

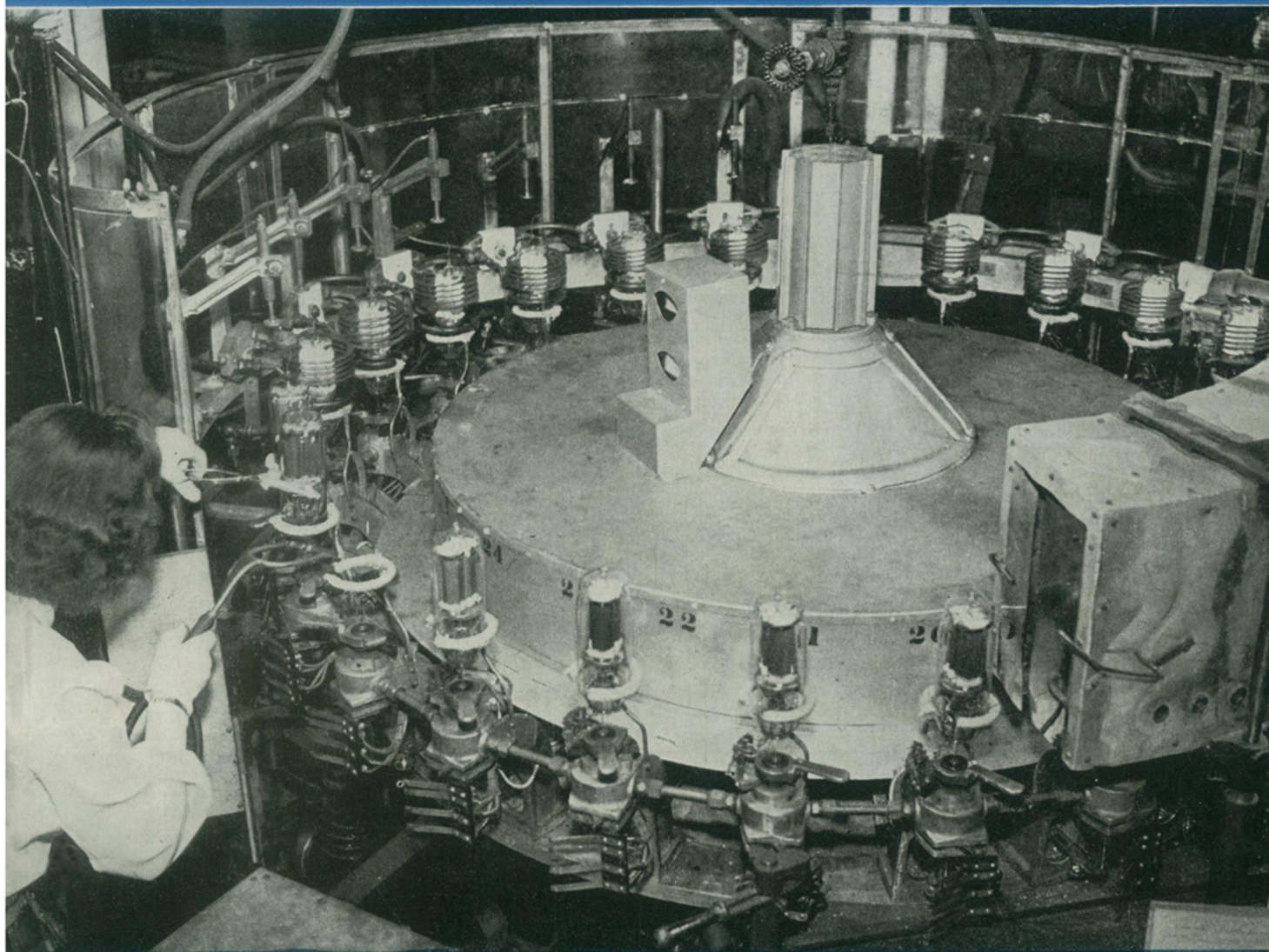
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SCIENCE NEWS LETTER



THE WEEKLY SUMMARY OF CURRENT SCIENCE • OCTOBER 23, 1943



Baking Radio Tubes

See Page 264

A SCIENCE SERVICE PUBLICATION

Do You Know?

Red squill, a rat poison, is harmless to most other animals.

Aristotle the ancient Greek philosopher, advised over 2,000 years ago the eating of liver to prevent *night blindness*.

A modern 420-mile highway is nearing completion to connect Bogota, the mountain capital of Colombia, with the Pacific coast seaport Buenaventura; Bogota is 8,300 feet above sea level.

Ecuador has purchased 1,200 acres of land near Quevedo to establish an agricultural *experiment station*; the first research will be on fibers, cacao, vegetable oils, cinchona and rotenone-bearing plants.

A mixture of 14 ounces of borax, six ounces of boric acid and a gallon of water, makes a *fire-proofing* solution which may be safely used to make kitchen clothing, rugs, curtains and draperies fire-resistant.

Over 33,000,000 acres scattered over the entire country, that can not be tilled or used for pasture or timber, could be used for wild berries, plums, cherries, grapes, currants, elderberries, hazelnuts and other wild foods.

Nylon formerly used almost wholly in clothing, is now used in paint and tooth brushes, parachute covers and shroud lines, harness straps, belting, wire insulation, window screens, and products resembling leather, sponges and cork.

Question Box

Page numbers of Questions discussed in this issue:

AGRICULTURE

What sort of soybeans makes the best sprouts? p. 264.

ASTRONOMY

In what constellation is the German-discovered exploding star located? p. 259.

What discovery has been made concerning one of the stars in the constellation Cepheus? p. 265.

BIOLOGY

How many biologists were among the 15 persons receiving Guggenheim Latin American fellowships? p. 265.

CHEMISTRY

How may standing dry grass be fire-proofed? p. 264.

CHEMISTRY - NUTRITION

What are the best methods of brewing and storing coffee? p. 263.

ENGINEERING

What new invention has been devised to prevent car doors from crushing fingers? p. 269.

GENERAL SCIENCE

How are the winners in the first and second Science Talent Searches aiding the war effort? p. 266.

GEOLOGY

How can geologists help the Army and Navy directly? p. 264.

MEDICINE

How can epidemics of meningitis be stopped almost instantly? p. 262.

How many powerful germ-fighters have failed as weapons against influenza? p. 265.

How may penicillin be made available to more people? p. 270.

In what ways are plaster casts aiding in treatment of burns? p. 261.

What are the curability rates for the various kinds of cancer? p. 268.

What new conquests is penicillin making? p. 259.

What new drug gives some hope of conquering tuberculosis? p. 261.

What vaccines and serums may be developed to fight virus diseases? p. 261.

When does a green light signal danger? p. 264.

MEDICINE - DENTISTRY

How may freedom from tooth decay be made possible in the post-war world? p. 269.

MILITARY SCIENCE

What preparation has the U. S. Army made for gas warfare? p. 260.

NUTRITION

How may cheese ripening periods be shortened? p. 270.

PALEONTOLOGY

How are fossils formed? p. 271.

PHOTOGRAPHY

How are photographic plates made sensitive to invisible light? p. 271.

PHYSICS

What airplane compass is not thrown off by metal in the plane? p. 268.

PUBLIC HEALTH

How does the general physical fitness of American college men now compare with their fitness before the war? p. 263.

How many people in the United States have health or hospital insurance? p. 270.

What disease is now more menacing than infantile paralysis in the United States? p. 260.

What sort of health supervision is needed in child day care centers? p. 268.

Most articles which appear in SCIENCE NEWS LETTER are based on communications to Science Service, or on papers before meetings. Where published sources are used they are referred to in the article.

Maps printed with *fluorescent ink* on special paper are used in combat areas; they can be read at night without other illumination.

Industry is producing for the Army a *map paper* which can be soaked in fresh or salt water without injury to the paper or map.

Nine war-built *aluminum* production plants owned by the government have an annual capacity of 1,200,000,000 pounds.

Cigarette paper has a new use: it is put over wounds which have been covered with sulfanilamide powder, and is said to be an improvement over gauze.

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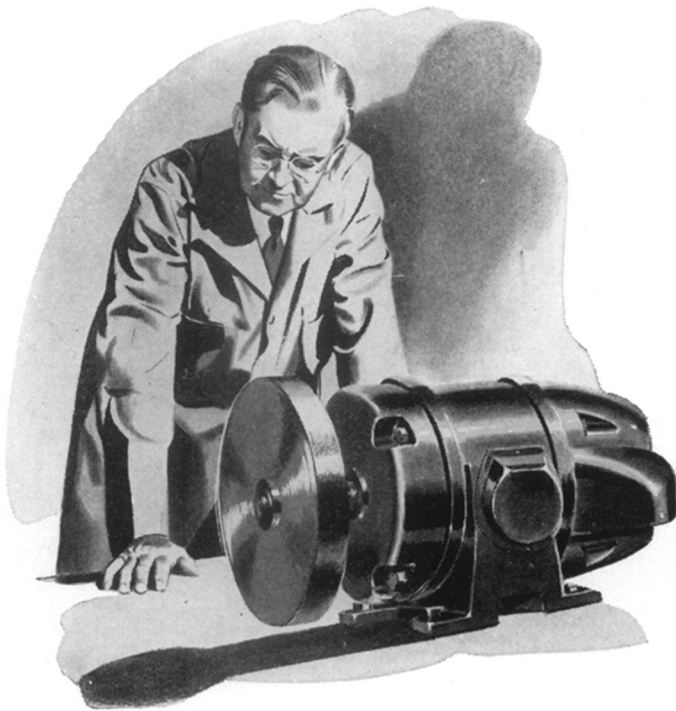
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You can't see it . . . but it's there



THE MOST ACCURATELY machined rotating part ever built—although apparently in balance to the naked eye—may be *out of balance*.

You can't see the unbalance . . . even if it's there.

With the rapid development of high-speed machines, the need for *locating and correcting* unbalance in rotating parts has become vitally important—if you want smooth, vibration-free operation and long life.

In 1933, scientists in the Westinghouse Research Laboratories tackled this problem of quickly and accurately measuring the *static* and *dynamic* unbalance in rapidly whirling masses—both symmetric and asymmetric.

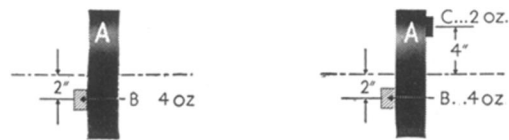
Through painstaking study and experiment, these Westinghouse research engineers discovered a totally new principle for balancing rotating parts of every shape and form . . . the "Dyneric Balancer."

Today, the Gisholt Dyneric Balancer . . . using Westinghouse *electronic equipment* . . . is solving the most difficult balancing problems in many war plants.

With this machine, vibrations as small as *twenty five millionths* of an inch in crankshafts, armatures, turbine rotors, propellers, and countless other whirling parts are located and measured in a matter of minutes, or even seconds!

Westinghouse Electric & Manufacturing Co., Pittsburgh, Pennsylvania.

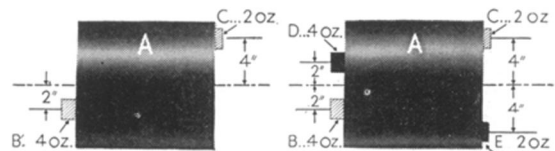
THE PROBLEM OF UNBALANCE



Static unbalance

(Left) Disc A is *statically unbalanced* by the 4 ounce weight, B, placed 2 inches from the axis.

(Right) This *static unbalance* can be corrected by placing a 2 ounce weight, C, 4 inches from the axis.

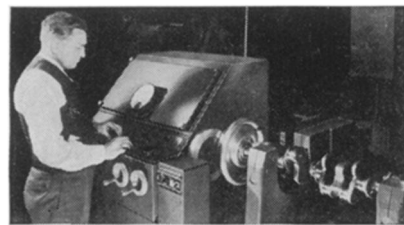


Dynamic unbalance

(Left) Cylinder A is *statically balanced*—by the weights B and C—but *dynamically unbalanced* by the twisting effect of these weights when the cylinder is rotated.

(Right) This *dynamic unbalance* can be corrected by placing weights D and E, as shown.

. . . AND ITS SOLUTION



On this Dynetric Balancer, *combined* static and dynamic unbalance in engine crankshafts is accurately and quickly measured by instrument readings. Corrections are then made by drilling holes in the crank arms.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE