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A Spectrophotometric Study of the Color of Meats

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data computed from the thermal e.m.f. measurements of Boydston and Bridgman.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

IMPROVED APPARATUS FOR GROWTH OF METAL CRYSTALS

A. G. HOYEM

The availability of a small quantity of exceedingly pure zinc has made it necessary to design apparatus of such a nature that a series of crystals may be grown with predetermined orientations, distributed at intervals of several degrees from 0° to 90° , and without oxidation or waste of the material. The design and working of the apparatus is described.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

THOMSON EFFECT IN SINGLE CRYSTAL ZINC

L. A. WARE

Results for a series of crystals made from Kahlbaum zinc are much more constant than any previously reported by the writer. The Voigt-Thomson symmetry relation appears to be satisfied for the Thomson Effect. The specific resistance and temperature coefficient of resistance have also been measured for all the crystals.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

A SPECTROPHOTOMETRIC STUDY OF THE COLOR OF MEATS

A. A. BENEDICT

The rapid change in the color of meat when exposed to the air has made it very difficult to make accurate comparisons of the colors of different samples. During this investigation it was found that this change could be prevented by placing the sample of meat between glass plates immediately after cutting. A comparison of the intensity of the light diffusely reflected from various cuts of

meat was made by means of a spectrophotometer in the spectral region between 500 m μ and 700 m μ .

At the present time the most common method of measuring the color of meats consists in a comparison of the surface with a Munsell Color Disc. This method is considered quite satisfactory by some authorities but its reliability is seriously questioned by others. A spectrophotometric study of the Munsell Color Disc set for different cuts of meat shows that it does not give a true indication of the spectral color of the meat.

IOWA STATE COLLEGE,
AMES, IOWA.

BALLISTIC AMPLIFIER

J. M. B. KELLOGG

A vacuum tube circuit is described by means of which a pulse of voltage (such as that produced by the discharge of a condenser through a resistance) is amplified and produces a throw in a ballistic galvanometer. The device is quantitative and the experimentally determined amplification agrees with the computed.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

A PARALLEL CARBON ARC FOR DIRECT CURRENT

L. B. SPINNEY

An arc between carbons of equal diameter placed parallel to each other and spaced a small distance apart operates automatically on alternating current and the carbons burn down equally.

When supplied with direct current the positive carbon is consumed at a rate approximately twice as great as that of the negative. Therefore to operate the ordinary parallel carbon arc on direct current some provision must be made to move the positive carbon forward, or a larger carbon must be used on the positive side of the circuit.

There are obvious objections to either of these arrangements, to overcome which an arrangement of three carbons is proposed.

The three carbon direct current arc is arranged with a large carbon at the center with two small carbons on opposite sides. The large carbon is connected directly to one side of the supply circuit