

## THE TRANSATLANTIC CABLE

### Words

**Look for the following words as you read the passage. Match each word with its correct definition.**

#### Words

1. cable
2. catastrophic
3. compensate
4. disparate
5. flaw
6. indispensable
7. inexplicably
8. inquiry
9. insulation
10. perseverance
11. rally
12. requisite
13. set out
14. snap
15. tow
16. transmit
17. triumph
18. utterly
19. vilified
20. voltage

#### Definitions

- A. n., material used to prevent passage of electricity, heat, or sound
- B. n., a mistake or weakness, especially in design
- C. n., continuation with a task despite difficulties
- D. v., to make up for; balance out
- E. adj., extremely bad
- F. n., an official investigation
- G. v., to succeed; win
- H. v., to gather support
- I. adj., different
- J. n., a need; requirement
- K. v., to send
- L. v., to start an activity
- M. adv., totally
- N. n., measure of electric power
- O. v., to pull behind
- P. adj., completely necessary
- Q. adv., without explanation
- R. adj., having one's reputation ruined; being spoken about in a bad way
- S. n., wire used for sending electric signals
- T. v., to break suddenly

## Reading

### The Transatlantic Cable

Laying the transatlantic cable was the culmination of the unflagging perseverance of one man leading like-minded men, of disparate technical and scientific advances, and of the need for faster communication. The first attempts at laying the **cable** in the 1850s, each of which cost an enormous amount of money, failed utterly. Yet as technology and science improved, and the need for faster communication increased, perseverance finally paid off.

The man who **rallied** support and raised money for the transatlantic cable venture was Cyrus Field, a New York businessman, who started the New York, Newfoundland, and London Telegraph Company in 1854. For the next twelve years, Field raised money and expectations in North America and England for repeated attempts at laying a **cable**, despite catastrophic **cable** breaks and a formal inquiry when the first **cable** stopped working within days.

The scientific and technological advances began with electricity, the study of which was attracting the greatest minds of the age. Samuel Morse invented a code that made it possible to send information over electric wires, and he made the first successful transmission in 1842. The next year, d'Alameida, a Portuguese engineer, announced the use of gutta-percha, a rubberlike sap from the gutta tree, as an **insulation** for wires. Thus, two of the requisites for an underwater **cable** were met. In the next several years, telegraph cables were laid in Atlantic Canada, across the English Channel and around Europe, and across the United States.

In 1857, the company Field founded **set out** to lay the **cable** that had taken months and almost a million dollars to make. The **cable** was made of 340,000 miles of copper and iron wire and three tons of gutta-percha **insulation**, too much for one ship to carry. The **cable** was divided between two ships, each towed by another, all four provided by the British and American navies. After only 255 miles of **cable** had been laid, the **cable** stopped transmitting and then **snapped**, sinking to the depths of the ocean. The second attempt was made in 1858, beginning at the midpoint of the Atlantic, from which each ship lay **cable** as she sailed to her home shores. Again, the **cable** inexplicably stopped working. They tried again a month later, beginning again from the middle and sailing in opposite directions. This time, **success!** Queen Victoria sent a message to President Buchanan, and both countries celebrated. Within hours, however, the signal began failing. To **compensate** for the fading

transmissions. Whitehouse, the American engineer, transmitted messages at higher voltages, eventually burning out the **cable**. Once a hero, Field was now **vilified**.

Work on the transatlantic **cable** was halted because of the American Civil War. During the war, the telegraph became **indispensable**, and enthusiasm for a transatlantic **cable** mounted. In Scotland, William Thomson, who would later be knighted Lord Kelvin for his work, corrected the design **flaws** in Whitehouse's **cable**. Kelvin also designed a mirror-galvanometer that could detect weak currents, thus allowing lower **voltages** and weaker currents to **transmit** information. In 1866, the world's largest steamship laid Kelvin's new **cable**, an unqualified success. Field's **perseverance** had triumphed in the end.

**Answer the questions about The Transatlantic Cable.**

**Questions 1–4**

Look at the following inventors and the list of descriptions below. Match each inventor with the correct description, **A–F**.

- A** burned out the first transatlantic **cable** by using high voltages
- B** was the first to be utterly successful in getting the transatlantic **cable** laid
- C** invented a type of insulation from the sap of a tree
- D** sent a telegraph message to President Buchanan
- E** was the first to attempt to have a transatlantic **cable** laid
- F** developed a code for transmitting messages by electric cable

- \_\_\_\_\_ 1. Morse
- \_\_\_\_\_ 2. d'Alameida
- \_\_\_\_\_ 3. Field
- \_\_\_\_\_ 4. Kelvin

## Questions 5–9

Complete the summary using words from the list below.

In the 1850s, several unsuccessful attempts were made to lay a telegraph cable across the Atlantic Ocean. For the first attempt, a cable was manufactured of copper and iron wire with gutta-percha 5..... It was so heavy that the ships that carried it had to be 6..... by other ships. This cable failed because it 7..... and sank beneath the sea. The second attempt also failed. The third attempt appeared to be successful, and a message was 8..... from England to the United States. However, the telegraph company did not 9..... this time either. This attempt also turned out to be a failure when the cable stopped working, and the reputations of the project leaders were vilified.

compensated  
insulation

rallied  
snapped

towed  
transmitted

triumph  
voltage

## My Words

*Write the words that are new to you. Look them up in the dictionary and write their definitions.*