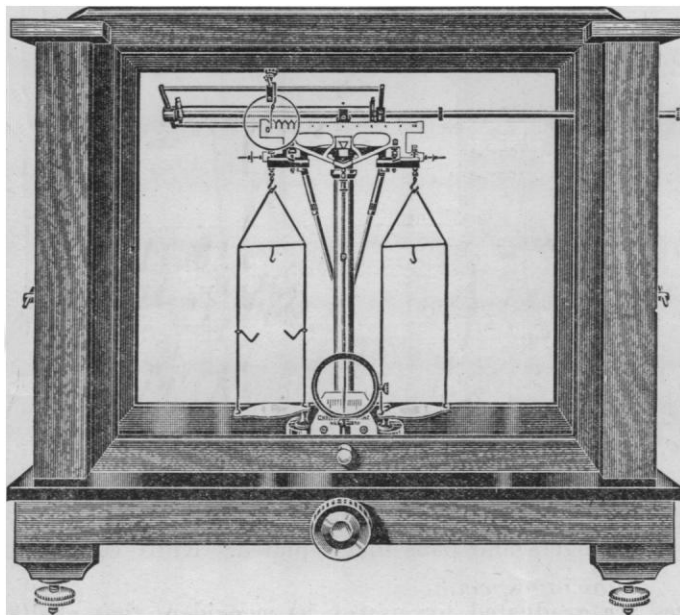


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Beam—10 cm. (4") long. Bronze, of great tensile strength and uniform density. Beam graduated from left to right in 100 notched divisions. Using 5 mg. rider the beam graduations read from 0 to 10 mg., each notch corresponding to 1/10 mg. Balance is in equilibrium with 5 mg. rider at zero. Pointer swings 10 full divisions on index for 1/10 mg. on beam, each index division represents 1/100 mg. By aid of lens, reading of pointer to 1/1000 mg. is possible.

Arrest and Releasing Mechanism

—Arrest arms have common axis of rotation with the beam. The supporting points of the beam and arrest moving through the same arc eliminates possibility of any sliding of bearings on knife edges, consequently the sensitivity of the balance is not impaired. The mechanism that operates beam arrest also operates pan arrest, releasing same after the beam and bearings are in weighing position.

Knife Edges—Agate. All knife edges rigidly set in beam.

Bearings—Agate planes.

Rider Rod—Of patented design, insures accurate alignment, in all positions, of lifting hook with the beam. Easy and simple in manipulation and free from any binding.

Pans—Aluminum, 37 mm. diameter.

Bows—Aluminum, 5 cm. wide, 15½ cm. high to point of suspension, with vertical sides 12 cm. high; left bow has hooks for supporting tubes, etc.

Lenses—Circular lens for beam with patented lens carrier. Circular lens for index avoiding all reflecting mirrors and eye strain.

Case—Polished mahogany with black plate glass base; front sliding door counterpoised, doors at sides affording access to pans.

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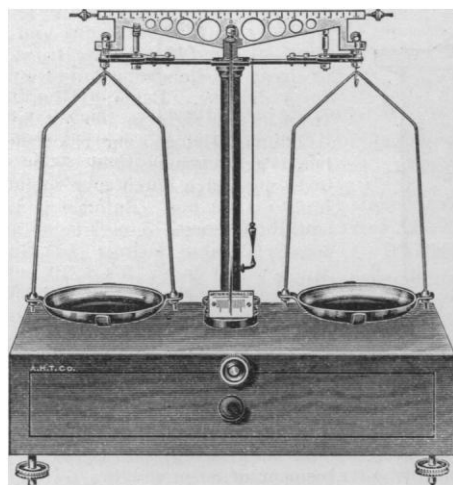
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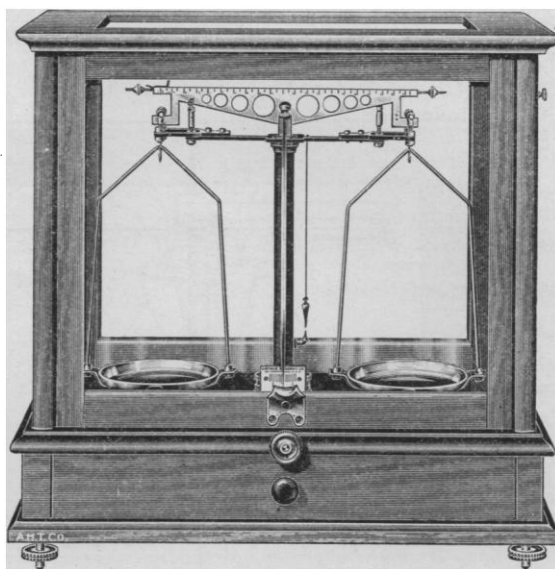
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1902-A



1902-B

BALANCES, School. With black lacquered brass pillar; open beam of aluminum, with arrest for beam and hangers; hangers and pans nickel plated. Knife edges and planes of agate.

The beams of these balances are graduated for use of 10 mg rider; that of 100 grams capacity in $\frac{1}{2}$ mg divisions, and that of 250 grams capacity in $\frac{1}{3}$ th mg divisions on the right hand side and $\frac{1}{2}$ mg on the left.

1902-A. Balances, School, as above described, on alderwood base with drawer and leveling screws.

Capacity, grams	100	250
Sensitivity, milligrams	1	2
Diameter of pans, mm	80	100
Each	<u>22.50</u>	<u>25.00</u>
Code Word	<i>Aopzi</i>	<i>Aoqbe</i>

1902-B. Ditto, but in mahogany and glass case and with rider carrier providing for adjustment of the rider on the right hand side of the central knife edge.

Capacity, grams	100	250
Sensitivity, milligrams	1	2
Each	<u>36.00</u>	<u>40.00</u>
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SCIENCE

VOL. 74

FRIDAY, SEPTEMBER 25, 1931

No. 1917

British Association for the Advancement of Science:

The Scientific World-Picture of To-day: GENERAL
THE RIGHT HONORABLE J. C. SMUTS 297

Scientific Events:

*The National Metal Congress; Clinical Congress
of the Connecticut State Medical Society; The
British Industrial Health Research Board* 305

Scientific Notes and News 307

Discussion:

Expulsion of Gas and Liquids from Tree Trunks:
DR. FERDINAND W. HAASIS. *Catfish Feeding on
the Eggs of the Horseshoe Crab, Limulus Poly-
phemus:* LOUISE MERRIMON PERRY. *The Lack of
Correlation between Anemia and the Pellagra-like
Symptoms in Rats:* DR. NELLIE HALLIDAY 311

Scientific Apparatus and Laboratory Methods:

A Light Filter for Microscopes: PROFESSOR C. E.
THARALDSEN 313

Special Articles:

*Control of Powdery Mildew and Red Spider on
Greenhouse Cucumbers:* L. J. ALEXANDER and DR.
H. C. YOUNG. *Phagocytosis of Brucella, an Index
of Immunity to Undulant Fever in Man:* DR. I.
FOREST HUDDLESON and HOWARD W. JOHNSON.
*The Effect of Temperature on the Number of
Scales in Trout:* C. MCC. MOTTLEY 314

Science News 10

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THE SCIENTIFIC WORLD-PICTURE OF TO-DAY¹

By General the Right Honorable J. C. SMUTS

AFTER what I said at the opening this afternoon it is unnecessary for me to emphasize further the significance of this Centenary Meeting of our association. It is a milestone which enables us to look back upon a hundred years of scientific progress, such as has no parallel in history. It brings us to a point in the advance from which we can confidently look forward to fundamental solutions and discoveries in the near future, which may transform the entire field of science. In this second and greater renaissance of the human spirit this association and its members have borne a foremost part, to which it would be impossible for me to do justice to-night. I shall therefore not attempt to review the achievements of this century of science, but shall content myself with the simpler undertaking of giving a generalized composite impression of the present situation in science. The honor of presiding over this historic meeting, which was not of my seeking, and for which I was chosen on grounds other

¹ Address of the president of the British Association for the Advancement of Science, London, September 23, 1931.

than my personal merits, is indeed an almost overwhelming one, and I confidently appeal for your indulgence in the difficult task which awaits me to-night.

I am going to ask the question to-night: What sort of world-picture is science leading to? Is science tending towards a definite scientific outlook on the universe, and how does it differ from the traditional outlook of common sense?

The question is not without its interest. For our world-view is closely connected with our sense of ultimate values, our reading of the riddle of the universe, and of the meaning of life and of human destiny. Our scientific world-picture will draw its material from all the sciences. Among these, physical science will—in view of its revolutionary discoveries in recent years—be a most important source. But no less important will be the contribution of the biological sciences with their clear revelation of organic structure and function as well as of organic evolution. And last, not least, the social and mental sciences will not only supply valuable material, but especially methods of interpretation, insights into meanings and values, with-

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Contents of Volume 15, No. 1, September 20, 1931

THOMPSON, WILLIAM R., JOHNSON, CARL E., and HUSSEY, RAYMOND. A viscosimetric method of estimating enzyme concentration with special reference to amylase.

THOMPSON, WILLIAM R., and HUSSEY, RAYMOND. The effect of radiations from a mercury arc in quartz on enzymes. II. The effect of ultra-violet radiation on amylase in solution.

HOAGLAND, H., and CROZIER, W. J. Geotropic excitation in *Helix*.

NORTHPROP, JOHN H. The presence of a gelatin-liquefying enzyme in crude pepsin preparations.

GOWEN, JOHN W., and TOBEY, ELMER R. Studies on milk secretion. The influence of inanition.

GOWEN, JOHN W., and TOBEY, ELMER R. On the mechanism of milk secretion. The influence of insulin and phloridzin.

TANG, PEI-SUNG. Temperature characteristics for the production of CO₂ by germinating seeds of *Lupinus albus* and *Zea mays*.

BARMORE, MARK, and LUCK, JAMES MURRAY. The rôle of phosphate in biological oxidations.

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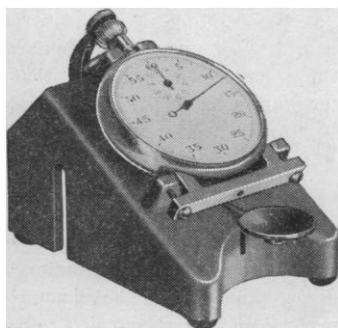
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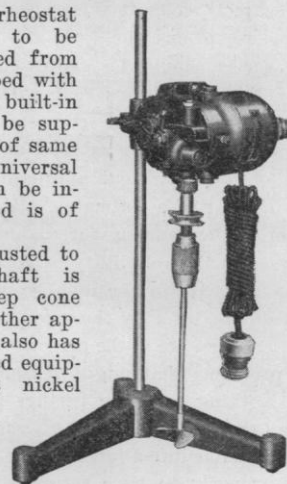
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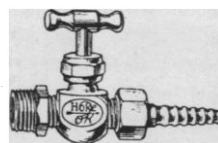
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