

Wireless telegraphy is based upon the principle of *creating and detecting waves* in a great *pool* of ether.

Modern scientists suppose that all space is filled with an "imaginary" substance called *ether*. The ether is invisible, odorless, and practically weightless. This ether, however, bears no relation to the anæsthetic of that name which is used in surgical operations.

It surrounds and penetrates all substances and all space.



FIG. 193. — Little Waves spread out from the Spot.

It exists in a vacuum and in solid rocks. Since the ether does not make itself apparent to any of our physical senses, some of these statements may seem contradictory. Its definite existence cannot be proved except by reasoning, but by accepting and imagining its reality, it is possible to understand and explain many scientific puzzles.

A good instance is offered by the sun. Light and heat can be shown to consist of extremely rapid vibrations. That fact can be proved. The sun is over 90,000,000 miles