

"Photography helps people to see,"

said Berenice Abbott. As the staff photographer for the Physical Science Study Committee (PSSC), Abbott developed new photographic techniques to help people see physics in a new way.



Students use a ripple tank in a pilot PSSC physics course at Bronx High School of Science, New York.

Scientific American. April 1958.

The PSSC team devised a ripple tank that could be built by high school students for only a few dollars.

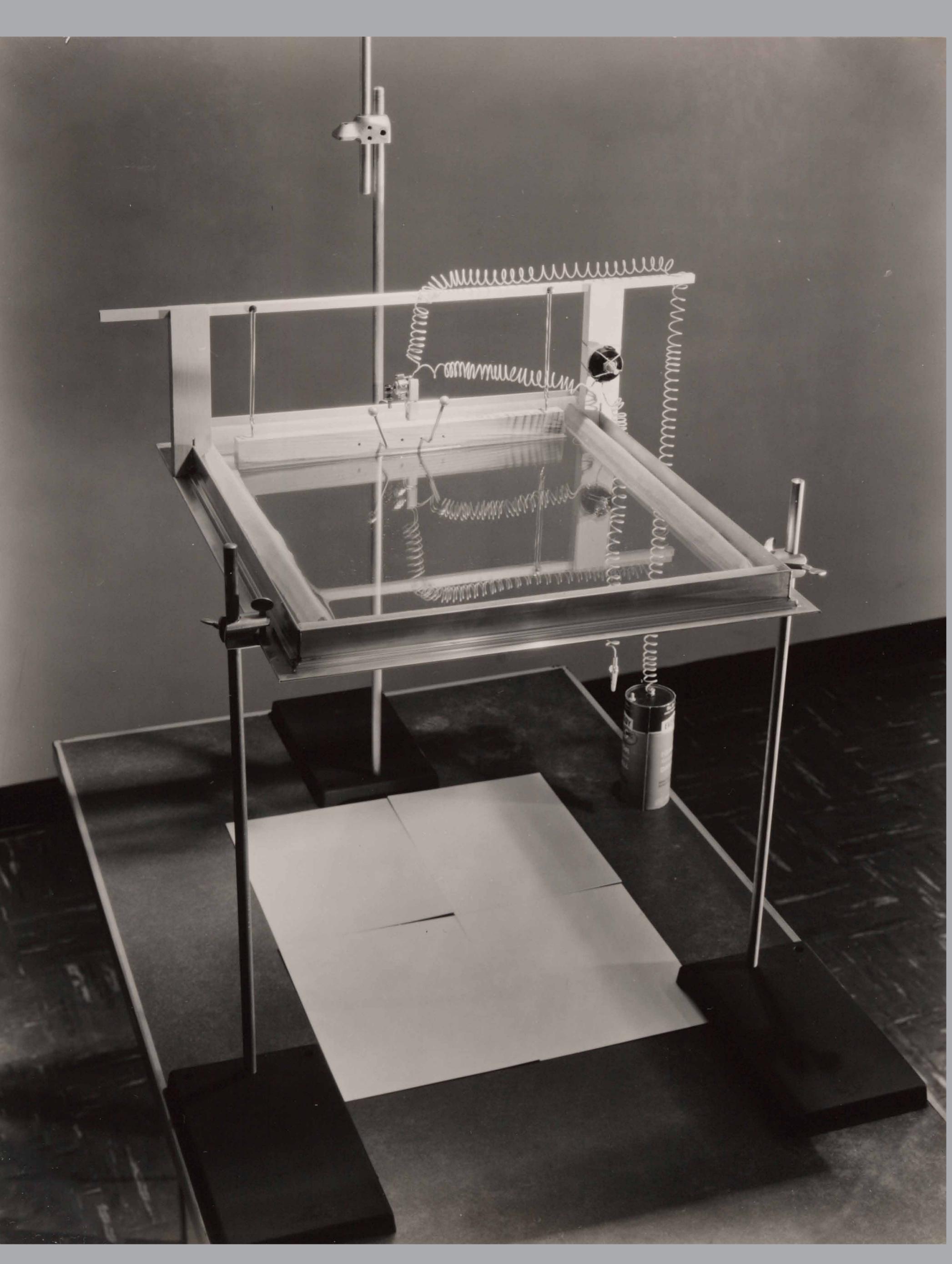
A shallow, glass-bottomed tank was filled with water, and a coat hanger was suspended in the water.

A low-voltage motor attached to the hanger made it vibrate, creating waves in the water.

A light source was set above the tank, and a large sheet of paper was stretched below the tank for viewing the shadows of the waves.

One of the innovations Abbott brought to her work for the PSSC was a method of recording wave phenomena.

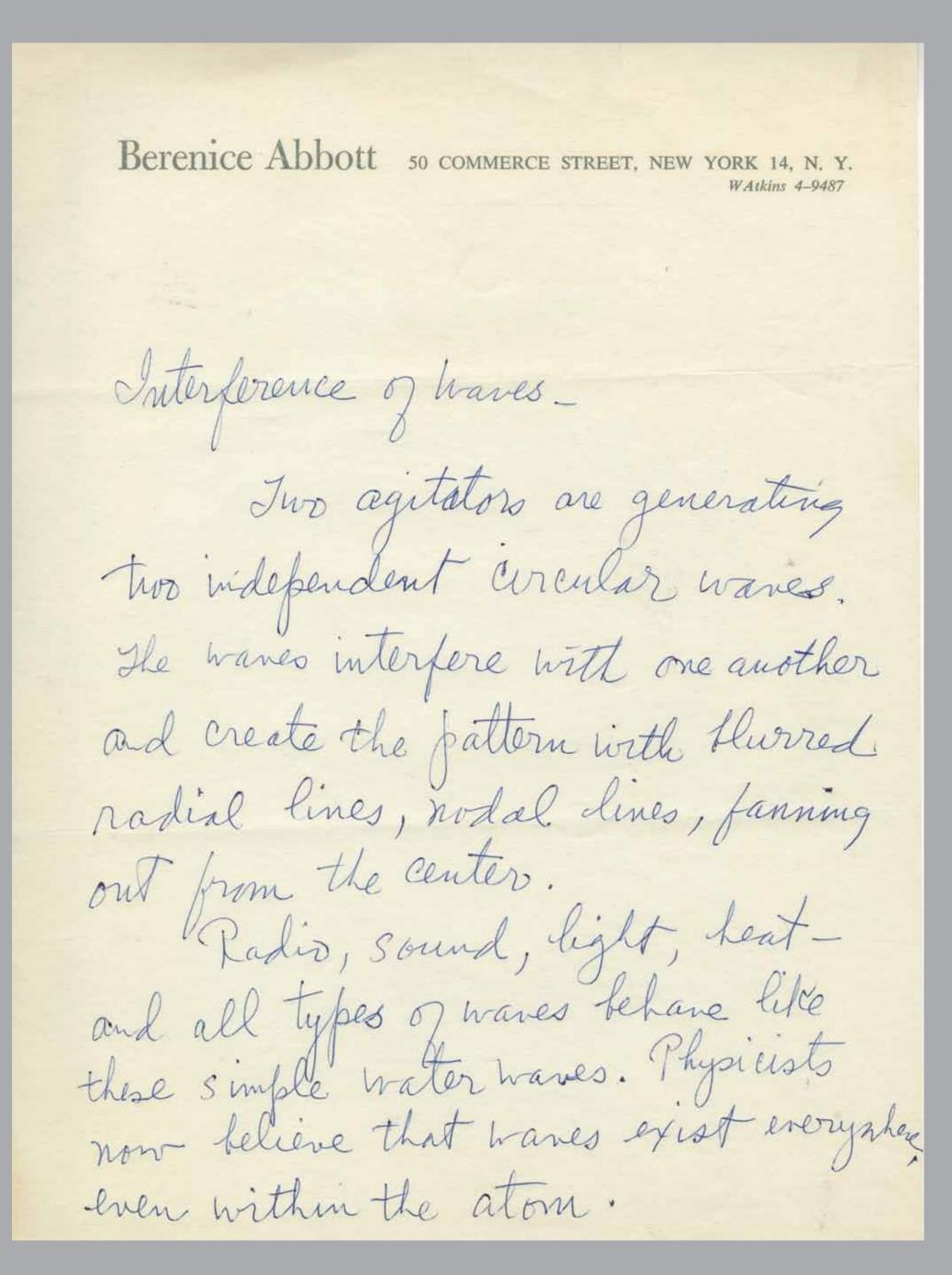
To make her wave images, Abbott placed a sheet of unexposed photographic paper under a glass-bottomed ripple tank and placed a pinhole light above the tank. In a dark room, she fired the light for an instant. The light passed through the moving water in the tank and was recorded on the photographic paper. This created an image of a wave at a single moment in time.



Berenice Abbott Collection, MIT Museum, gift of Ronald and Carol Kurtz.

A ripple tank like this one was used by Abbott to make her wave pictures.

Understanding wave motion was fundamental to the new PSSC high school curriculum, and the ripple tank was the most important demonstration apparatus in the PSSC program.



Berenice Abbott Archive, MIT Museum, gift of Ronald and Carol Kurtz.

This note describes one of Abbott's wave images and shows her understanding of the importance of her subject matter to the PSSC curriculum.

"Everything that we know about moves as if it were a wave—you, me, the atoms, the electrons, everything."

Jerrold Zacharias,
PSSC Chairman and
MIT Institute Professor