

New Trans-Atlantic Cable This Summer to Help Clear Jammed Circuits

By DAVE MASON
LONDON — One day this summer a trim ship flying a British blue ensign will lift anchor and steam across the bleak North Atlantic, slowly paying out the world's longest underwater phone line.

By the time the shiny black cable is well settled in the muck of the ocean bottom—probably around Christmas, 1956—someone in Poughkeepsie, N.Y., or Pepperwood, Calif., can ring up Pankehill, England, and have a chat with the words coming through clearly and distinctly.

Transatlantic phone calls have been possible for years, but only over jammed and erratic radio circuits. Conversations often are punctuated by static and sometimes voices fade away.

entire project will come to \$5 million.

The project is international, with U.S. and Canadian firms and the British General Post Office, which handles everything from TV and radio licenses to cable service—besides mail-taking part.

The American Telephone and Telegraph Co. will foot half the cost. The rest will be split by Canadian companies and Britain.

The cable itself is being turned out here now in a new Submarine Cables Ltd. factory especially built for the job. When it is finished it will be laid by her majesty's telegraph ship Monarch, the largest cable ship in the world.

The cable will lie along the hundreds of miles of ocean bottom like a gargantuan bull whip, but many times stronger.

Into it will go 2,700 tons of copper, 1,400 tons of polythene (a plastic material used for insulation), 11,000 tons of steel wire, 1,800 tons of jute yarn and 2,400,000 yards of cotton cloth.

A vital accessory to the cable is the repeater, or amplifier, which will pick up conversations and give them a boost on their course along the hundreds of miles of sea bottom.

The repeaters, made on an American design, will be inserted under the cable armor at intervals of about 42 miles. They will form a bulge about three inches in diameter, giving the cable the appearance of an ostrich neck with an orange going down.

When the line is finished and tested, enough will be loaded onto the H.M.T.S. Monarch to span the

entire 2,250-mile stretch of ocean bottom between the Eastern terminal point at Oban, Scotland, westward to Clarenville, Newfoundland.

Connecting Lines
 From Clarenville, there will be land wires to Terenceville, connecting to a 300-mile underwater line to Sydney Mines on Cape Breton Island. A 350-mile static free microwave radio relay will link the cable to the U.S. telephone system.

The first section of cable will be laid this summer from west to east, and the other next summer.

It will be threaded through a hatch, over giant guides and around a braking device to control the pay-out by electrically-operated gear. Finally, it will be draped over pulley-like sheaves at the stern of the vessel, then let into the water.

The Monarch will travel about 6 knots (7 miles an hour) or half its top speed as the hundreds of miles of cable snake over its stern, night and day.

Precise navigation is essential so that when future repairs are needed the cable can be quickly located. This shouldn't be a concern for at least 20 years, cable engineers say.

'Every Pebble'
 "We have to know every pebble we're passing over," said one of the Monarch's officers.

The Monarch is captained by J. P. Betson, stern-faced and taciturn veteran of the cable laying business. In the continuing need for pinpoint navigation on a cable laying run, Betson often takes direct responsibility.

"After everybody on the bridge has taken a fix," said a crew member, "Capt. Betson takes his own, shooting the sun, the moon, the stars—anything."

A big colorful buoy is tied to the free end of the line and tossed into the boiling seas. The cable ship heaves to until the storm dies down, then brings in the buoy and the cable and resumes the job.

Cable laying today differs very little basically from methods of nearly a century ago when the storied British ship Great East-

ern—mammoth white elephant of the waves—strung the first truly successful transatlantic telegraph connection from Valentia, Ireland, to Heart's Content, Newfoundland.

The first attempt to lay the cable failed when it snapped in mid-ocean. The next year, 1866, The Great Eastern sailed triumphantly westward with another sec-

tion of cable and this time the link was completed.

Queen Victoria sent greetings to President Andrew Johnson over the marvel of the age.

Since then, dozens of telegraph cables have laced Britain and the continent with America and the dream of a telephone cable slowly began to materialize.

Easy to Hear
 An Atlantic cable call should be as easy to hear as one from across town.

When the new cable is opened for service 35 different calls can be funneled at once into one end and come out the other without becoming jumbled. For good measure, 19 telegraphic messages can flow simultaneously through the cable.

Technical know-how gained from the new cable will bring closer the day when U.S. television viewers will receive clear live telecasts from overseas.

The new cable, which actually will be in two parallel send-and-receive sections, will be 2,250 miles long, or roughly the distance between Washington, D.C., and Los Angeles. It will be laid in water as deep as two and a half miles.

A call over the new line will cost no more than one over the old radio circuits. The price from New York will be \$12 for three minutes in the daytime, \$9 nights and Sundays.

Cost \$35 Million
 The cable itself will cost about \$2,800 a mile and the bill for the



Washington—Adm. Arthur Radford, left, and Assistant Secretary of State Walter Robertson talk at National Airport just before taking off for Formosa on a suddenly ordered trip which the defense department said is related to the "tense situation which continues in the area." Radford is chairman of the joint chiefs of staff. (AP Wirephoto).

Flying to Formosa

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A big fear of a cable crew is a storm—a storm which could put a heavy strain on the cable and possibly snap it in mid-ocean.

Should this happen, a grappling device is lowered to the ocean

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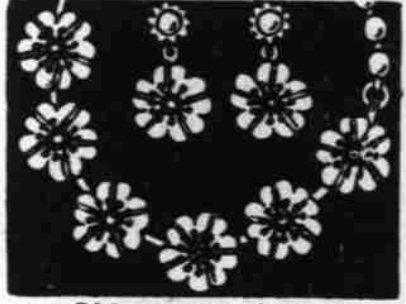
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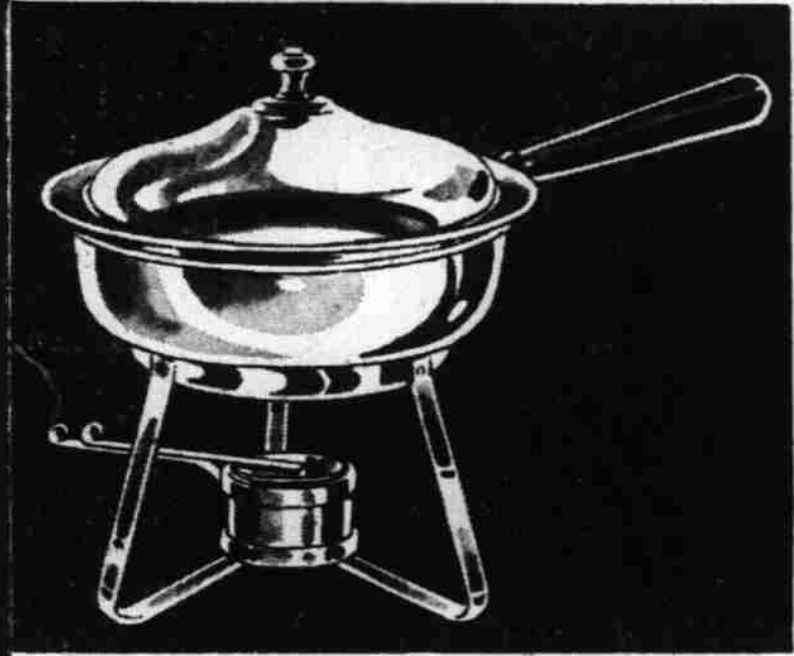
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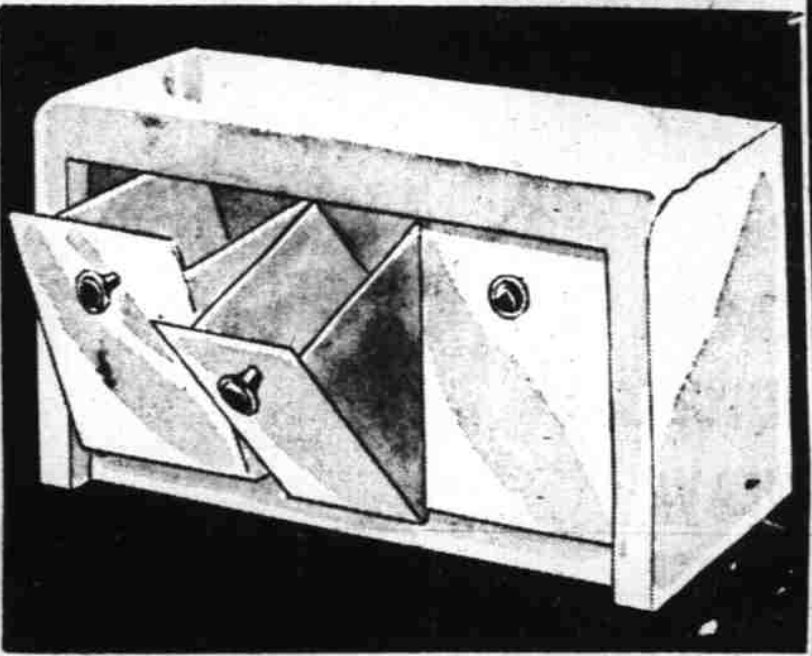


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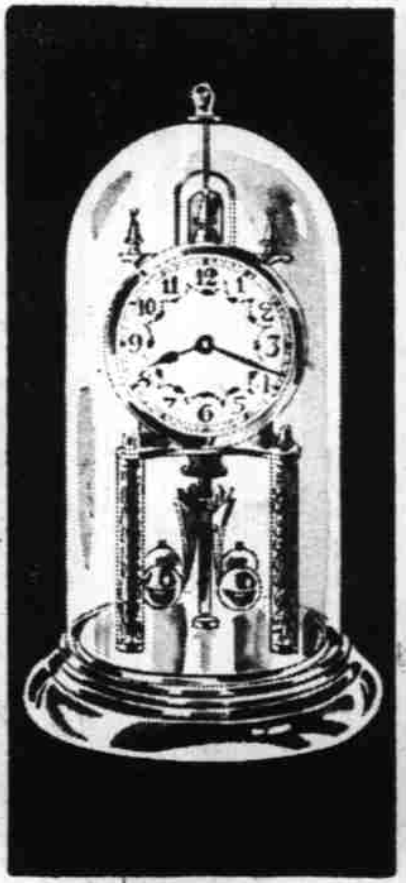
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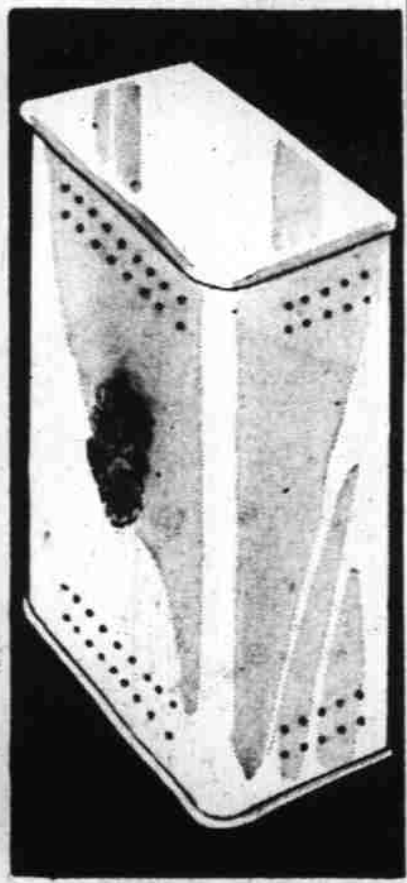


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