

ABSTRACTS

David Wesson, *Abstract Editor*

In the analysis of Turkey-red oils intended for use in the textile industries, sulfuric acid is the essential ingredient and the amount of organic sulfur trioxide determines the quality of the oil. While the percentage of total fat is important, the "wetting" ability and the resistance against lime, magnesium sulfate and lye are more important. These properties are functions of the percentage of organic sulfur trioxide. *Seifensieder-Ztg.* 55,419-21 (1928)

A new method for the determination of unsaponifiable matter in oils and fats has been proposed by E. L. Smith. The method is based on the use of sulfuric ether rather than petroleic ether for the extraction of the unsaponifiable matter, and the washing of the ether extract with alcohol and weak hydrochloric acid to remove last traces of soap and basic impurities. *Analyst* 53, 632-41 (1928).

Glycerol esters may be prepared from fatty acids or from oils or fats containing fatty acids by heating with glycerol in vacuo, in an apparatus in which the pressure may be reduced to 2 mm. by an ejector placed between the reaction vessel and a condenser. Brit. Pat. No. 291,767.

Fats, etc., are bleached by treatment with commercial hydrogen peroxide solution and with a peroxide insoluble or sparingly soluble in water, such as barium peroxide, according to Aust. Pat. No. 109,719.

The addition of large amounts of resin, oil, naphthenic acids, acid resinates, ester gums, etc., etc., limits the gelatin of chinawood oil when heated above 250° F. Similarly, small amounts of various agents, such as oxidizers, reducers, terpenes, aldehydes, etc. prevent gelation. *Farbe u. Lack* 558 (1928).

Colorless products are obtained by the sulfonation of castor oil or of a similar fatty oil in the presence of reducing bleaching agents, (such as sulfites, hyposulfites) or of oxidizing bleaching agents in a quantity in excess of that required for catalysis of the sulfonation. Brit. Pat. No. 294,621.

A new method for the detection of peanut oil adulteration in olive oil depends upon the varying solubilities of the lithium salts of the fatty acids in ethyl alcohol. The lithium soaps of pure peanut oil and of mixtures of this oil with olive oil precipitate from their alcoholic solutions at higher temperatures than the lithium soaps of olive oil, this temperature differential being directly proportional to the quantity of peanut oil present. *Ann. chim. applicata* 18, 368-86 (1928).

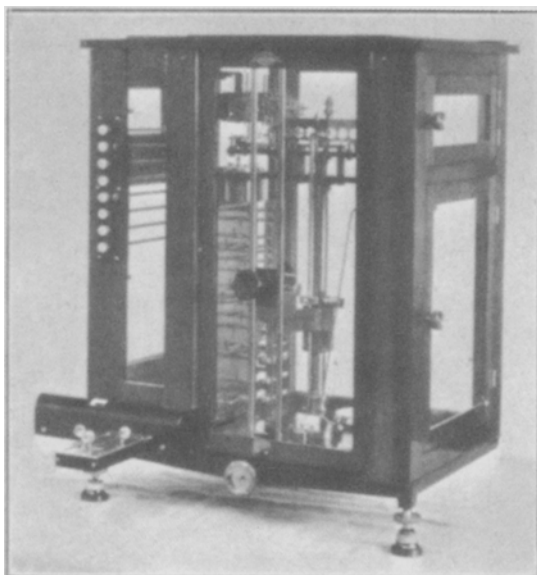
The capryl-acid number of fats rises progressively as the fats are heated at 150° C. or over in contact with air or by treatment with steam, but does not rise when heated in a current of carbonic acid gas or of hydrogen. Prolonged exposure of normal fat to ultra-violet rays destroys the distillate fraction which causes luminescence, and raises the capryl-acid number. *Z. Unters Lebens*, 55, (1928).

There are two methods at present in use for the bleaching of bone fat—chemical bleaching by means of oxidizing agents such as chromates and chlorates, and adsorption bleaching with the aid of bleaching earths. Both methods will yield no satisfactory bleached product when the crude oil is badly polluted with organic impurities. In the case of chemical bleaching this is because the oxidizing agents do not suffice to decompose all the organic impurities, and may also be used up in attacking the fat-substance itself somewhat. In the case of adsorption bleaching the bleaching earth tends to adsorb the decomposition products of the organic impurities, as well as the coloring matters, so that perfect purification by bleaching would require too great an amount of bleaching earth for economy. *Seifensieder-Ztg.*

Pressed soya bean oil from Manchuria has been found to be lower in specific gravity, higher in unsaponifiable matter than oils extracted by pressure in Germany and Holland. It also shows a violet-blue fluorescence, which is due to the presence of about 0.4 percent of unsaponifiable impurities. *Chem. Weekblad* 25, 630-2 (1928).

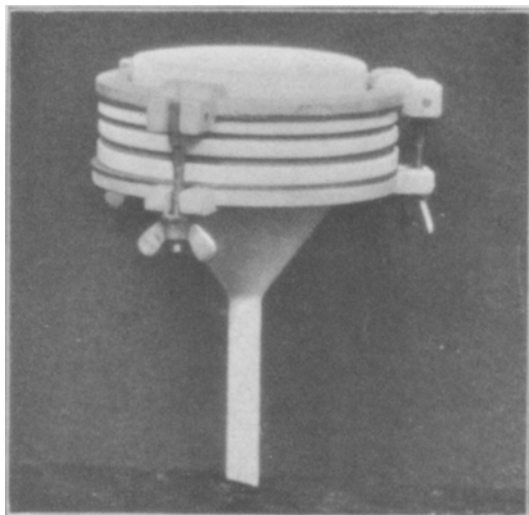
New High Speed Balance

A NEW high speed analytical balance, manufactured by Sartorius-Werke A. G. of Goettingen, Germany, has been introduced into the United States. The new balance is termed the Industrial Rapid Balance by the manufacturer and is said to be five times as fast as the ordinary balance because of the complete me-



Sartorius High Speed Analytical Balance

chanical handling of the weights. The scale is equipped with a special air dampener to prevent prolonged oscillation and thus increase the speed of weighing. An experienced operator on the old type balance can make a com-



Zsigmondy Membrane Filter

plete and accurate weighing and reading (automatically recorded) in a half-minute. The sale of the balance and of other Sartorius equipment in the United States is being handled exclusively by Pfaltz & Bauer, Inc., New York.

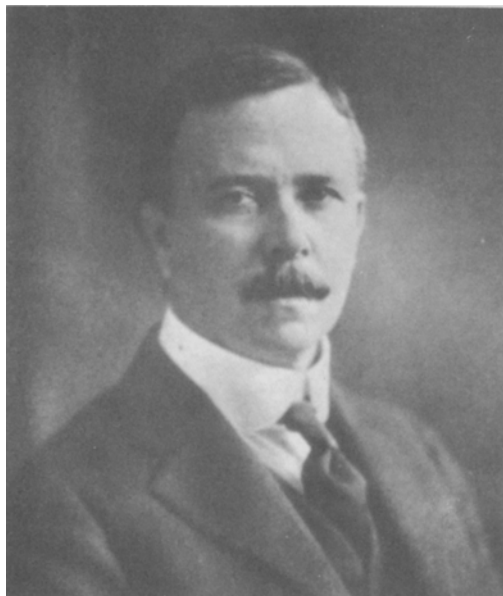
The company is also offering a new type membrane filter called the Zsigmondy membrane filter made by Membranfilter, G. M. B. H. of Germany. The membranes are specially prepared from a nitrocellulose base and are designed for analytical, bacteriological and colloidal filtration. A sample of colloidal gold solution has been successfully filtered with this new type, according to Pfaltz & Bauer. The membranes may be used a number of times each. Illustrations of both pieces of equipment are shown.

In a study of chlorinated herring oil and its soap it has been observed that the increase in saponification number of the chlorinated oil is due to the fact that a part of the combined chlorine is acted upon by alkali-forming sodium chloride. The increase of saponification value, viscosity, specific gravity and index of refraction, and the decrease in iodine number varies over a wide range with different samples of chlorinated herring oil, probably because of difference in ratio of substitution to addition in the chlorination, and varying amount of chlorine in the molecules of the chlorinated fatty acids. The color of the herring oil was darkened by the chlorination and the characteristic fish oil odor was destroyed, but soaps made from the chlorinated oils were of poor quality, generally speaking. *Kogyo Kwagaku Zasshi* 32, 71-73 B. (Supplemental Binding)

Bellier's reaction, generally characteristic for the presence of peanut oil in olive oil, is recommended as a valuable aid in the identification of inferior grades of olive oil. Whereas peanut oil in alcoholic solution forms a flocculent precipitate with caustic potash solution, which precipitate dissolves in the alcohol at temperatures above 40°, the olive oils of inferior quality show turbidity, or at most a gelatinous precipitation with the same reaction, which does not disappear even upon heating the alcoholic solution to 70°. *Ind. olii grassii* 1927, VII.

Spaulding Bakeries, Inc., 346 Greenwich Street, New York City, are new Active Members of the Mayonnaise Products Manufacturers Association of America.

Ernst Twitchell, 1863-1929



Ernst Twitchell

BY the death, in Cincinnati on June 6, of Ernst Twitchell, the soap, fatty oil, glycerine and candle industries have been deprived of one of their greatest scholars. Ernst Twitchell was born in Cincinnati, February 26, 1863, and was educated at the Woodward High School and the University of Cincinnati. His early life was marked by struggle to assist in the support of his widowed mother while obtaining his education. In 1886 he became chemist and general manager of the Emery Candle Company, his association with this company continuing for over forty years. Here it was that he conducted his patient, careful researches which resulted in the discovery and development of the "Twitchell Process" with which his name is associated throughout the world. This process, based upon the dissociation of fatty acids and glycerine by means of the catalytic action of naphthalene stearyl-sulfonic acid has been of incalculable value to soap manufacturers, candle manufacturers, refiners of oils, and all others engaged in productive and developmental work with fats and oils and fatty acids and their products.

Coming from a family of scientists, Dr. Twitchell turned naturally to chemistry as a vocation. He possessed, besides, a diversified taste in literature and a keen appreciation of the arts. Though of a quiet and retiring disposition, he made friends easily, as he was kind and understanding, with a personality that inspired confidence. Having been sought

by many who regarded him as the master mind in the chemistry of oils and fats, he kept his associates' interest stimulated by informal talks about the latest scientific news or speculation. He was ready and willing to help any man by sound advice, and was easy of approach by even the humblest worker.

Dr. Twitchell received the degree of Bachelor of Science from the University of Cincinnati with the Class of 1886, and in 1915 his Alma Mater conferred the Honorary Degree of Doctor of Science upon him. In 1917 he was awarded the Perkin Medal of the Society of Chemical Industry for "Original and valuable work in applied chemistry." He was a member of The American Chemical Society, of The Chemists' Club of New York, and for many years had served as a member of the Board of Education of Cincinnati.

Although there were no exports of sesame seed or castor beans to the United States from Manchuria during the first quarter of 1928, during the same period this year, Manchuria shipped 2,000,000 pounds of sesame seed and approximately 600,000 pounds of castor beans. In 1928, for the first quarter, Manchurian exports to the United States of hempseed were slightly in excess of 1,500,000 pounds. This year they dropped to just over 1,000,000 pounds. Shelled peanut exports declined from about 2,000,000 pounds during the first quarter of 1928 to 1,245,000 pounds this year for the same period.

Wesson Oil & Snowdrift Co. \$7 preferred stock has been withdrawn from the New York Stock Exchange, having been retired by the Company.

An increase in the authorized common stock of the Glidden Company, has been recommended by the directors of the company. It is planned to use these additional shares to pay extra dividends each quarter or as earnings justify. A special stockholders meeting will be called to authorize the increase in stock.

A new cotton oil mill will be built at Union, Miss. It is understood that the new mill will be located near the Wade & Stephens cotton gin. Other large gins are located in and around Union, which are expected to furnish ample seed for the new enterprise.

The S. Blick Company, Inc., of New York City are new Associate Members of the Mayonnaise Products Manufacturers Association of America, Inc.