

of the Civil War in America contributed to prevent further attempts for seven years. Meanwhile Lord Kelvin had perfected his delicate receiving instrument, and Field was tireless in his attempts to raise new capital. Though he was desperately seasick whenever he went to sea, Field crossed the Atlantic sixty-four times to promote this enterprise.

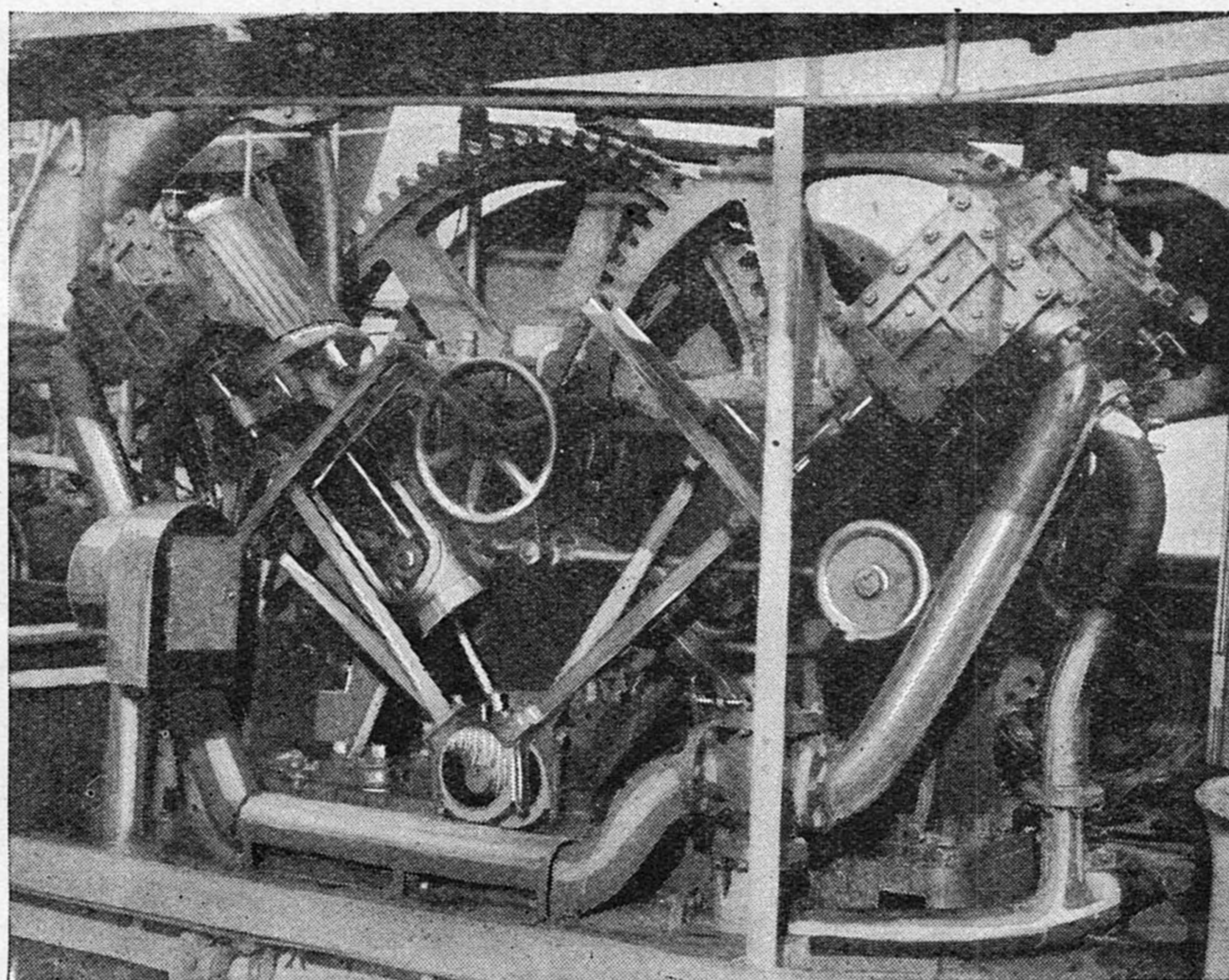
At last, in 1865, Field and Lord Kelvin loaded a new cable in the *Great Eastern*, the largest ship then afloat. When half the journey had been made the cable parted and sank. The next year saw the same two men once more on the giant ship, laying a new cable. This time success at last crowned their efforts. The ship then turned about, and with improved grappling tackle succeeded in raising the cable that had been lost the year before. A new section was spliced on and the ship returned to shore, completing the second cable between Europe and America. Improvement in the making and

HAULING UP AN INJURED CABLE



When the repairers have to go out and fish up a cable to see what is the matter with it, this is how it is done. They drag it up with the grappling hooks, and then a man is lowered to lash it more firmly before it is brought on board.

THE MACHINERY THAT HELPS TO LAY THE CABLE



When a cable is being laid, it is fed out from a big spool which is unwound as the vessel speeds along, the unwinding power being supplied by these steam cylinders. The framework holding the spool is turned by means of those big cog-wheels.

laying of cable continued, and other cables were soon in operation.

Fifteen cables now span the Atlantic, nine of them in working condition. Most of these stretch along the same high plateau of the ocean bed where the first cable was laid. This is called the "Telegraph Plateau" because it is comparatively level, with a greatest depth of about two miles, and is covered with a soft ooze favourable to the successful laying of cables.

How the "Telegraph Plateau" Helped

The task of laying these cables would have been immensely more difficult if the existence of this plateau had not been known, making it possible to use a much shorter and lighter cable than would be necessary to stretch over the alp-like surface of other parts of the ocean bed. British and American naval officers discovered this plateau by their patient labours in charting the ocean bottom, and thus deserve a place among the men whose work has made the transatlantic cable a success.

Cable laying in the Pacific is much more difficult than in the Atlantic because of the greater distance and greater depth. The first Pacific cable was laid in 1902, connecting Vancouver, Canada, with Australia and New Zealand. It is about 8,000 miles long, and one span from Vancouver to Fanning Island is 3,600 miles, making it the longest continuous section of cable in the world. The other Pacific cable was completed the following year, from San Francisco to Manila. It touches at Honolulu, Midway Island, and Guam, and has been ex-