opposing forces on the troubled island of Cyprus.

Telecommunications technology

Canada has begun its first field trial in the telecommunications network of a system using light waves to carry information.

Bell Canada, exploring the use of fibre-optics technology has installed a cable containing six hair-thin glass fibres in underground ducts between two Montreal switching centres. After the various tests are completed, some telephone conversations in the city will be travelling along the glass fibres instead of copper wires.

As Bell Canada's director of terminal and transmission systems, D.A. Carruthers explains, "This system includes extremely small solid-state light sources, called light-emitting diodes, whose light can be made

to fluctuate millions of times a second in response to the electrical impulses generated by telephones and other telecommunications apparatus.

"The light signals travel along the optical fibre and, at the receiving end, are changed back into electrical signals by minute solid-state photodetectors and other apparatus. These electrical signals then operate the receiving telephone, teletypewriter, facsimile or other receiving equipment in the conventional way."

"Tap-proof" and crackle-free
The first use of this technology in telecommunications in Canada was an internal system designed by Bell-Northern Research and installed for the Department of National Defence in Ottawa in March 1976. The system, carrying telephone, two-way television and data, is effectively "tap-proof" because virtually no light escapes the fibre and there is no electromagnetic field surrounding the fibre as there is with wires.

One hair-thin, feather-weight fibre has the potential to carry more than 4,000 phone conversations simultaneously or it can transmit several television programs, or hundreds of millions of "bits" of computer data *per* second.

As the "information explosion" continues and demand for communication facilities for voice, video and data increases, there is a real risk of serious cable congestion under city streets and in high-rise buildings. Use of optical systems promises a means of avoiding the congestion.

Another advantage of optical fibre is that it is free of electrical interference, from lightning or power lines. Also, "crosstalk" (hearing voices from other calls in the background) is eliminated.

Widespread use and large-scale production of optical cables are expected to bring about a dramatic cost reduction. The glass used in optical systems is made of silica, one of the most abundant minerals on earth, commonly found in sand.

Research scientist Dr. Kuhn describes a possible "fibre future" which includes computer terminals in homes providing electronic games, budgeting services and access to vast stores of information; television for monitoring children at play or for obtaining weather maps or stock market reports; a system which could deliver, in minutes, a hand-written letter with snapshots from one home to another; and an almost unlimited choice of television programs.