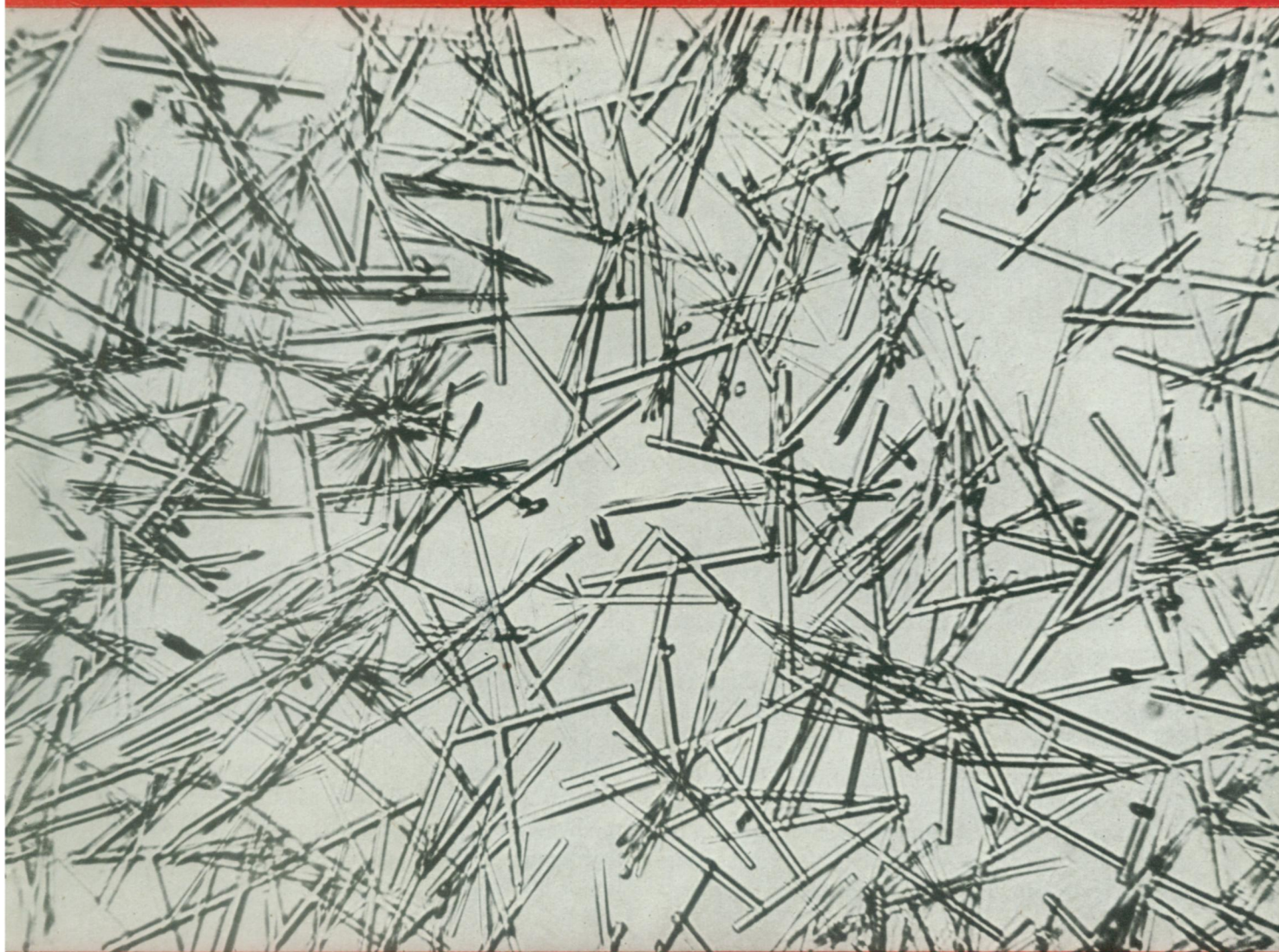


15¢



# SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE • JANUARY 19, 1946

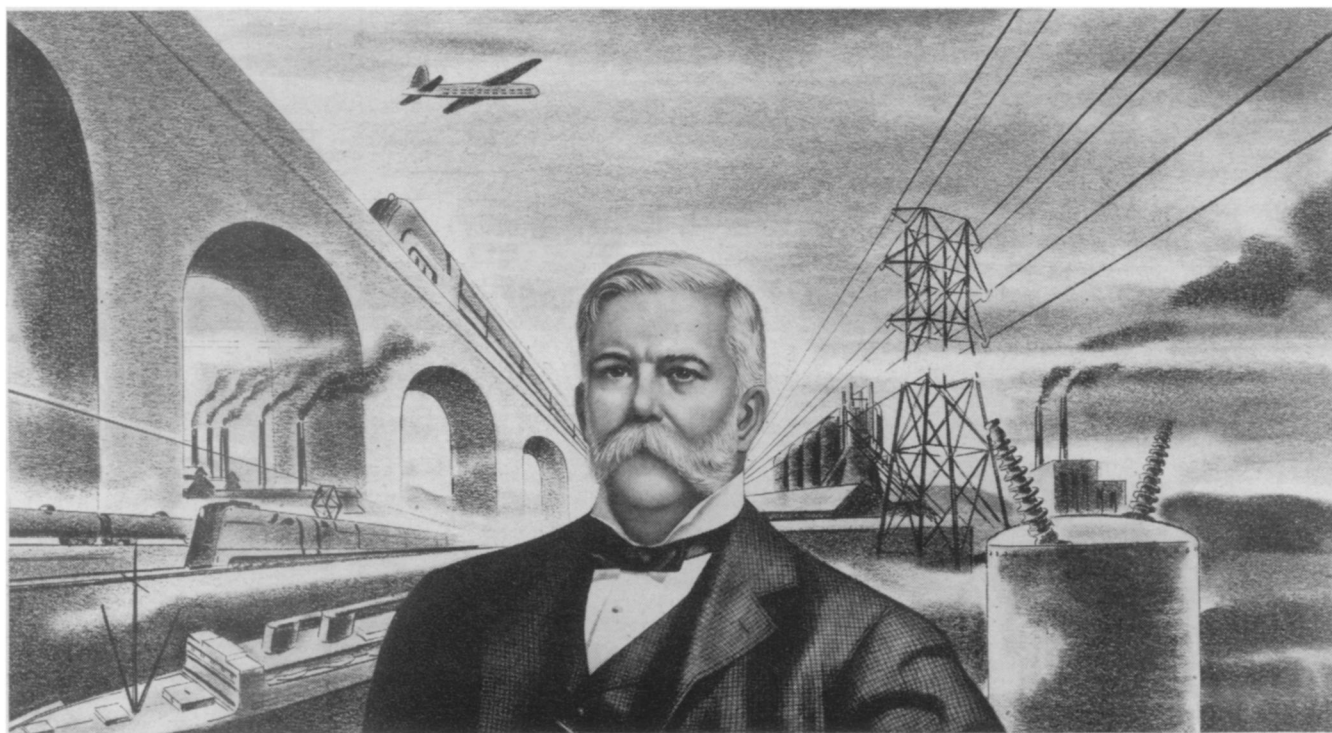


**Death for Disease**

See Page 39

A SCIENCE SERVICE PUBLICATION

GEORGE WESTINGHOUSE CENTENNIAL — 1846-1946



*He was the "greatest living engineer"*

This year we celebrate the 100th Anniversary of the birth of a man the world will long remember—known internationally in his time as the “*greatest living engineer.*”

Early in life George Westinghouse showed marked inventive genius. When only 22 years old, he conceived the idea of the railway air brake . . . the first of many epoch-making inventions that made him world famous.

But George Westinghouse was not only a distinguished inventor—he also had the engineering “know how” to develop his ideas into *practical, workable form.*

For example, he pioneered in the development of the first practical alternating current system for long-distance transmission of electric power . . . the steam turbine for use on land and sea . . . the induction motor . . . railway electrification and automatic block signaling.

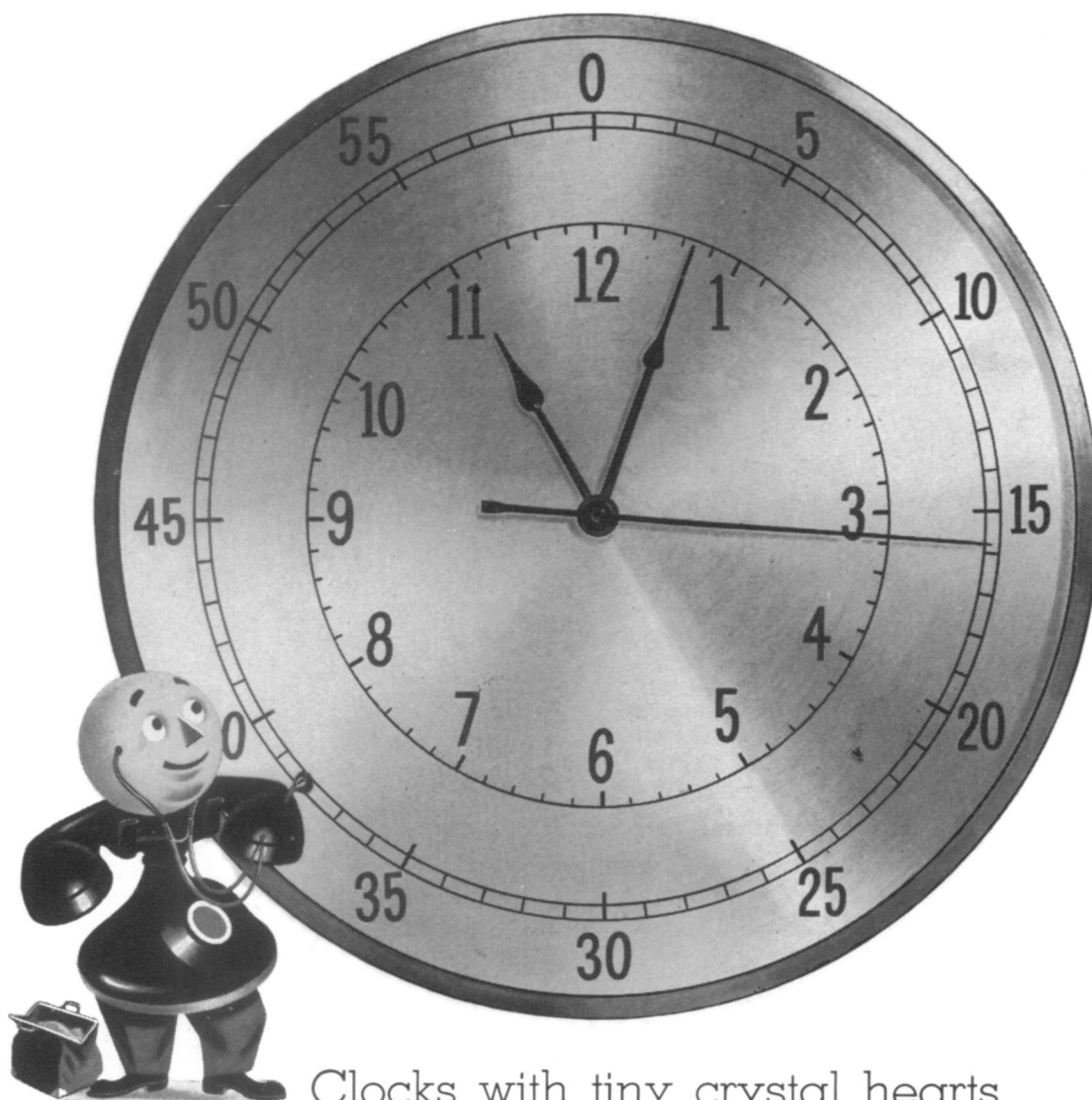
As an industrial leader, he founded many companies that were to bring untold benefits to people all over the world. The largest of these is the Westinghouse Electric Corporation.

The story of George Westinghouse is the story of a great engineer’s vision in the growth of a new nation—and in the birth of a new era.

Wherever electric power is produced and distributed . . . or electricity is used in industry and the home . . . or world’s trade moves . . . you will find equipment and practices stemming from the genius of George Westinghouse.

Following in the tradition, the men of Westinghouse are today pioneers and leaders in many industrial fields—electrical, mechanical, electronic, ceramic, plastic and metallurgical.

**Westinghouse**  
PLANTS IN 25 CITIES OFFICES EVERYWHERE



Clocks with tiny crystal hearts  
that beat 100,000 times a second

CRYSTAL HEARTS beat time in Bell Telephone Laboratories, and serve as standards in its electronics research. Four crystal clocks, without pendulums or escapements, throb their successive cycles without varying by as much as a second a year.

Precise time measurements may seem a far cry from Bell System telephone research, but time is a measure of frequency, and frequency is the foundation of communication whether by land lines, cable, radio.

These clocks are electronic devices developed by Bell Laboratories, and refined over years of research. Their energy is supplied through vacuum tubes, but the accurate timing, the controlling heart of the clock, is provided by a quartz crystal plate about the size of a postage stamp.

These crystal plates vibrate 100,000 times a second, but their contraction and expansion is less than a hundred-thousandth of an inch. They are in sealed boxes to avoid any variation

in pressure, and their temperatures are controlled to a limit as small as a hundredth of a degree.

Bell Laboratories was one of the first to explore the possibilities of quartz in electrical communication, and its researches over many years enabled it to meet the need for precise crystals when war came. The same character of research is helping to bring ever better and more economical telephone service to the American people.



**BELL TELEPHONE LABORATORIES** *Exploring and inventing, devising and perfecting for continued improvements and economies in telephone service.*