

How to photograph the planets, take the pulse of a hummingbird, smash an atom, construct a robot... This and much more—in the first

# SCIENTIFIC AMERICAN BOOK OF PROJECTS FOR THE AMATEUR SCIENTIST



A cloud chamber of the diffusion type made from a peanut-butter jar.

FOR THE DEVOTED AMATEUR of twentieth-century science, a magnificent book—the first of its kind—has just been published.

It is a how-to-do-it book on the grand order: how to chart distant earthquakes from the vibrations in your garden, make a powerful microscope from a glass stirring rod, grow a pioneer crop of algae on your window shelf, construct and launch research rockets, contribute to the growing body of archaeological knowledge—and perform many other fascinating and meaningful investigations in every field of science from Astronomy to Nuclear Physics.

**"Miracle drugs" to rocketry—587 pages of experiments in every major area of science**

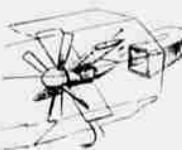
Interested in outer space? Learn how to track an earth satellite with the help of a piano.

Mathematical machines? Make a puzzle-solving machine that cries when it's in trouble.

Fix up a cloud chamber from a two ounce whiskey glass and embark on the hobby of detecting cosmic rays. Observe how a bacterium reacts to a wonder drug. Make the flow of air visible.

These and scores of other projects are offered and illustrated with 256 drawings and photographs to help you.

The book derives from *Scientific American*, the magazine of which *The New York Times* has said "Its roster of contributors reads like a who's who of contemporary science." C. L. STONG's "Amateur Scientist" Department, appearing there monthly, is America's #1 clearing house for the activities of serious amateurs. This 587-page



Detail from drawing of sundial and projector assembly for measuring cosmic rays.

volume contains the most exciting projects presented to date—revised, expanded, indexed, furnished with references for further reading, and prefaced with an introduction by Vannevar Bush.

## Make a proton wobble... study a butterfly

Learn how to make a proton wobble and thereby identify its atom.

Capture the speeding fragment from a star that exploded a million years ago and examine its nature. Relax with the "After-dinner Experiments" which require almost no equipment or experience...

There has never been a science-at-home book like this. Every project—whether it relates to the atom or shows you how to raise butterflies for scientific investigation—deals with matters that concern the professional scientist today. You discover the valuable contributions to science that amateurs around the country are making—and how you get in on the excitement.



Sundial for telling clock time.

## A superb gift

Not only for the amateur, but for the professional this is a superbly stimulating book. Among those who will light up like an Aurora Borealis when they receive this book for their very own:

Tinkerers, dreamers (it's a joy to browse in), engineers  
Parents of young people entering Science Fairs  
Science PhD's who take busman's holidays  
Industrial executives, lab technicians  
Teachers, people with basement workshops & imaginations

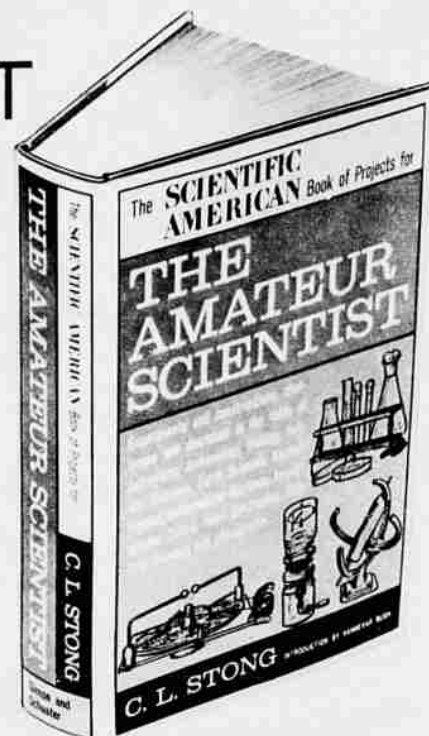
And for the serious adolescent (some of the most awesome experiments in the book were designed by highschoolers) here is a gift that inspires by furnishing the best of food for scientific creativity to grow on: work that engrosses and delights.

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Algebraic setup used in weighing a hummingbird.



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