

CERAMIC ABSTRACTS



1952

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IX—Production Equipment and Unit Operations

Air heaters supply rapid recirculation of hot air for drying clayware castings and molds. F. S. LARSEN. *Ind. Heating*, 19 [6] 1077-84 (1952).—The drying system maintains a temperature of 110°F. in the casting departments. Equipment and operation are described in detail.

Drying of ceramic products: I. II. F. LARSEN. *Ind. Céramique*, 1948, No. 382, pp. 8-8; No. 383, pp. 24-26.—The basic facts and concepts of the drying process as applied to the capillary system of a ceramic body are reviewed. For Parts III-VII see *Ceram. Abstracts*, 1950, May, p. 101c.

Dust and the ventilating engineer: I. Pulmonary diseases due to dust—some physiophysiological considerations. H. H. WATSON. *Heating & Ventilating Engr.*, 25 [30] 340-45 (1952).—A review, sufficiently technical for the engineer concerned with dust problems. 4 diagrams.

Flow driers. K. KADL. *Z. Ver. dent. Ing.*, 94 [13] 380-84 (1952).—The principles of drying granular and comminuted materials in a hot current of air or gas are discussed, and the theory is derived for calculating the dimensions and energy consumption of apparatus for this purpose and the drying times required. A few examples of installations are described. 11 references.

PATENTS

Adjustable outlet burner head for gas or oil burners. GEORGE W. FRANZHEIM. U. S. 2,574,635, Nov. 13, 1951.—1. A burner head including a body portion and deflector connected for relative rotary adjustment, the body portion having spaced inlet and outlet openings and the deflector being positioned across the outlet opening with its peripheral edge spaced from the outlet opening edge to define an annular space therebetween, an annular series of lugs on the body portion and an annular series of lugs on the deflector, the lugs of both series each being of substantially right-triangular configuration when viewed in top plan, each lug having one side wall disposed substantially radially of the annular space and another side wall disposed chordally of the annular space, the substantially radial side walls of the lugs of the deflector being disposed to contact the corresponding side walls of the body portion lugs, and the chordal side walls of the deflector lugs being disposed to contact the chordal side walls of the body portion lugs, the lugs of both series extending across the space to divide the space into an annular series of outlet ports, the lugs of one series adapted on selected adjustments of the body portion and deflector to engage the lugs of the other series to reduce the number of ports while increasing the area of each port remaining, and to increase the number of ports while reducing the area of each port, the lugs of both series, peripheral deflector edge, and outlet opening edge being all disposed in a horizontal plane common with the plane of the uppermost end of the burner head.

Bin feeding mechanism. ADOLPH L. BOLTZEN. U. S. 2,574,524, Nov. 13, 1951.—4. In combination, a conveyor belt movable continuously over a path to transport articles thereon, a plurality of bins along one edge of the belt to receive articles moved over an edge of the belt, and a plurality of carriages movable over the belt to sweep articles from the belt into one of the bins, each carriage including a drum thereon, a flexible cable wound on the drum and extended along the belt to an end thereof, a wheel on the carriage engaged with the belt for rotating the drum to move the carriage from one end to the other end of a path of travel, and means for rendering the wheel ineffective to move the carriage at the other end of the path and for returning the carriage to the one end.

Charging glass furnaces. HARTFORD-EMPIRE Co. Australian 145,598, May 2, 1950.—1. The method comprises placing batch material on the surface of the molten glass and displacing the glass adjacent thereto by the action of a rabble so as to form a pocket of molten glass infolding therein the batch material. 5. A device for charging batch materials comprises a movable rabble, mechanism operatively associated with the rabble to move it cyclically along a closed path within a portion of the glass furnace, e.g., within a doghouse, so that the rabble is partially immersed in the molten glass of the furnace for a part of its travel and is moved above the molten glass level for the remainder of its travel along the path, and a batch-feeding device arranged to supply a regular flow of batch to the glass furnace directly behind and adjacent to the point on the path at which the rabble begins its cycle of movements.

2,574,493, Nov. 13, 1951.—1. A classifier and separator comprising a trough having a substantially horizontally disposed bottom wall that is perforated substantially throughout its entire area, a supply station for supplying material to the trough, receivers longitudinally spaced beyond the supply station and beneath the trough and having mouths opening through the bottom wall to remove a portion of the material therefrom, a foraminous conveyor operatively mounted longitudinally in the trough for advancing the material from the supply station along the bottom of the trough and past at least some of the receivers, means beneath the trough for supplying air under pressure to the trough and directing the air substantially vertically up through the conveyor and the material to float the material and cause the material particles to stratify according to their weight, wiper members transversely of the conveyor and extending substantially to the bottom plate for moving the heavier bottom strata along the bottom plate to the mouths, shields mounted transversely across and partially covering the open mouths of the receivers to support and pass over the mouths the stratified top layer of lighter particles while the heavier particles stratified at the bottom layer flow under the shields into the receiver mouths, and means beyond the receivers for removing the stratified top layer from the trough.

Coated metal mold for blowing glass and method of preparing. JAMES FRANKLIN HYDE (Corning Glass Works). U. S. 2,573,337, Oct. 30, 1951.—1. A metal mold for blowing glass having on its glass-contacting surface an adherent coating comprising a heat-cured siloxane composed of silsesquioxane units and diorganosiloxane units, the silsesquioxane units comprising at least one of the group consisting of CH_3SiO_2 and $\text{C}_2\text{H}_5\text{SiO}_2$, and the diorganosiloxane units being selected from the group consisting of $(\text{CH}_3)_2\text{SiO}$ and $(\text{C}_2\text{H}_5)_2\text{SiO}$, the diorganosiloxane units amounting to 5 to 90 mole % of the total siloxane, the coating having on its surface a porous, water absorbent, siliceous residue, the residue being that resulting from the contact of the heat-cured siloxane with molten glass.

Drying stove. J. A. JOHNSON. U. S. 2,587,479, Feb. 26, 1952.—An apparatus for drying flat clayware, such as plates and saucers, which are carried by swinging trays or shelves on a moving conveyor, is described. 3 figures.

Dust collector filter. GORDON H. VOKES (Vokes, Ltd.). U. S. 2,575,148, Nov. 13, 1951.—1. In a dust collector filter of the type including a bag of narrow elongated cross section and for arresting dust on its outer surface, a frame for supporting the bag at its side edges, the bag being adapted to be inflated by internal pressure for removing collected dust and by which the bag's sides are ballooned in a catenary-like curve between its edges and beating means carried by the frame within the bag for engaging the sides of the bag and freeing the bag from dust by a beating operation, the improvement in the beating means of a curved profile on its bag-contacting surface substantially coinciding with the catenary-like curve adopted by the bag's sides under internal pressure.

Dust filter. HENRY J. HESSEY, JR. U. S. 2,573,844, Nov. 6, 1951.—1. In a dust filter, the combination of a porous desubliming filter medium, means for introducing dust-laden gas to one side of the filter medium at a gaseous pressure higher than that existing on the other side of the filter medium, means on the high pressure side of the filter medium defining an accumulation zone to which solid particles separated from the dust-laden gas may gravitate, a reverse jet cleaning device located on the low pressure side of the filter medium for dislodging solids from the high pressure side of the filter medium, the cleaning device being pressed against the filter medium in opposition to the pressure of the dust-laden gas therein whereby to deflect adjacent portions of the filter medium inwardly of the high pressure side thereof, a plurality of partitions located on the high pressure side of the filter medium, the partitions having edges extending into proximity with the high pressure side and being so constructed and arranged as to define a plurality of passageways extending downwardly from the high pressure side toward the accumulation zone, means for moving the cleaning device relative to the filter medium whereby successively to deflect portions of the high pressure side thereof substantially into contact with the edges of adjacent partitions and to dislodge accumulated solids from the high pressure side into the passageway between them.

The
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February 15, 1993

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