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onvactor

If you never heard of a CONVACTOR, do not be surprised. It is an entirely new design of special condensing tower which offers important processing advantages.

In the refining of edible oils it recovers fatty acids, most of which were formerly waste. It offers another advantage of totally eliminating stream pollution from this source or the expense of cleaning cooling towers which collect such deposits. It has similar application in fatty acid stills, some other types of distillation processes, dryers, and other large vacuum processing units.

The CONVACTOR is a combination of two condensers and a vacuum cooling chamber. One condenser is of conventional barometric design, the other a highly improved condenser working on the jet principle. The latter condenses the vapor from the

process and discharges directly into the vacuum cooling compartment for the immediate removal of condensation heat. The cold water is then recirculated through the same jet condenser. The flashed vapor from the cooling operation is condensed in a conventional barometric condenser using water from a river, cooling tower or other industrial source. Periodic blow-down or continuous bleed-off from



the flash chamber permits recovery. Several large industrial installations have been made.

PATENT APPLIED FOR



Main Office: 751 Central Avenue, Westfield, N.J. CHILL-VACTORS . STEAM-JET EVACTORS . AQUA-VACTORS . FUME SCRUBBERS . SPECIAL JET APPARATUS



A.O.C.S. National Meetings

- 1961-Chicago, Pick-Congress Hotel, October 30-31, November 1
- 1962 --New Orleans, Roosevelt Hotel, May 7-9 Toronto, Royal York Hotel, October 2-4
- 1963-Atlanta, Atlanta Biltmore Hotel, April 22-24 Minneapolis, Radisson Hotel, September 30-October 2
- 1964-New Orleans, April 27-29 Chicago, October 12-14
- 1965-Houston, Shamrock Hotel, April 25-28 Cincinnati, October 11-13
- 1966-Los Angeles
- Philadelphia, October 4-6 1967-New Orleans

Chicago

A.O.C.S. Section Meetings

- Northeast-Dec. 6, 1961, Feb. 6, 1962, June 5, 1962, at Whyte's Restaurant, 145 Fulton Street, New York. On April 3, 1962, Newark, N. J.
- North Central-bi-monthly at the Builders' Club, Chicago, 6:30 p.m.
- Northern California-November at a selected place
- Southwest-Nov. 9, 1961, Jan. 11, 1962, March 8, 1962, and May 10, 1962, at Roger Young Auditorium, Los Angeles, 6:30 p.m.

Other Organizations

- Oct. 19-21—Fall Meeting of the National Society of Professional Engineers, Hotel Roanoke, Roanoke, Va.
- Oct. 23-26-South Central Regional Meeting of the National Association of Corrosion Engineers, Shamrock Hilton Hotel, Houston, Tex. 24-26—South Central Regional Exhibition of the
- Oct. National Association of Corrosion Engineers, Shamrock Hilton Hotel, Houston, Tex.
- 31-Nov. 3-The Sound Effluent and Water Treat-Oct. ment Exhibition and Convention, Seymour Hall, London, England
- Oct. 31-Nov. 4-39th Annual Meeting and 26th Industries' Show of the Federation of Societies for Paint Technology, Shoreham Hotel, Washington, D.C. 5-7-C.I.C. Canadian Chemical Engineering Con-
- Nov. ference, Royal York Hotel, Toronto, Ontario
- Nov. 27-Dec. 1-28th Exposition of Chemical Industries, New York Coliseum, New York, N.Y.
- Feb. 7, 1962-Annual Conference of the American Association for Textile Technology, Hotel Commodore, New York
- April 9-13, 1962-VI Congress of the International Society for Fat Research, London, England
- 10-12, 1962-International Symposium on Food May Protection, Department of Dairy and Food Industry, Iowa State University, Ames 15-17, 1962—International Congress on Plastics
- Oct. and Problems of Choice, Amsterdam

Technical Safety Committee

P. R. Sheffer, Chairman of the T.S.C., has asked the committee members to indicate the hazards they consider the three most important in the following list:

- 1. General safety-Accident and fire protection in the plant laboratory.
- 2. Development of safe practices related to the handling of corrosive liquids and other chemicals that present health or accident hazards to plant employees.
- 3. Formulation of a minimum set of safety rules for operation of solvent extraction plants.
- 4. Recommended purging procedures to be used in purging solvent equipment.
- Quicker and more reliable oil flash test procedure 5. rather than closed cup test method for plant production use.
- 6. A more reliable continuous hexane detector on finished meal production.
- 7. Residual solvent in meal and oil.
- 8. Dust hazards.
- 9. Refinery operations.
- 10. Automated equipment.
- 11. Proper handling of Dowtherm and other high temperature materials.
- 12. Proper handling and storage of strong acids and caustics in the plant.

• New Members

Active

- Ara Mardiros Chalvardjian, instructor in pathology, Washington University Medical School, St. Louis, Mo.
- Juan Chavez-Peraza, plant supervisor, Cia. Ind. Jabonera Pacifico, S.A.C.V., Mexicali, Baja California, Mexico Louis Cohen, assistant professor of medicine, Department
- of Medicine, University of Chicago, Chicago, Ill. David Otis Conley, organic chemist, Haynie Products Inc.,
- Wildwood, N. J.
- Richard J. D'Agostino, biochemist, Riker Laboratories Inc., Northridge, Calif.
- John A. Dyer, chemical engineer, Technical Advisory Unit, Bureau of Commercial Fisheries, Boston, Mass.
- Susie Nelson Hagan, chemist, Human Nutrition Research Division, United States Department of Agriculture, Beltsville, Md.
- James G. Hamilton, associate professor, Tulane University School of Medicine, New Orleans, La.
- John F. Kistner, research chemist, Thomas J. Lipton Inc., Hoboken, N.J.
- Patricia Ann McMahon, chemist, National Institutes of Health, Bethesda, Md.
- Robert William Michael, chemist, Procter and Gamble Company, Cincinnati, O.
- John S. O'Brien, research chemist—post-doc. fellow— N.I.H., City of Hope Medical Center, Duarte, Calif.
- K. Rama-Varma, senior scientific assistant, Oil Technological Research Institute, Anantapur, Andhra Pradesh, India
- Alan Jonathan Sheppard, biochemist, Division of Nutrition, Food and Drug Administration, Washington, D. C.
- Fred L. Snyder, scientist, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn. William E. Thompson, director of research, Archer-Daniels-
- Midland Company, Minneapolis, Minn.
- Manuel F. Villapol, plant superintendent, Empacadora del Caribe, Inc., San Juan, Puerto Rico
- David Charlton Williams, head chemist, Swift and Company, North Portland, Ore. Kenneth Frank Wood, chemist, Wesson Division, Hunt
- Foods and Industries Inc., Houston, Tex.

Active Junior

Paul B. Larsen, graduate student, Department of Food and Dairy Technology, Oregon State College, Corvallis, Ore.

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Reasonable in cost	YES
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• Industry Items

The Hodag Chemical Corporation, Skokie, Illinois has announced the completion of a new two-level building and installation of new automatic equipment which will double the firm's production of surface active chemicals.

Effective Sept. 1, the Glidden Company's four major divisions will be designated as groups. They are: the Coatings and Resins Group, headed by Paul Neidhardt; the Durkee Famous Foods Group under Harvey L. Slaughter; the Chemicals Group, headed by G. M. Halsey; and the International Group, directed by A. D. Duncan.

In addition to the above vice-presidents, Paul Hursh is vice-president for the Grocery Products Division, and George Atkinson is vice-president for the Edible Oil Refining Division.

The Hurricane Pulverizer-Classifier, a newly developed air attrition mill capable of reducing friable materials to sub sieve size and classifying such material in the same operation, will be demonstrated by The Bauer Bros. Co., Springfield, Ohio, at the Chemical Show Nov. 27-Dec. 1 in New York City's Coliseum.

The Bauer Hurricane will reduce and classify dry, friable material to any desired fineness with exceptional uniformity of particle size in the range from one to 150 microns. Bauer will also display special products for pressing, classifying, grinding, mixing, separating, and cleaning, for both wet and dry operations in the process industries.

The Hoover Melting Point Apparatus, "Uni-Melt," has recently been improved to overcome fluctuation in laboratory lighting. Glareless illumination, restricted to the scale of the thermometer, is provided by an 8 watt fluorescent lamp in ventilated metal housing. The more sharply visible thermometer meniscus increases ease of reading, thereby promoting greater accuracy of individual readings and decreasing the time for a series of determinations, especially when used with the periscopic thermometer reader. The apparatus was designed by John R. E. Hoover.

Swift and Company and Skelly Oil Company have announced plans to construct and operate a nitrogen products plant in the middle west. They have formed an Iowa corporation which will be known as the Hawkeye Chemical Company. The joint announcement came from P. M. Jarvis, president of Swift, and D. H. Miller, Skelly president, stating that the corporation would be owned on a 50-50 basis by the two companies.

The new facilities, utilizing the most modern and efficient equipment and procedures, will help meet increasing demands for nitrogen products from chemical and agricultural industries. Present plans call for a plant to be located on land now under option about one mile southwest of Clinton, Iowa. Capacity at the plant will be about 300 tons daily, with ammonia, nitric acid, nitrate solution, ammonium nitrate, urea and nitrogen solutions as the principal products. It is expected that the plant will employ about 150 persons.

Oakite 132, a new inhibited scale and oxide remover, has just been introduced by Oakite Products, Inc. Used in closed systems, solutions of the compound may be heated to 180°F, for faster descaling and derusting.

Charles Ross & Son Company, Inc., 148 Classon Avenue, Brooklyn, New York, announced a new line of Double Arm Kneaders featuring vacuum tight covers, built-in hydraulic trough tilting device, 1 to 1 ratio of horsepower to gallon capacity, and additional advances in design. The new machines are offered in sizes between one pint and 150 gallon working capacity.

A newly designed Warburg flask providing unprecedented flexibility, with up to 25% time saving in research determinations, has been developed by Otto Warburg and Guenther Krippahl at the Max Planck Institute for Cell Physiology, Germany. Birdsboro Corp., Birdsboro, Pa., has formed a Chemical Machinery Division which will manufacture a broad range of chemical process equipment and special purpose machinery. The new products will include mixers, blenders, filters, autoclaves, ball mills, dryers, and related equipment having wide application in the chemical, rubber, paint, plastics, rayon, floor covering, food, metals, and munitions industries.

The opening of an automated filteraid plant has been announced by the Great Lakes Carbon Corporation. The facility, 200 miles south of Denver, is part of a major expansion program underway in the United States and abroad. The plant is said to be the most advanced of its kind in the world.

According to experiments conducted at Allied Chemical's National Aniline Division, urethane paint will last twice as long as amine-cured catalyzed epoxy and phenolic chemical plant paints. Tests conducted at the Moundsville, W. Va., plant of Solvay Process Division show that two coats of the two-can urethane paint on six outside storage tanks is still in excellent condition after approximately two years' weathering and exposure to hydrochloric acid fumes and chloromethane vapors.

Monsanto Chemical Company's Inorganic Chemicals Division will begin construction early next year of a plant at Augusta, Ga., to produce raw materials for the detergent, fertilizer, and metal treating industries. The plant which is scheduled to go on stream early in 1963, will be located on a site of approximately 100 acres, five miles south of Augusta's city limits. Initially, the plant will produce phosphoric acid and sodium tripolyphosphate.

Hoffman International, pioneer manufacturers of dry cleaning and laundry equipment, announces the introduction of systems designed for total cleaning of "Superclean Room" clothing and accessories. These rooms are environmentally controlled work areas in which highly sensitive instruments and sophisticated systems are manufactured, packaged, or processed.

Armour Industrial Chemical Company, Chicago, has developed a line of conditioning agents for users of dry organic and inorganic materials which have a tendency to collect dust during processing, and to cake during storage. Trade named Armoflo, the products have the ability to change the hydrophylic surface of a material to a hydrophobic surface. As little as one pound of the product will condition a ton of material. Different formulas are available for different materials.

A space-saving new console design for its Auto-Gamma Spectrometer System, widely used in medical and biological research for detection and measurement of gamma rays, has been announced by Packard Instrument Company, Inc., La Grange, Ill. It is completely transistorized, reducing weight and size and providing maximum reliability. Packard also announces changes in its line of Tri-Carb Liquid Scintillation Spectrometers. The changes include not only revisions in the operations of the instrument itself, but a broadening of the line as well.

Mallinckrodt Chemical Works, Limited, has announced plans for the construction of new facilities on a four-acre site in Pointe Claire, Quebee, Canada, a suburb of Montreal. It is indicated there will be a capital outlay of a halfmillion dollars for the plant, which is designed to replace outmoded facilities in Montreal, consolidating Mallinekrodt's manufacturing, warehousing, and administrative activities in a modern work area.

A new universal positioning device for all-around laboratory use has been announced by Henry Troemner, Inc., Philadelphia manufacturers of precision balances and weights. The Troemner Positioner, standing on a firm $9\frac{1}{2}$ pound base, is used to hold laboratory apparatus at any desired point in space and in any direction over the bench or table. The device is self-clamping over the edge of the table to hold even larger loads.



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Construction of the largest electrolytic caustic-chlorine plant in South America has been announced by Diamond Alkali International Corporation. It will be owned and operated by Diamond in partnership with two Brazilian industrial groups, Quimica Industrial Medicinalis, S.A., and Brazil Warrant Cia. de Commercio e Participacoes. The plant, scheduled to go on stream in 1963, will be located in Cubatao, Brazil.

A column packing, consisting of Dow Corning QF-1 silicone coated on Gas Chrom P is now available from Applied Science Laboratories, Inc., State College, Pa. This material has been found useful for steroid analyses, particularly for separation of cholesterol/cholestanol mixtures. Every batch of packing is tested in a chromatograph and results of the test are supplied with the packing.

Construction has started on a new contact sulfuric acid plant at Swift & Company's phosphate center at Agricola, Fla. The new unit will supplement two existing acid plants, tripling the present capacity. The design includes innovations and provides operating flexibility and high efficiency. It is expected to be completed in April, 1962.

The Tile Contractors' Association of America, Inc., has instituted its own program of testing organic adhesives for ceramic tile. To implement the program, the independent laboratory, Foster D. Snell, Inc., has been selected as official laboratory for the association. The program will be self-subsidizing.

Foster D. Snell, Inc., announced its purchase of the physical assets of American Scientific Supply, Inc., Long Island City, New York. The Snell organization will not operate American Scientific Supply, but the inventory will be used by the firm's New York City laboratories. Snell also announces the appointment of William E. Chesney as Director of Laboratories for its Baltimore Labs Division, formerly known as Crippen Labs Division.

• New Products

Eastman Chemical Products, Inc., is sampling a strange kind of polypropylene. It's sticky, it stretches, it's easily melted, it's compatible with a number of other resins and with most waxes and it's soluble in most aromatic and aliphatic solvents.

Defined as amorphous polypropylene of low molecular weight, the new product is currently available in two grades; one, a tacky elastomer; and the other, in physical form similar to a moderately heavy grease.

Preliminary evaluations of these interesting new materials have shown them to be of promise in hot-melt adhesive blends for laminating and sealing and in caulking and potting compounds. Their unusual physical properties and wide compatibility have also produced some novel blends with a number of waxes and other resins. In many applications so far, the elastomeric type has imparted flexibility to olefin waxes and resins.

Glycerine Producers' Awards

The Glycerine Producers' Association announce their tenth annual awards to recognize scientific advances related to glycerine and its derivatives. Nominations are requested prior to November 1, 1961. They may be made by the researchers themselves, or by those familiar with their work. There will be two \$500 stipends, one for work in the basic area, and one for the application advances. Nominations will be judged by an independent panel of three judges. The awards will be based on recent publications, patents, or studies, and do not require a specially prepared paper. Correspondence should be addressed to E. Scott Pattison, 295 Madison Avenue, New York 17, N. Y.

• 35 Years Ago

The Journal of Oil and Fat Industries, in the issue of October, 1926, carried articles by David Wesson, George Jamieson and Louis Whiton. Jamieson summarized the composition of crude cottonseed oil. Whiton discussed solvents for industrial extraction of edible oils.

The Journal quoted from an article by A. Lucas on "Problems in Connection with Ancient Egyptian Materials," which appeared in The Analyst for September, 1926.

The author reported that "Although fatty matter has been found in jars in ancient Egyptian tombs, it sooner or later decomposes. This is almost inevitable, as oils and fats, unless kept under special air-tight and sterile conditions, which is not the case when placed in jars in tombs, sooner or later decompose; and as some of the bodies formed escape, either by evaporation or by soaking into the material of the containing vessel, all that the analyst has for examination is merely a portion of the products of decomposition. What is left consists of a mixture of fatty acids, and it is only by the separation, purification, and identification of these and by a determination of the proportion in which each occurs in the mixture that the nature of the original oil or fat can be known. Since what remains is generally a portion of that formed and not necessarily a representative portion, the problem may often be insoluble.

The fatty matter often smells like raneid coconut oil or butter and occasionally, of valeric acid, and the fatty acids identifiable are generally palmitic and stearic acids and less frequently, oleic acid, and in one instance calcium butyrate was found. When the fatty acid consists essentially of stearic acid alone it seems justifiable to assume that the original has been castor oil, which was well known to the ancient Egyptians and which is one of the few oils or fats that contain little or no palmitic acid. When the fatty acids consist of stearic and palmitic acids in almost equal proportions it is possible that the original material was an animal fat, such as ox fat. There is, however, as will be realized, considerable scope for further chemical work on the subject."

• On the Educational Front

The Corn Products Company is supporting a program of advanced studies for three foreign nutritionists.

Specialists from India, Mexico, and the Philippines have been selected as the first holders of Corn Products Company fellowships at the Columbia University Institute of Nutrition Sciences.

The three students, all of whom are experienced in nutrition, will follow an advanced course in public health nutrition designed to develop leaders who can train others and institute programs in their own countries.

They are: Dr. Raichur K. Bhagavan, a nutritionist at the Central Food Technology Institute, Mysore, India; Dr. Elizabeth Lopez, a research specialist in nutritional problems of children at the Hospital Infantil de Mexico, Mexico City; and Miss Concepcion Velasco, head of the Nutrition Clinic Laboratory of the Institute of Nutrition of the Philippines, Manila.

The Columbia University Institute of Nutrition Sciences offers a graduate program covering human nutrition and preventive medicine, agriculture and food supply, food technology, and patterns of food habits and how they can be changed.

In addition to supporting nutrition education and outside research, Corn Products employs several hundred scientists and technicians at research centers in this country, England, Germany, Italy, and Switzerland. Its scientists played key roles in the development of dextrose, a number of important fortified food products and new strains of corn and sorghum. The company has contributed to current understanding of infant feeding and the metabolism of fats and carbohydrates. One of its divisions pioneered the use of vitamins A and D and carotene coloring in margarine.

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