

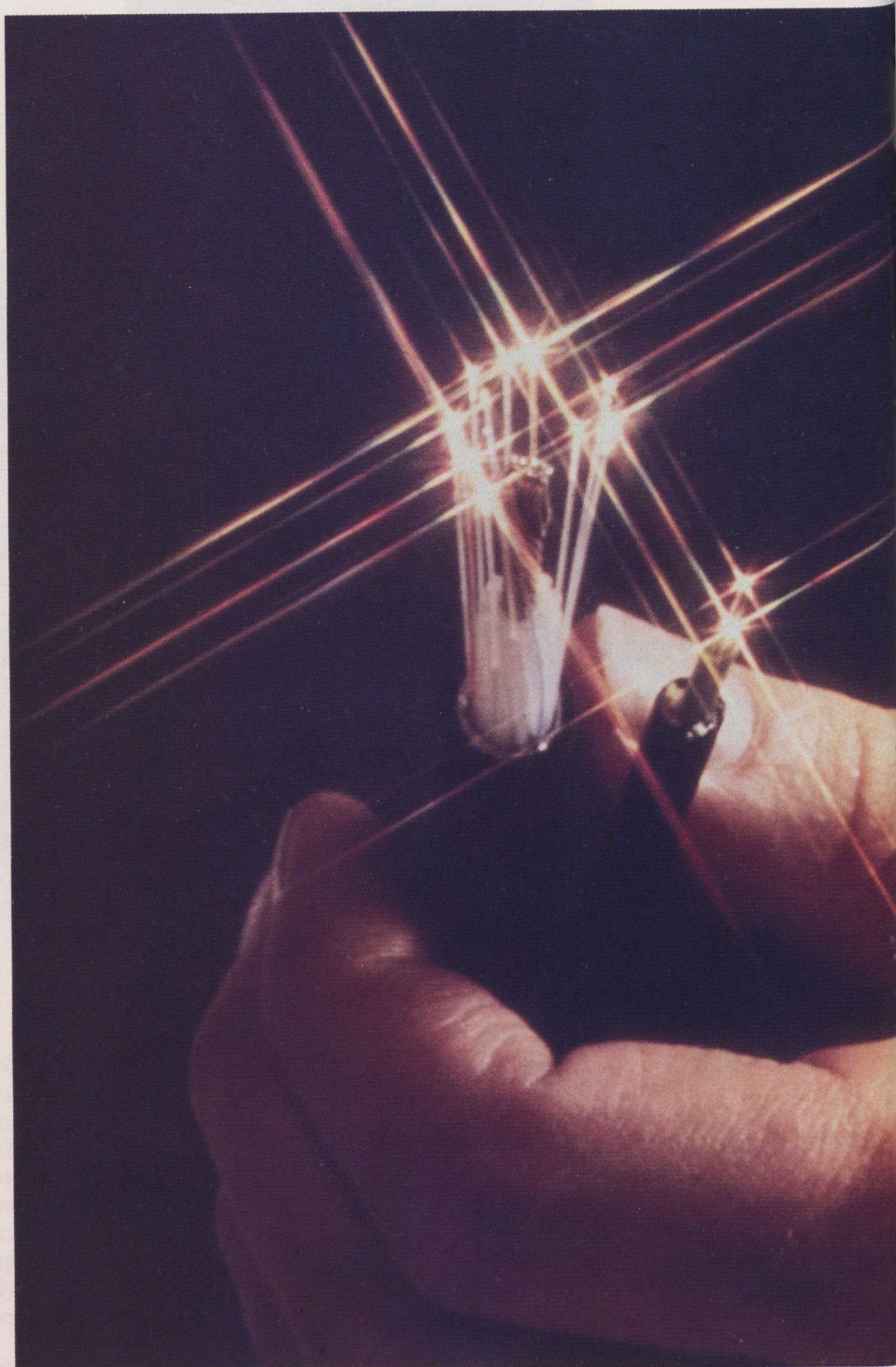
# Looking to the future

Forward-looking research and development is one of the secrets behind Canada's position as a world leader in telecommunications. Research in fibre optics, for example, led to the early development of optical hardware and enabled Canada to be among the first entrants into the market for optical communications systems.

In the next decade, fibre optics are expected to take over from microwave as the backbone of Canada's telecommunications network. Industry is now constructing two major trans-Canada fibre-optic systems. Slated for completion in 1990, they will cross 7 000 kilometres from Vancouver on the Pacific coast to St. John's on the Atlantic.

In the area of satellite communications, Canada continues to build on its solid foundation of knowledge. Participation in trials of the European Space Agency's Olympus satellite will extend the range of radio frequencies used by satellite communications into the extremely high frequency bands. Olympus-type satellites will be able to carry vast quantities of information for reception by tiny rooftop antennas, serving important sectors of the economy, such as banking, where there is a need for two-way data communications with large numbers of terminals.

To ensure a leading position in the development of the office of the future, Canada has scheduled a program to test the integrated services network (ISDN). The first ISDN customer trials begin in 1987. A two-year trial in Ontario and Quebec will evaluate the performance of existing hardware and software in an ISDN environment. The Canadian government as a large user will assess a variety of applications including high-speed digital telecopying, networking of personal computers and enhanced audio-visual conferencing combining high-quality voice links with the possibility of exchanging graphics.



*Fibre optic cable has more than three times the message-carrying capacity of the much larger copper cable.*